UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

FORM 10-K

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2022

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to _____

Commission file number 000-19125

Ionis Pharmaceuticals, Inc.
(Exact name of Registrant as specified in its charter)

Delaware	**33-0336973**
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification No.)
2855 Gazelle Court, Carlsbad, CA	**92010**
(Address of Principal Executive Offices)	(Zip Code)

760-931-9200
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading symbol	Name of each exchange on which registered
Common Stock, $.001 Par Value	"IONS"	The Nasdaq Stock Market LLC

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer ☒	Accelerated Filer ☐
Non-accelerated Filer ☐	Smaller Reporting Company ☐ Emerging Growth Company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Securities Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management assessment of the effectiveness of its internal controls over financial reporting under Section 4049b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report ☒

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

The approximate aggregate market value of the voting common stock held by non-affiliates of the Registrant, based upon the last sale price of the common stock reported on The Nasdaq Global Select Market was $3,804,704,734 as of June 30, 2022.*

The number of shares of voting common stock outstanding as of February 16, 2023 was 142,953,993.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's definitive Proxy Statement to be filed on or about April 20, 2023 with the Securities and Exchange Commission in connection with the Registrant's annual meeting of stockholders to be held on June 1, 2023 are incorporated by reference into Part III of this Report.

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* Excludes 39,056,355 shares of common stock held by directors and officers and by stockholders whose beneficial ownership is known by the Registrant to exceed 10 percent of the common stock outstanding at June 30, 2022. Exclusion of shares held by any person should not be construed to indicate that such person possesses the power, direct or indirect, to direct or cause the direction of the management or policies of the Registrant, or that such person is controlled by or under common control with the Registrant.

FORWARD-LOOKING STATEMENTS

This report on Form 10-K and the information incorporated herein by reference includes forward-looking statements regarding our business and the therapeutic and commercial potential of SPINRAZA (nusinersen), TEGSEDI (inotersen), WAYLIVRA (volanesorsen), eplontersen, olezarsen, donidalorsen, ION363, tofersen, pelacarsen, bepirovirsen and our technologies and products in development. Any statement describing our goals, expectations, financial or other projections, intentions or beliefs, is a forward-looking statement and should be considered an at-risk statement. Such statements are subject to certain risks and uncertainties and particularly those inherent in the process of discovering, developing and commercializing medicines that are safe and effective for use as human therapeutics, and in the endeavor of building a business around such medicines. Our forward-looking statements also involve assumptions that, if they never materialize or prove correct, could cause our results to differ materially from those expressed or implied by such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in this report on Form 10-K, including those identified in Item 1A entitled "Risk Factors". Although our forward-looking statements reflect the good faith judgment of our management, these statements are based only on facts and factors currently known by us. As a result, you are cautioned not to rely on these forward-looking statements.

In this report, unless the context requires otherwise, "Ionis," "Company," "we," "our," and "us" refers to Ionis Pharmaceuticals, Inc. and its subsidiaries.

Summary of Risk Factors

There are a number of risks related to our business and our securities. Below is a summary of material factors that make an investment in our securities speculative or risky. Importantly, this summary does not address all of the risks that we face. Additional discussion of the risks summarized in this risk factor summary, as well as other risks that we face, can be found in this report on Form 10-K in Item 1A entitled "Risk Factors":

- Our ability to generate substantial revenue from the sale of our medicines;
- The availability of adequate coverage and payment rates for our medicines;
- Our and our partners' ability to compete effectively;
- Our ability to successfully manufacture our medicines;
- Our ability to successfully develop and obtain marketing approvals for our medicines;
- Our ability to secure and maintain effective corporate partnerships;
- Our ability to sustain cash flows and achieve consistent profitability;
- Our ability to protect our intellectual property;
- Our ability to maintain the effectiveness of our personnel; and
- The impacts of the COVID-19 pandemic.

TRADEMARKS

"Ionis," the Ionis logo, and other trademarks or service marks of Ionis Pharmaceuticals, Inc. appearing in this report are the property of Ionis Pharmaceuticals, Inc. "Akcea," the Akcea logo, and other trademarks or service marks of Akcea Therapeutics, Inc. appearing in this report are the property of Akcea Therapeutics, Inc., Ionis' wholly owned subsidiary. This report contains additional trade names, trademarks and service marks of others, which are the property of their respective owners. Solely for convenience, trademarks and trade names referred to in this report may appear without the ® or TM symbols.

CORPORATE INFORMATION

We incorporated in California in 1989 and in January 1991 we changed our state of incorporation to Delaware. In December 2015, we changed our name to Ionis Pharmaceuticals, Inc. from Isis Pharmaceuticals, Inc. Our principal offices are in Carlsbad, California. In December 2014, we formed Akcea Therapeutics, Inc., as a Delaware corporation, with its principal office in Boston, Massachusetts. Prior to Akcea's initial public offering, or IPO, in July 2017, we owned 100 percent of Akcea's stock. In October 2020, we completed a merger transaction with Akcea such that following the completion of the merger, Akcea became our wholly owned subsidiary.

We make available, free of charge, on our website, *www.ionispharma.com*, our reports on Forms 10-K, 10-Q, 8-K and amendments thereto, as soon as reasonably practical after we file such materials with the Securities and Exchange Commission, or SEC. Periodically, we provide updates about the company in the Newsroom section of the Investors & Media page of our website. Any information that we include on or link to our website is not a part of this report or any registration statement that incorporates this report by reference. The SEC maintains an internet site, *www.sec.gov*, that contains reports, proxy and information statements that we file electronically with the SEC.

IONIS PHARMACEUTICALS, INC.
FORM 10-K
For the Fiscal Year Ended December 31, 2022
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PART I

Item 1. Business

Overview

We were founded over 30 years ago to deliver innovative medicines for diseases with great medical need. Today, we are building on our advancements in RNA-targeted therapeutics to move us closer to achieving our vision to be the leader in genetic medicines. We believe our medicines have the potential to pioneer new markets, change standards of care and transform the lives of people with devastating diseases.

We currently have three marketed medicines: SPINRAZA, TEGSEDI and WAYLIVRA. Additionally, we have two medicines that will add to our commercial portfolio this year, assuming positive regulatory outcomes. These medicines are eplontersen to treat patients with polyneuropathy caused by hereditary transthyretin amyloidosis, or ATTRv-PN, and tofersen to treat patients with superoxide dismutase 1 amyotrophic lateral sclerosis, or SOD1-ALS. We submitted the eplontersen New Drug Application, or NDA, to the U.S. Food and Drug Administration, or FDA, in December 2022. Tofersen is currently under regulatory review in the United States, or U.S., and European Union, or EU. In the U.S., tofersen has a Prescription Drug User Fee Act, or PDUFA, date of April 25, 2023. We also have a rich innovative late- and mid-stage pipeline primarily focused on our leading cardiovascular and neurology franchises. We currently have seven medicines in Phase 3 development. Additionally, based on recent positive data from the Phase 2 study of IONIS-FB-L_{Rx} in patients with immunoglobulin A nephropathy, or IgAN, Roche plans to advance IONIS-FB-L_{Rx} into Phase 3 development, which would further expand our late-stage pipeline.

Over the past year, we made important progress advancing our strategic priorities: to deliver an abundance of new medicines to the market, establish an integrated commercial organization and expand and diversify our technology platform. Last year, we delivered nine positive data readouts from our mid- and late-stage pipeline, positioning us to add to our commercial portfolio and our late-stage pipeline. We advanced our go-to-market plans for our near-term commercial opportunities, eplontersen, olezarsen and donidalorsen. We also expanded and diversified our technology when we advanced new medicines targeting muscle and using our MsPA backbone into preclinical development. Additionally, in late 2022, we entered into a collaboration with Metagenomi to add next generation gene editing capabilities to our technologies.

We accomplished all of this while earning revenues of $587 million for 2022 and ending the year with a cash and short-term investment balance of $2.0 billion. We strengthened our balance sheet with our recent sale and leaseback and royalty monetization transactions in late 2022 and January 2023, respectively. Under the sale and leaseback transaction, we received net proceeds of approximately $200 million, with the potential to receive additional payments of up to $40 million plus funding to expand our research and development, or R&D campus. Under our agreement with Royalty Pharma Investments, or Royalty Pharma, we received an upfront payment of $500 million in January 2023 when Royalty Pharma acquired a minority interest in our future SPINRAZA and pelacarsen royalties. Additionally, we have the potential to earn up to $625 million in pelacarsen milestone payments from Royalty Pharma.

Our multiple sources of revenue and strong balance sheet enable us to continue investing in our commercial readiness efforts for multiple late-stage programs and our innovative pipeline. By continuing to focus on these priorities, we believe we are well positioned to drive future growth and to deliver increasing value for patients and shareholders.

Marketed Medicines

SPINRAZA is the global market leader for the treatment of patients with spinal muscular atrophy, or SMA, a progressive, debilitating and often fatal genetic disease. Biogen is our partner responsible for commercializing SPINRAZA worldwide. From inception through December 31, 2022, we have earned more than $1.8 billion in revenues from our SPINRAZA collaboration, including more than $1.4 billion in royalties on sales of SPINRAZA.

TEGSEDI is a once weekly, self-administered subcutaneous medicine approved in the U.S., Europe, Canada and Brazil for the treatment of patients with ATTRv-PN. We launched TEGSEDI in the U.S. and the EU, in late 2018. In 2021, we began selling TEGSEDI in Europe through our distribution agreement with Swedish Orphan Biovitrum AB, or Sobi, and in the second quarter of 2021, Sobi began distributing TEGSEDI in the U.S. and Canada. In Latin America, PTC Therapeutics International Limited, or PTC, is commercializing TEGSEDI in Brazil and is pursuing access in additional Latin American countries through its exclusive license agreement with us.

WAYLIVRA is a once weekly, self-administered, subcutaneous medicine that received conditional marketing authorization in May 2019 from the European Commission, or EC, as an adjunct to diet in adult patients with genetically confirmed familial chylomicronemia syndrome, or FCS, and at high risk for pancreatitis. We launched WAYLIVRA in the EU in the third quarter of 2019. In 2021, we began selling WAYLIVRA in Europe through our distribution agreement with Sobi. In Latin America, PTC is commercializing WAYLIVRA in Brazil for two indications, FCS and familial partial lipodystrophy, or FPL, and is pursuing access in additional Latin American countries through its exclusive license agreement with us.

Medicines in Phase 3 Studies and Registration

We currently have seven medicines in Phase 3 studies for nine indications, which are:

- Eplontersen: our medicine in development for transthyretin amyloidosis, or ATTR
  - We are currently conducting the Phase 3 NEURO-TTRansform study in patients with ATTRv-PN, the Phase 3 CARDIO-TTRansform study in patients with ATTR cardiomyopathy, or ATTR-CM, and additional studies supporting our ATTR development program
    - In December 2022, we submitted the NDA for eplontersen in the U.S. for patients with ATTRv-PN based on the positive results from an interim analysis of the Phase 3 NEURO-TTRansform study of eplontersen in patients with ATTRv-PN we first reported in June 2022
- Olezarsen: our medicine in development for FCS and severe hypertriglyceridemia, or SHTG
  - We are currently conducting a broad Phase 3 development program for olezarsen that includes the Phase 3 BALANCE study in patients with FCS and three Phase 3 studies supporting development for the treatment of SHTG: CORE, CORE2 and ESSENCE
    - In July 2022, we achieved full enrollment in the BALANCE Phase 3 study in patients with FCS with data expected in the second half of 2023
    - In the second half of 2022, we expanded our Phase 3 program for SHTG when we initiated CORE2, a confirmatory Phase 3 study of olezarsen in patients with SHTG and ESSENCE, a supporting Phase 3 study of olezarsen in patients with SHTG or hypertriglyceridemia and atherosclerotic cardiovascular disease
    - The FDA granted olezarsen fast track designation for the treatment of patients with FCS
- Donidalorsen: our medicine in development for hereditary angioedema, or HAE
  - We are currently conducting the Phase 3 OASIS-HAE study in patients with HAE and the Phase 3 OASIS-Plus supportive study for HAE patients previously treated with other prophylactic therapies
    - We reported positive data from the Phase 2 study and Phase 2 open-label extension, or OLE, study throughout 2022 and early 2023
- ION363: our medicine in development for amyotrophic lateral sclerosis, or ALS, with mutations in the fused in sarcoma gene, or *FUS*
  - We are currently conducting a Phase 3 study of ION363 in juvenile and adult patients with FUS-ALS
- Tofersen: our medicine in development for SOD1-ALS
  - Biogen is developing tofersen, including conducting the ongoing Phase 3 VALOR OLE study in patients with SOD1-ALS and the ongoing Phase 3 ATLAS study in presymptomatic SOD1 patients
    - Tofersen is currently under regulatory review in the U.S. with a PDUFA date of April 25, 2023 and in the EU
    - In June 2022, Biogen presented new positive data from the ongoing VALOR OLE study at the European Network to Cure ALS, or ENCALS, meeting. These data were included in the NDA filing and Marketing Authorization Application, or MAA, filing
- Pelacarsen: our medicine in development to treat patients with elevated lipoprotein(a), or Lp(a) and cardiovascular disease
  - Novartis is developing pelacarsen, including conducting the ongoing Lp(a) HORIZON Phase 3 cardiovascular outcome study in patients with established cardiovascular disease and elevated Lp(a)
    - In July 2022, Novartis achieved full enrollment in the Lp(a) HORIZON study
- Bepirovirsen: our medicine in development for chronic hepatitis B virus, or HBV
  - GSK is developing bepirovirsen, including conducting the ongoing B-Well Phase 3 program in patients with HBV
    - In 2022, GSK presented positive data from the Phase 2b B-Clear study of bepirovirsen demonstrating potential for functional cures in patients with chronic HBV

COVID-19

As a company focused on improving the health of people around the world, our priority during the COVID-19 pandemic has been the safety of our employees, their families, the healthcare workers who work with us and the patients who rely on our medicines. We have also been focused on maintaining the quality of our studies and minimizing the impact to timelines. While the COVID-19 pandemic has impacted some areas of our business, we believe our mitigation efforts and financial strength have enabled us to continue to manage through the pandemic and execute on our strategic initiatives. Because the situation is fluid, we continue to monitor the impact COVID-19 could have on our business, including the impact on our commercial products and the medicines in our pipeline.

Our Marketed Medicines – Potentially Transformational Medicines Bringing Value to Patients Today

SPINRAZA – SPINRAZA (nusinersen) injection for intrathecal use is a survival motor neuron-2, or SMN2, directed antisense medicine indicated for the treatment of spinal muscular atrophy, or SMA, in pediatric and adult patients.

SPINRAZA is the global market leader for the treatment of patients with SMA, a progressive, debilitating and often fatal genetic disease. Our partner, Biogen, is responsible for commercializing SPINRAZA worldwide.

SMA is characterized by loss of motor neurons in the spinal cord and lower brain stem. People with SMA have a deletion or defect in their *SMN1* gene and rely on their *SMN2* gene to produce functional SMN protein, which motor neurons need to maintain motor function and muscle strength. However, the *SMN2* gene can only produce approximately 10 percent of the SMN protein critical for motor neurons, resulting in severe and progressive loss of motor function and strength.

The rate and severity of degeneration varies depending on the amount of functional SMN protein a patient can produce. Type 1, or infantile-onset, SMA is the most severe form of the disease. Type 1 SMA patients produce very little SMN protein and often progress to death or permanent ventilation by the age of 2. Patients with Type 2 or Type 3, or later-onset, SMA produce more SMN protein, but also suffer from a progressive loss of muscle strength and function and a reduced life expectancy.

Biogen continues to expand the body of evidence supporting SPINRAZA's durable efficacy and well-established safety profile to address the remaining needs of SMA patients of all ages. This includes the following ongoing studies:

- DEVOTE: In the Phase 2/3 DEVOTE study, Biogen is evaluating the safety and potential to achieve increased efficacy with a higher dose of SPINRAZA compared to the currently approved dose. In 2022, Biogen reported final data from Part A of the ongoing, three-part DEVOTE study. Results from Part A, an open-label safety evaluation period in children and teens with later-onset SMA, suggest that the higher dosing regimen of SPINRAZA leads to higher levels of the drug in the cerebrospinal fluid, supporting further development of a higher dose of SPINRAZA. Additionally, the results indicated that SPINRAZA was generally well-tolerated.
- RESPOND: In the Phase 4 RESPOND study, Biogen is evaluating the benefit of SPINRAZA in infants and children with a suboptimal clinical response to the gene therapy, onasemnogene abeparvovec. In 2022, Biogen reported that increasing enrollment in the RESPOND study indicates there are residual unmet clinical needs in infants and toddlers with SMA who have unmet needs following gene therapy treatment.
- ASCEND: In the Phase 3b ASCEND study, Biogen is evaluating the clinical outcomes and assessing the safety of a higher dose of SPINRAZA in children, teens and adults with later-onset SMA following treatment of risdiplam. The first patient was treated in the ASCEND study in the first quarter of 2022.

Additionally, Biogen continues to conduct the Phase 2 NURTURE study, an open-label study investigating the benefit of SPINRAZA when administered before symptom onset in patients genetically diagnosed with SMA, and likely to develop Type 1 or Type 2 SMA. NURTURE was the first study to investigate the potential to slow or stop SMA disease progression in presymptomatic SMA patients. In 2022, Biogen reported new NURTURE study data, showing that early and sustained treatment with SPINRAZA helped participants to maintain and/or make progressive gains in motor function. These data showed that after 11 months of additional follow-up since the 2020 interim analysis, all children who were able to walk alone maintained this ability and one child gained the ability to walk alone, increasing the total percentage of study participants able to walk from 92% to 96%. Further, most children achieved motor milestones within age-appropriate timelines and no major motor milestones were lost. The safety of SPINRAZA over this extended follow-up period was consistent with previously reported findings.

The approval of SPINRAZA was based on efficacy and safety data from multiple clinical studies, including two randomized, placebo-controlled Phase 3 studies, ENDEAR, in patients with infantile-onset SMA, and CHERISH, in patients with later-onset SMA as well as from SHINE, an open-label extension, or OLE, study for patients with SMA who participated in prior SPINRAZA studies.

TEGSEDI – TEGSEDI (inotersen) injection is an antisense medicine indicated for the treatment of ATTRv-PN in adults. TEGSEDI prevents the production of TTR protein, reducing the amount of amyloid buildup that damages organs and tissues.

ATTRv-PN is caused by the accumulation of misfolded mutated TTR protein in the peripheral nerves. Patients with ATTRv-PN experience ongoing debilitating nerve damage throughout their body resulting in the progressive loss of motor functions, such as walking. These patients also accumulate TTR in other major organs, which progressively compromises their function and eventually leads to death within five to fifteen years of disease onset. There are an estimated 40,000 addressable patients, which includes those with ATTRv-PN and those with ATTRv-mixed phenotype worldwide.

TEGSEDI is commercially available in numerous countries, including the U.S., many European countries, Canada, and Latin America. We launched TEGSEDI in the U.S. and EU in late 2018. In 2021, we began selling TEGSEDI in the U.S., Canada and Europe through our distribution agreement with Sobi. In Latin America, PTC is commercializing TEGSEDI in Brazil and is pursuing access in additional Latin American countries through its exclusive license agreement with us.

The approvals of TEGSEDI were based on efficacy and safety data from the Phase 3 NEURO-TTR study in patients with ATTRv-PN.

WAYLIVRA – WAYLIVRA (volanesorsen) is an antisense medicine indicated as an adjunct to diet in adult patients with genetically confirmed FCS and at high risk for acute, potentially fatal pancreatitis, in whom response to diet and triglyceride lowering therapy has been inadequate. WAYLIVRA reduces triglyceride levels by inhibiting the production of apolipoprotein C-III, or ApoC-III, a protein that is a key regulator of triglyceride levels.

FCS is a rare, genetic disease estimated to affect one to two individuals per million and characterized by extremely elevated triglyceride levels, typically greater than 1,000 mg/dl. FCS can lead to many chronic health issues including severe, recurrent abdominal pain, fatigue, high risk of life-threatening pancreatitis and abnormal enlargement of the liver or spleen. In addition, people with FCS are often unable to work, adding to their disease burden. In severe cases, patients can have bleeding into the pancreas, serious tissue damage, infection, and cyst formation, as well as damage to other vital organs such as the heart, lungs, and kidneys.

WAYLIVRA received conditional marketing authorization in May 2019 from the European Commission, or EC. WAYLIVRA is commercially available in multiple European countries and in Latin America. We launched WAYLIVRA in the EU in the third quarter of 2019. In 2021, we began selling WAYLIVRA in Europe through our distribution agreement with Sobi. In Latin America, WAYLIVRA is approved for two indications, FCS and FPL. PTC is commercializing WAYLIVRA in Brazil and is pursuing access in additional Latin American countries through its exclusive license agreement with us. In the fourth quarter of 2022, WAYLIVRA was approved in Brazil for a second indication, FPL.

WAYLIVRA's conditional marketing authorization in the EU for FCS and approval in Brazil for FCS were based on efficacy and safety data from the Phase 3 APPROACH study and supported by results from the Phase 3 COMPASS study. WAYLIVRA's approval in Brazil for FPL was based on efficacy and safety data from the Phase 3 BROADEN study in patients with FPL.

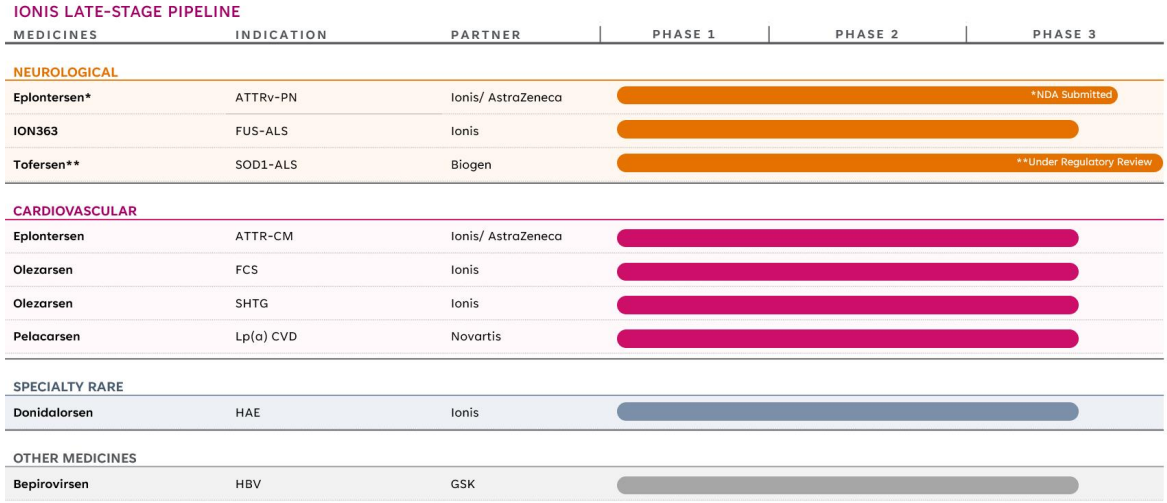
Our Innovative Pipeline of Genetic Medicines

Today, we are a leader in the discovery and development of RNA-targeted therapeutics. We are focused on pioneering new markets and changing standards of care with a focus on cardiovascular and neurological diseases. We also have an emerging specialty rare disease pipeline comprised of medicines that we believe represent compelling opportunities for us. We are building on our capabilities in RNA-targeted therapeutics to achieve our vision to be the leader in genetic medicines.

The table below lists the medicines in our clinical pipeline. We categorize patient studies to establish a medicine's safety profile as Phase 1/2 and those studies in healthy volunteers as Phase 1. The table includes the disease indication, the partner (if the medicine is partnered), and the development status of each medicine. We have included descriptions for each of our medicines in Phase 2 and Phase 3 development below.

Our Late-Stage Pipeline

We currently have seven medicines in our late-stage pipeline: eplontersen, olezarsen, donidalorsen, ION363, tofersen, pelacarsen and bepirovirsen.



Eplontersen (TTR) – Eplontersen (TTR) – Eplontersen (formerly IONIS-TTR-L_{Rx}) is an investigational LIgand-Conjugated Antisense, or LICA, medicine we designed to inhibit the production of TTR protein. We are developing eplontersen as a monthly self-administered subcutaneous injection to treat all types of ATTR. ATTR amyloidosis is a systemic, progressive and fatal disease in which patients experience multiple overlapping clinical manifestations caused by the inappropriate formation and aggregation of TTR amyloid deposits in various tissues and organs, including peripheral nerves, heart, intestinal tract, eyes, kidneys, central nervous system, thyroid and bone marrow. The progressive accumulation of TTR amyloid deposits in these tissues and organs leads to organ failure and eventually death.

ATTRv-PN is caused by the accumulation of misfolded mutated TTR protein in the peripheral nerves. Patients with ATTRv-PN experience ongoing debilitating nerve damage throughout their body resulting in the progressive loss of motor functions, such as walking. These patients also accumulate TTR in other major organs, which progressively compromises their function and eventually leads to death within five to fifteen years of disease onset. There are an estimated 40,000 addressable patients, which includes those with ATTRv-PN and those with ATTRv- mixed phenotype worldwide.

ATTR-CM is caused by the accumulation of misfolded TTR protein in the cardiac muscle. Patients experience ongoing debilitating heart damage resulting in progressive heart failure, which results in death within three to five years from disease onset. ATTR-CM includes both the genetic and wild-type form of the disease. There are an estimated 300,000 to 500,000 patients with ATTR-CM worldwide.

Often, patients with ATTRv-PN will have TTR build up in the heart and experience cardiomyopathy symptoms. Similarly, patients with ATTR-CM may often have TTR build up in their peripheral nerves and experience nerve damage and progressive difficulty with motor functions.

In December 2022, we submitted the eplontersen NDA to the FDA for patients with ATTRv-PN. The eplontersen NDA included results from the interim analysis of the Phase 3 NEURO-TTRansform study in patients with ATTRv-PN. NEURO-TTRansform is a global, multi-center, randomized, open-label study designed to evaluate the efficacy, safety and tolerability of eplontersen. The current study compares to the historical placebo arm from the TEGSEDI (inotersen) NEURO-TTR Phase 3 study. In June 2022, we reported positive interim analysis data from the NEURO-TTRansform study. In the interim analysis, eplontersen demonstrated a statistically significant and clinically meaningful change from baseline for the co-primary and secondary endpoints at 35 weeks compared to the external placebo group. In the study, eplontersen achieved an 81.2% ($p<0.0001$) mean reduction in the co-primary endpoint of serum TTR concentration compared to baseline, demonstrating reduced TTR protein production. Eplontersen also demonstrated a significant treatment effect on the co-primary endpoint of modified Neuropathy Impairment Score +7, or mNIS+7, a measure of neuropathic disease progression, with a statistically significant difference in mean change from baseline versus the external placebo group ($p<0.0001$). The study also met its key secondary endpoint of change from baseline in the Norfolk Quality of Life Questionnaire-Diabetic Neuropathy, or Norfolk QoL-DN, showing that treatment with eplontersen significantly improved patient-reported quality of life compared to the external placebo group ($p<0.0001$). Eplontersen had a favorable safety and tolerability profile supportive of continued development.

In January 2020, we initiated the CARDIO-TTRansform Phase 3 cardiovascular outcome study of eplontersen in patients with ATTR-CM. CARDIO-TTRansform is a global, multi-center, randomized, double-blind, placebo-controlled study in approximately 1,400 patients with ATTR-CM. We designed the study to evaluate the efficacy, safety and tolerability of eplontersen in patients with ATTR-CM. The CARDIO-TTRansform study includes co-primary outcome measures of cardiovascular death and frequency of cardiovascular clinical events.

In January 2022, the FDA granted an Orphan Medicine Designation for eplontersen.

In December 2021, we entered into an agreement with AstraZeneca to jointly develop and commercialize eplontersen in the U.S. We granted AstraZeneca exclusive rights to commercialize eplontersen outside the U.S, except for certain Latin American countries.

Olezarsen (ApoC-III) – Olezarsen (formerly IONIS-APOCIII-L_{Rx}) is an investigational LICA medicine we designed to inhibit the production of apoC-III for patients who are at risk of disease due to elevated triglyceride levels. ApoC-III is a protein produced in the liver that regulates triglyceride metabolism in the blood. People with severely elevated triglycerides, such as people with FCS, are at high risk for acute pancreatitis and an increased risk of cardiovascular disease, or CVD. It is estimated that FCS affects one to two individuals per million worldwide and more than three million patients have SHTG in the U.S.

We are currently conducting a broad development program for olezarsen that includes the Phase 3 BALANCE study in patients with FCS and three Phase 3 studies supporting development for the treatment of SHTG: CORE, CORE2 and ESSENCE.

BALANCE is a global, multi-center, randomized, double-blind, placebo-controlled study in approximately 65 patients designed to assess the efficacy, safety and tolerability of olezarsen in patients with FCS. Patients will be treated with 50 mg or 80 mg of olezarsen monthly by subcutaneous injection. The primary endpoint is the percent change from baseline in fasting triglyceride levels at six months compared to placebo.

CORE and CORE2 are global, multi-center, randomized, double-blind, placebo-controlled studies enrolling approximately 540 and 390 patients, respectively, designed to assess the efficacy, safety and tolerability of olezarsen in patients with SHTG. The CORE and CORE2 studies compare olezarsen to placebo in patients with triglyceride levels equal to or greater than 500 mg/dL who are on currently available therapies for elevated triglycerides. The primary endpoint of the studies is the percent change in fasting triglycerides from baseline at month six. Additionally, in November 2022, we initiated ESSENCE, a global, multi-center, randomized, double-blind, placebo-controlled study enrolling approximately 1,300 patients to provide a robust safety database. The primary endpoint of the study is the percent change in fasting triglycerides from baseline at week six.

In January 2020, we reported positive results from a Phase 2 clinical study in patients with hypertriglyceridemia and at high risk of or with established CVD. Olezarsen achieved statistically significant, dose-dependent reductions in fasting triglycerides compared to placebo at all dose levels. Additionally, at the highest monthly dose, 91 percent of patients achieved serum triglycerides of ≤ 150 mg/dL, the recognized threshold for cardiovascular risk, compared to less than five percent of patients in the placebo group. Olezarsen also achieved statistical significance in numerous key secondary endpoints, including significant reductions in apoC-III, very low-density lipoprotein cholesterol, or VLDL-C, and remnant cholesterol, and a statistically significant increase in high-density lipoprotein cholesterol, or HDL-C. Olezarsen had a favorable safety and tolerability profile supportive of continued development.

In January 2023, the FDA granted olezarsen fast track designation for the treatment of patients with FCS.

Donidalorsen (PKK) – Donidalorsen (formerly IONIS-PKK-L_{Rx}) is an investigational LICA medicine we designed to target the prekallikrein, or PKK, pathway. HAE is a rare genetic disease that is characterized by severe and potentially fatal swelling of the arms, legs, face and throat. PKK plays an important role in the activation of inflammatory mediators associated with acute attacks of HAE. By inhibiting the production of PKK, donidalorsen could be an effective prophylactic approach to preventing HAE attacks. It is estimated that there are more than 20,000 patients with HAE in the U.S. and Europe.

In November 2021, we initiated the Phase 3 study of donidalorsen, OASIS-HAE, in patients with HAE. OASIS-HAE is a multi-center, randomized, double-blind placebo-controlled study in approximately 80 patients designed to assess the efficacy, safety and tolerability of donidalorsen. Patients will be treated with an 80 mg dose of donidalorsen either every four weeks or every eight weeks by subcutaneous injection. The primary endpoint is the time-normalized number of investigator-confirmed HAE attacks per month from week one to week 25. In May 2022, we initiated OASIS-Plus, a multi-center, open-label, global study in approximately 110 patients who were either previously treated with other prophylactic therapies or who have completed OASIS-HAE.

In 2021 and 2022, we reported positive results from a Phase 2 clinical study of donidalorsen in patients with HAE. Patients received either donidalorsen 80 mg or placebo subcutaneously once monthly for 17 weeks. The Phase 2 study met its primary and secondary endpoints, achieving significant reductions in the number of attacks suffered by patients with HAE compared to placebo. The study demonstrated a mean reduction of 90 percent in the number of monthly HAE attacks in weeks one to 17 of the study ($p < 0.001$) and a mean reduction of 97 percent in the number of monthly HAE attacks in weeks five to 17 ($p=0.003$). In weeks five to 17, 92 percent of patients treated with donidalorsen were attack-free compared to 0 percent in the placebo group ($p < 0.001$). Additionally, donidalorsen demonstrated an overall reduction in moderate to severe attacks starting with the second dose in the study. For the final month of the study, all donidalorsen treated patients were attack-free. Further, patients reported higher overall health-related quality of life, or HRQoL, over 17 weeks with donidalorsen, with a mean change in total score of the AE-QoL of -26.85, compared with -6.15 in the placebo group ($P=0.002$) where reduction in the score indicates better quality of life. There were improvements observed across all individual domains of the AE-QoL compared with placebo we published. The Phase 3 data were published in the New England Journal of Medicine. Donidalorsen had a favorable safety and tolerability profile supportive of continued development.

In 2022 and in early 2023, we reported positive results from the Phase 2 OLE study of donidalorsen in patients with HAE. Interim data after all patients completed one year of treatment in the study showed a sustained reduction in HAE attacks. Patients completing the Phase 2 study were eligible for enrollment in the OLE study. There were 20 Type 1 or Type 2 HAE patients in the Phase 2 study, and 17 (85%) entered the OLE. Following a 13-week fixed-dose period where participants received subcutaneous donidalorsen 80 mg every four weeks, eight patients switched to subcutaneous donidalorsen 80 mg every eight weeks. Patients receiving donidalorsen 80 mg every eight weeks experienced a mean reduction in attack rate of 75.6% from baseline and the mean monthly attack rate was 0.28. Six of these patients remained attack free over the one year duration of this analysis, and two of these patients returned to 80 mg every four weeks. For patients treated with donidalorsen, 99.6% of study days were HAE attack-free. Additionally, patients treated for one year with donidalorsen reported a mean improvement of 24 points in their AE-QoL total score across all domains relative to baseline. Donidalorsen had a favorable safety and tolerability profile supportive of continued development.

ION363 (FUS) – ION363 is an investigational antisense medicine we designed to reduce the production of the FUS protein to treat people with ALS caused by mutations in the *FUS* gene. Because antisense-mediated reduction of mutant FUS protein in a FUS-ALS mouse model demonstrated the ability to prevent motor neuron loss, it is hypothesized that reduction of FUS protein will reverse or prevent disease progression in FUS-ALS patients. It is estimated that there are approximately 350 patients with FUS-ALS in G7 countries (comprised of Canada, France, Germany, Italy, Japan, the United Kingdom and the U.S.).

In April 2021, we initiated a Phase 3 study of ION363 in patients with FUS-ALS. The Phase 3 trial of ION363 is a global, multi-center, randomized, double-blind, placebo-controlled study in approximately 75 patients designed to assess the efficacy, safety and tolerability of ION363. Part 1 of the trial consists of patients randomized to receive a loading regimen of ION363 or placebo for weeks one and four followed by one dose every four to 12 weeks for 61 weeks, followed by Part 2, which will be an open-label period in which all patients in the trial will receive ION363 or placebo loading regimen at week four followed by one dose every 12 weeks for 85 weeks. The primary endpoint is the change from baseline as measured by the Revised Amyotrophic Lateral Sclerosis Functional Rating Scale, or ALSFRS-R, Total Score, time of rescue or discontinuation from Part 1 and entering Part 2 due to a deterioration in function, and Ventilation Assistance-free survival, or VAFS.

Tofersen (SOD1) (BIIB067) – Tofersen (formerly IONIS-SOD1$_{Rx}$) is an investigational antisense medicine we designed to inhibit the production of superoxide dismutase 1, or SOD1, which is a well understood genetic cause of ALS. SOD1-ALS is a rare, fatal, neurodegenerative disorder caused by a mutation in the *SOD1* gene leading to a progressive loss of motor neurons. As a result, people with SOD1-ALS experience increasing muscle weakness, loss of movement, difficulty breathing and swallowing and eventually succumb to the disease. Current treatment options for people with SOD1-ALS are extremely limited, with no medicines that significantly slow disease progression. Tofersen is one of three medicines we have in development to treat ALS. It is estimated that there are approximately 1,400 patients with SOD1-ALS in the G7 countries. Biogen is evaluating tofersen for treatment of patients with SOD1-ALS and in presymptomatic individuals.

Tofersen is currently under regulatory review in the U.S. and EU. In July 2022, Biogen announced that the FDA had accepted tofersen's NDA and granted priority review of tofersen for SOD1-ALS. Tofersen has an FDA Advisory Committee meeting planned for March 22, 2023 and a PDUFA date of April 25, 2023. In December 2022, Biogen announced that the EMA accepted the MAA for tofersen for SOD1-ALS.

The tofersen NDA and MAA included results from a Phase 1 study in healthy volunteers, a Phase 1/2 study evaluating ascending dose levels, the Phase 3 VALOR study, and the Phase 3 OLE study, as well as 12-month integrated results from VALOR and the Phase 3 OLE study. The 12-month integrated data show that earlier initiation of tofersen, compared to delayed initiation, slowed declines in clinical function, respiratory function, muscle strength and quality of life and build on the results previously observed in the initial readout. The 12-month data compare patients with early initiation of tofersen (at the start of VALOR) to those who had a delayed initiation of tofersen (six months later, in the OLE).

At the time of the 12-month analysis, because the majority of participants survived without permanent ventilation, or PV, the median time to death or PV and median time to death, could not be estimated. However, early survival data suggest a lower risk of death or PV and death with earlier initiation of tofersen. Additionally, the latest 12-month results showed that reductions in total SOD1 protein (a marker of target engagement) and neurofilament (a marker of axonal injury and neurodegeneration) were sustained over time. Tofersen reduced total cerebrospinal fluid, or CSF, SOD1 protein and plasma neurofilament levels in both early- and delayed-start groups as follows:

- 33% and 21% reduction in SOD1 protein, the intended target for tofersen, respectively
- 51% and 41% reduction in plasma neurofilament, a marker of neuron injury, respectively

Tofersen had a favorable safety and tolerability profile supportive of continued development.

In April 2021, Biogen initiated a second Phase 3 study of tofersen, called ATLAS, in presymptomatic individuals with a SOD1 genetic mutation. ATLAS is a multi-center, randomized, double-blind, placebo-controlled study enrolling approximately 150 subjects designed to assess the efficacy, safety and tolerability of tofersen. Patients are only given tofersen if they meet a defined biomarker threshold or progress to develop clinically manifest SOD1-ALS.

In December 2018, Biogen exercised its option to license tofersen. As a result, Biogen is responsible for global development, regulatory and commercialization activities, and costs for tofersen.

Pelacarsen (Apo(a)) (TQJ230) – Pelacarsen (formerly IONIS-APO(a)-L_{Rx}) is an investigational LICA antisense medicine we designed to inhibit the production of apolipoprotein(a), or Apo(a), in the liver to offer a direct approach for reducing Lp(a). Elevated Lp(a) is recognized as an independent, genetic cause of CVD. Lp(a) levels are determined at birth and lifestyle modification, including diet and exercise, do not impact Lp(a) levels. Inhibiting the production of Apo(a) in the liver reduces the level of Lp(a) in blood, potentially slowing down or reversing CVD in people with hyperlipoproteinemia(a), a condition in which individuals have levels of Lp(a) greater than 50 mg/dL, the recognized threshold for risk of CVD. We believe antisense technology is well suited to address hyperlipoproteinemia(a) because it specifically targets the RNA that codes for all forms of the Apo(a) molecule. It is estimated that there are more than eight million people living with CVD and elevated levels of Lp(a).

In December 2019, Novartis initiated the Phase 3 study of pelacarsen, Lp(a) HORIZON, in patients with elevated Lp(a) levels and a prior cardiovascular event. Lp(a) HORIZON is a global, multi-center, randomized, double-blind, placebo-controlled cardiovascular outcomes study in more than 8,000 patients designed to assess the efficacy, safety and tolerability of pelacarsen. Patients are treated with 80 mg of pelacarsen administered monthly by subcutaneous injection. The primary endpoint in Lp(a) HORIZON is the time to occurrence of first major adverse cardiovascular event, or MACE. In July 2022, we announced that the Lp(a) HORIZON study had completed enrollment.

In November 2018, at the American Heart Association, or AHA, annual meeting, we reported results of the Phase 2 study of pelacarsen in patients with hyperlipoproteinemia(a). In the Phase 2 study, we observed statistically significant and dose dependent reductions from baseline in Lp(a) levels. Approximately 98 percent of patients who received the highest dose in the study demonstrated a reduction in Lp(a) levels to below the recommended threshold for CVD events (<50 mg/dL). Pelacarsen had a favorable safety and tolerability profile supportive of continued development.

In February 2019, Novartis exercised its option to license pelacarsen. As a result, Novartis is responsible for global development, regulatory and commercialization activities, and costs for pelacarsen.

In April 2020, the FDA granted pelacarsen fast track designation for the treatment of patients with elevated Lp(a) and CVD. In December 2020, the Center for Drug Evaluation, or CDE, of China National Medical Products Administration granted breakthrough therapy designation to pelacarsen.

Bepirovirsen (HBV) (GSK3228836) – Bepirovirsen (formerly IONIS-HBV_{Rx}) is an investigational antisense medicine we designed to inhibit the production of viral proteins associated with hepatitis B virus, or HBV. These include proteins associated with infection and replication, including the hepatitis B surface antigen, or HBsAg, which is present in both acute and chronic infections and is associated with a poor prognosis in people with chronic HBV infection.

HBV infection is a serious health problem that can lead to significant and potentially fatal health conditions, including cirrhosis, liver failure and liver cancer. Chronic HBV infection is one of the most common persistent viral infections in the world, affecting nearly 300 million people and resulting in approximately 900,000 deaths annually. Currently available therapies, although effective in reducing circulating HBV in the blood, do not effectively inhibit HBV antigen production and secretion, which are associated with poor prognosis and increased risk of liver cancer.

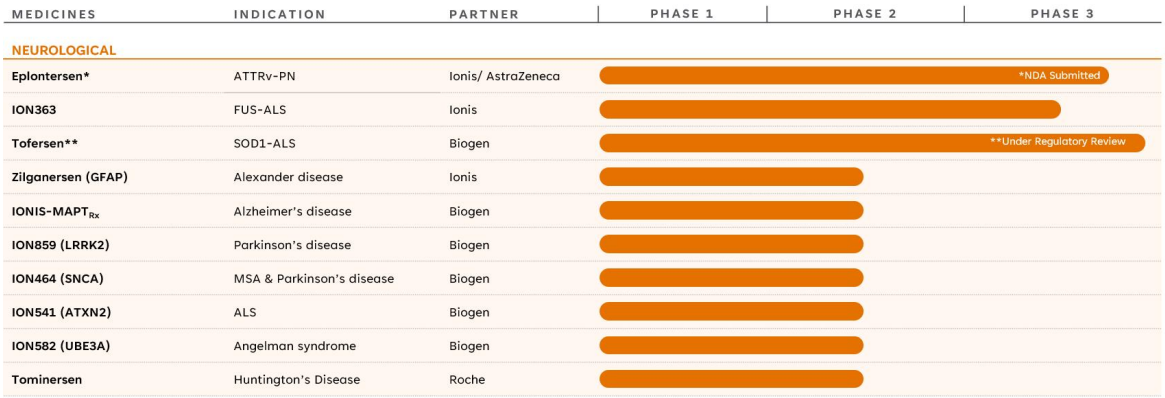
In January 2023, GSK initiated the Phase 3 program of bepirovirsen, B-Well, in patients with chronic HBV. B-Well 1 and B-Well 2 are global, multi-center, randomized, double-blind, placebo-controlled studies enrolling more than 500 patients each. GSK designed these studies to assess the efficacy, safety and tolerability of bepirovirsen. The studies will have four stages: (1) a double-blind treatment period of 24 weeks with bepirovirsen or placebo, (2) Nucleoside Analogue, or NA, treatment for 24 weeks, (3) NA cessation with 24 week follow up or (4) continue on NA for 24 weeks, with follow up for a further 24 weeks for patients who stopped NA treatment at week 48. The arms will be stratified based on HBsAg levels with the first group including those with HBsAg levels ≥ 100 IU/mL to ≤ 1,000 IU/mL and the second group for those with HBsAg levels >1,000 IU/mL to ≤ 3,000 IU/mL at screening. The primary endpoint is the number of patients achieving functional cure with baseline HBsAg ≤ 1,000 IU/mL. Functional cure is defined as a sustained suppression (24 weeks or longer) of HBV DNA (< Lower Limit of Quantification, or LLOQ) while off all HBV treatments with HBsAg loss (<0.05 IU/mL) with or without HBsAg after a finite duration of therapy.

In June 2022, GSK presented end of treatment results from the Phase 2b B-CLEAR study of bepirovirsen in patients with chronic HBV infection at the European Association for the Study of the Liver's, or EASL, International Liver Congress. Additionally, in November 2022, GSK presented positive end of study data from the Phase 2b B-CLEAR study at the American Association for the Study of Liver Diseases, or AASLD. The end of study results showed that treatment with bepirovirsen resulted in sustained clearance of HBsAg and HBV DNA for 24 weeks after end of bepirovirsen treatment in people with chronic HBV infection. Treatment with bepirovirsen, with a loading dose at day four and 11, and at a dose of 300 mg per week for 24 weeks (treatment arm 1), resulted in 9% of patients on NA treatment and 10% of patients not on NA treatment achieving the primary outcome of HBsAg levels below the LLOQ and HBV DNA levels, both below the LLOQ, respectively. This is defined as a sustained response and was observed for 24 weeks post last dose. In the study, sustained response rates were higher in subjects with low baseline HBsAg (< 1000 IU/mL) than in those with high baseline HBsAg (>1000 IU/mL). Patients with low baseline HBsAg levels responded best to treatment with bepirovirsen with 16% and 25% of patients achieving the primary outcome in treatment arm one of the on NA and not on NA cohorts, respectively. Bepirovirsen had a favorable safety and tolerability profile supportive of continued development.

In August 2019, GSK exercised its option to license our HBV program following the positive results of the Phase 2a study of bepirovirsen in patients with chronic HBV infection. As a result, GSK is responsible for global development, regulatory and commercialization activities, and costs for the HBV program.

Our Neurological Medicines in Development

According to the National Institute of Neurological Disorders and Stroke, or NINDS, at the National Institutes of Health, or NIH, a third of the 7,000 known rare diseases are neurological disorders or thought to include a neurological component. We are currently investigating potential disease-modifying treatments for a broad range of neurological diseases affecting major regions of the brain and in the central nervous system cell types, including ATTRv-PN, ALS and Alzheimer's disease.



Eplontersen – See the medicine description under "Our Late-Stage Pipeline" section above.

ION363 – See the medicine description under "Our Late-Stage Pipeline" section above.

Tofersen – See the medicine description under "Our Late-Stage Pipeline" section above.

Zilganersen – Zilganersen (formerly ION373) is an investigational antisense medicine targeting glial fibrillary acidic protein, or GFAP, mRNA we designed to inhibit the production of GFAP. We are developing zilganersen as a potential therapy for Alexander disease, or AxD. AxD is a rare, progressive and fatal neurological disease that affects the myelin sheath which protects nerve fibers. AxD is caused by a gain-of-function mutation in the *GFAP* gene and is characterized by progressive deterioration, including loss of skills and independence, generally leading to death in childhood or early adulthood.

Two major types of AxD have been defined. Type I onset typically occurs before four years of age and patients can experience head enlargement, seizures, limb stiffness, delayed or declining cognition, and lack of growth. Type II onset typically occurs after the age of four and symptoms can include difficulty speaking, swallowing, and making coordinated movements. AxD is most often fatal. There are treatments that can relieve symptoms, but there is no disease modifying therapy yet available to patients.

In April 2021, we initiated a pivotal study of zilganersen in patients with AxD. The Phase 2/3 study of zilganersen is a multi-center, double-blind, placebo-controlled, multiple-ascending dose study in approximately 55 patients with AxD designed to assess the efficacy, safety and tolerability of zilganersen. Patients will receive zilganersen or placebo for a 60-week period, after which all patients in the study will receive zilganersen for a 60-week open-label treatment period. The primary endpoint is the change from baseline in the 10-Meter Walk Test, or 10MWT.

IONIS-MAPT$_{Rx}$ (BIIB080) – IONIS-MAPT$_{Rx}$ is an investigational antisense medicine we designed to selectively inhibit production of the microtubule-associated protein tau, or tau protein in the brain. We are developing IONIS-MAPT$_{Rx}$ to treat people with Alzheimer's disease, or AD, and potentially other neurodegenerative disorders characterized by the deposition of abnormal tau protein in the brain, such as certain forms of frontotemporal degeneration, or FTD, and progressive supranuclear palsy, or PSP.

AD and FTD are characterized predominantly by memory impairment and behavioral changes, resulting in a person's inability to independently perform daily activities. PSP is characterized by problems with walking and control of movement, sleep disorder and loss of memory and ability to reason. AD generally occurs late in life and may progress to death in five to 20 years after the onset of the disease. FTD and PSP have a more rapid disease progression.

In December 2022, Biogen initiated a Phase 2 clinical study of IONIS-MAPT$_{Rx}$ in patients with mild cognitive impairment or mild dementia due to AD. The study is a randomized, double-blinded, placebo-controlled, dose-escalation study in approximately 735 patients designed to assess the efficacy, safety and tolerability of IONIS-MAPT$_{Rx}$ administered intrathecally. The primary endpoint is the change from baseline to week 76 on the Clinical Dementia Rating scale Sum of Boxes, or CDR-SB.

In July 2021, we and Biogen reported positive topline data from our Phase 1/2 study of IONIS-MAPT$_{Rx}$ in patients with mild Alzheimer's disease at the Alzheimer's Association International Conference, or AAIC. The Phase 1/2 study was a blinded, randomized, placebo-controlled, dose-escalation study of IONIS-MAPT$_{Rx}$ to evaluate the safety and activity of once-monthly intrathecal injections of IONIS-MAPT$_{Rx}$ in patients with mild AD. The study showed that IONIS-MAPT$_{Rx}$ met its primary objective of safety and tolerability in patients with mild Alzheimer's disease. The study demonstrated robust time and dose dependent lowering of tau protein in cerebrospinal fluid over the three-month treatment period and sustained reductions during the six-month post-treatment period. IONIS-MAPT$_{Rx}$ had a favorable safety and tolerability profile supportive of continued development.

In December 2019, Biogen exercised its option to license IONIS-MAPT$_{Rx}$. Biogen has responsibility for global development, regulatory and commercialization activities, and costs for IONIS-MAPT$_{Rx}$.

ION859 (LRRK2) (BIIB094) – ION859 is an investigational antisense medicine we designed to inhibit the production of the Leucine Rich Repeat Kinase 2, or LRRK2, protein as a potential therapy for Parkinson's disease, or PD. The most common genetic mutations in PD are found in the LRRK2 protein. It is believed that increased LRRK2 protein activity could be one of the key drivers for developing PD. PD is a progressive neurodegenerative disease characterized by loss of neurons in the motor system. Patients with PD can experience tremors, loss of balance and coordination, stiffness, slowing of movement, changes in speech and in some cases cognitive decline. PD is ultimately fatal. There are treatments that can relieve symptoms, but there are no approved disease modifying therapies.

In August 2019, Biogen initiated a Phase 1/2 study evaluating ION859 in patients with PD. The Phase 1/2 study is a global, multi-center, randomized, double-blinded, placebo-controlled study in approximately 80 patients designed to assess the safety, tolerability and activity of multiple ascending doses of ION859 administered intrathecally.

ION859 is being developed under our 2013 Strategic Neurology collaboration with Biogen.

ION464 (SNCA) (BIIB101) – ION464 is an investigational antisense medicine we designed to inhibit the production of the alpha-synuclein protein as a potential therapy for PD, Multiple System Atrophy, or MSA, and related synucleinopathies. Alpha-synuclein protein abnormally accumulates in the brains of PD and MSA patients and is thought to be one of the key drivers of these diseases. It is believed that decreasing the production of the alpha-synuclein protein will reduce the toxic effects of gain-of-function mutations.

In July 2020, we initiated a Phase 1/2 study evaluating ION464 in patients with MSA. The current study is a multi-center, randomized, double-blinded, placebo-controlled study in approximately 40 patients designed to assess the safety and tolerability of multiple ascending doses of ION464 administered intrathecally.

ION464 is being developed under our 2013 Strategic Neurology collaboration with Biogen.

ION541 (ATXN2) (BIIB105) – ION541 is an investigational antisense medicine we designed to reduce the production of the ataxin-2, or ATXN2, protein for the potential treatment of ALS. The reduction of ATXN2 has been shown to decrease aggregation of TDP-43, a toxic RNA binding protein found in most patients with ALS, including the approximately 90 percent of the ALS population with no known family history of ALS.

In October 2020, Biogen initiated a Phase 1/2 clinical study evaluating ION541 in patients with ALS. The current study is a randomized, blinded, placebo-controlled study in approximately 110 patients designed to assess the safety, tolerability, and pharmacokinetics of multiple ascending doses of ION541 administered intrathecally.

ION541 is being developed under our 2013 Strategic Neurology collaboration with Biogen.

ION582 (UBE3A) (BIIB121) – ION582 is an investigational antisense medicine we designed to inhibit the expression of the UBE3A transcript, or UBE3A-ATS for the potential treatment of Angelman Syndrome, or AS. AS is a rare, genetic neurological disease caused by the loss of function of the maternally inherited *UBE3A* gene. AS typically presents in infancy and is characterized by intellectual disability, balance issues, motor impairment, and debilitating seizures. Some patients are unable to walk or speak. Some symptoms can be managed with existing drugs; however, there are no approved disease modifying therapies.

In December 2021, we initiated the Phase 1/2 study, HALOS, of ION582 in patients with AS. The study is an open label dose-escalation study enrolling approximately 40 patients designed to assess the safety, tolerability and activity of multiple ascending doses of ION582.

ION582 is being developed under our 2012 Neurology collaboration with Biogen.

Tominersen (HTT) (RG6042**) –** Tominersen (formerly IONIS-HTT_{Rx}) is an investigational antisense medicine we designed to target the underlying cause of Huntington's disease, or HD, by reducing the production of all forms of the huntingtin protein, or HTT, including its mutated variant, or mHTT. HD is an inherited genetic brain disorder that results in the progressive loss of both mental faculties and physical control. It is caused by the expansion of the cytosine-adenine-guanine, or CAG, trinucleotide sequence in the *HTT* gene. The resulting mutant HTT protein is toxic and gradually destroys neurons. Symptoms usually appear between the ages of 30 and 50 and worsen over a 10 to 25-year period. Ultimately, the weakened individual succumbs to pneumonia, heart failure or other complications. Presently, there is no effective treatment or cure for the disease, and currently available medicines only mask the patient's symptoms but do not slow down the underlying loss of neurons.

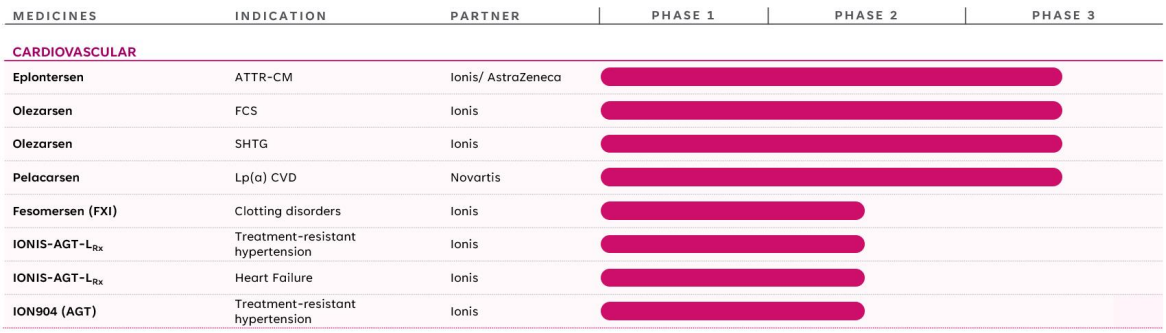
In January 2023, Roche initiated the Phase 2, GENERATION HD2, study of tominersen in patients aged 25 to 50 years old with prodromal and early manifest HD. The Phase 2 study of tominersen is a multi-center, double-blind, placebo-controlled study in approximately 360 patients designed to assess the efficacy, safety and tolerability of tominersen. Patients will receive tominersen or placebo every 16 weeks for 16 months, after which patients may receive tominersen in an open-label study. The primary endpoint is the change from baseline in the composite Unified Huntington's Disease Ratings Scale, or cUHDRS, (non-U.S.) and overall functional capacity, or TFC, (U.S.) at 16 months.

Roche conducted the Phase 3 study, GENERATION HD1, of tominersen in patients with HD. The Phase 3 study was a randomized, multicenter, double-blind, placebo-controlled study that recruited 791 participants. In March 2021, Roche announced that dosing would be stopped in the study following a recommendation from the independent data monitoring committee, or iDMC, based on an overall benefit/risk assessment. In January 2022, Roche announced findings from a post-hoc analysis of the GENERATION HD1 study that suggested tominersen may benefit younger adult patients with lower disease burden.

In December 2017, Roche exercised its option to license tominersen. As a result, Roche is responsible for global development, regulatory and commercialization activities, and costs for tominersen.

Our Cardiovascular Medicines in Development

According to the World Health Organization, or WHO, CVD remains the number one cause of death globally. An estimated 17.9 million people died from CVD in 2019, representing approximately 30 percent of all deaths globally. Our cardiovascular medicines target the major risk factors of cardiovascular disease, including cholesterol, triglycerides, and hypertension.



Eplontersen – See the medicine description under "Our Late-Stage Pipeline" section above.

Olezarsen – See the medicine description under "Our Late-Stage Pipeline" section above.

Pelacarsen – See the medicine description under "Our Late-Stage Pipeline" section above.

Fesomersen (FXI) – Fesomersen (formerly IONIS-FXI-L_{Rx}) is an investigational LICA medicine we designed to inhibit the production of Factor XI. Factor XI is a clotting factor produced in the liver that is important in the growth of blood clots. Thrombosis, characterized by the formation of a blood clot inside blood vessels, can cause heart attacks and strokes. People who are deficient in Factor XI have a lower incidence of thromboembolic events with minimal increase in bleeding risk. Although currently available anticoagulants reduce the risk of thrombosis, physicians associate these anticoagulants with increased bleeding, which can be fatal. By inhibiting Factor XI production, we believe that fesomersen can be used for the treatment of a number of non-acute forms of thrombosis where additional safe and well tolerated anti-thrombotic medicines are needed.

In November 2022, Bayer presented positive results from the RE-THINc Phase 2b study of fesomersen in patients with end-stage renal disease, or ESRD, on hemodialysis at the American Society of Nephrology's, or ASN, Kidney Week. In the study, fesomersen achieved its primary endpoint, demonstrating no increase in the incidence of the composite of major bleeding and clinically relevant non-major bleeding with 24 weeks of treatment. Fesomersen also achieved dose-dependent and sustained median reductions in steady-state FXI levels of 53.1%, 72.2% and 86.6% in the 40 mg, 80 mg, and 120 mg doses of fesomersen, respectively, administered once every four weeks. Incidences of dialysis circuit clotting and arteriovenous access, or AV-access, thrombosis diminished significantly with decreasing FXI levels, both of which were exploratory efficacy endpoints. Fesomersen had a favorable safety and tolerability profile supportive of continued development.

In November 2022, we regained all rights to fesomersen, which we had previously licensed to Bayer in February 2017.

IONIS-AGT-L_{Rx} – IONIS-AGT-L_{Rx} is an investigational LICA medicine we designed to inhibit the production of angiotensinogen to decrease blood pressure in people with uncontrolled hypertension. Treatment resistant hypertension, or TRH, is defined as failure to achieve a blood pressure goal of 140/90 (systolic/diastolic) despite the use of three or more antihypertensive medications. People with TRH have been found to have a three-fold higher chance of having fatal and non-fatal cardiovascular events relative to those with controlled hypertension.

We are also studying IONIS-AGT-L_{Rx} in patients with chronic heart failure with reduced ejection fraction. Heart failure, or HF, is a chronic, progressive condition in which the heart muscle is unable to pump enough blood to meet the body's needs for blood and oxygen. HF with reduced ejection fraction is a clinical syndrome of shortness of breath, exercise intolerance and/or fluid retention resulting from an impairment of ejection of blood, usually documented by a left ventricular ejection fraction of 40 percent or less on echocardiography.

In January 2021, we initiated a Phase 2b clinical study of IONIS-AGT-L_{Rx} in patients with TRH. The study is a randomized, double-blinded, placebo-controlled study in approximately 150 patients designed to assess the efficacy, safety and tolerability of IONIS-AGT-L_{Rx}. The primary endpoint is the change in systolic blood pressure, or SBP, from baseline.

In September 2021, we initiated a Phase 2 clinical study of IONIS-AGT-L_{Rx} in patients with chronic HF with reduced ejection fraction. The study is a randomized, double-blind, placebo-controlled study in approximately 75 patients designed to assess the safety, tolerability, and efficacy of IONIS-AGT-L_{Rx}. The primary endpoint is the percent change in plasma AGT concentration from baseline.

We evaluated IONIS-AGT-L_{Rx} in two randomized, double-blinded, placebo-controlled Phase 2 studies. The first study was in people with mild hypertension and the second was in people with uncontrolled hypertension who were on two or three antihypertensive medications, including ACE inhibitors or ARBs. IONIS-AGT-L_{Rx} significantly reduced AGT levels compared to placebo in both studies. IONIS-AGT-L_{Rx} had a favorable safety and tolerability profile supportive of continued development.

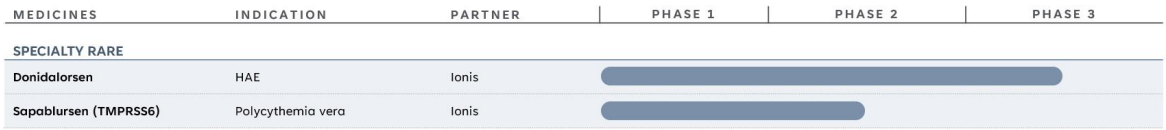
ION904 – ION904 is an investigational next-generation LICA medicine designed to inhibit the production of angiotensinogen to decrease blood pressure in people with uncontrolled hypertension. ION904 is a follow-on medicine targeting AGT, designed to enable less frequent dosing compared to IONIS-AGT-L_{Rx}.

In April 2022, we initiated a Phase 2 clinical study of ION904 in patients with mild to moderate uncontrolled hypertension on one or more anti-hypertensive medications for at least one month. The study is a randomized, double-blind, placebo-controlled study in approximately 45 patients designed to assess the safety, tolerability, and efficacy of ION904. The primary endpoint is the percent change in plasma AGT concentration from baseline.

We conducted a Phase 1, blinded, randomized, placebo-controlled, dose-escalation study of ION904 in healthy volunteers that was supportive of continued development.

Specialty Rare Medicines in Development

Our emerging specialty rare disease pipeline is comprised of medicines that are outside of our cardiovascular and neurological franchises, but we believe could represent a compelling opportunity for us.



Donidalorsen – See the medicine description under "Our Late-Stage Pipeline" section above.

Sapablursen (TMPRSS6) – Sapablursen (formerly IONIS-TMPRSS6-L_{Rx}) is an investigational LICA medicine we designed to target the *TMPRSS6* gene to modulate the production of hepcidin, which is the key regulator of iron homeostasis. By modulating hepcidin expression, sapablursen has the potential to positively impact diseases characterized by iron deficiency, such as polycythemia vera, or PV.

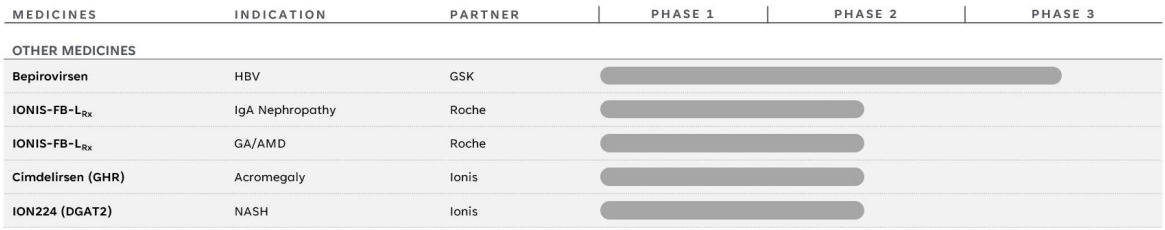
PV is a rare, non-genetic and potentially fatal disease caused by overproduction of red blood cells. This overproduction leads to a thickening of the blood, which increases patients' risk of life-threatening blood clots, including in the lungs, heart and brain. Patients with PV also experience severe iron deficiency due to hepcidin overexpression. There are no approved disease-modifying treatments for PV.

In January 2022, we initiated a Phase 2 study evaluating sapablursen in patients with phlebotomy dependent PV, or PD-PV. The Phase 2 study is a multi-center, randomized, open-label study in approximately 40 patients designed to assess the efficacy, safety and tolerability of sapablursen. The primary endpoint is the change in the frequency of phlebotomy comparing baseline with the last 20 weeks of the 37-week treatment period.

In December 2018, we presented positive data from our Phase 1 study of sapablursen in healthy volunteers at the American Society of Hematology Annual Meeting. The Phase 1 study demonstrated dose-dependent reductions of serum iron and serum transferrin saturation with sapablursen. Additionally, we observed an increase in serum hepcidin and predicted changes in hemoglobin. Sapablursen had a favorable safety and tolerability profile supportive of continued development.

Other Medicines in Development

We also have four medicines in development, outside of our core franchises, of which half are partnered.



Bepirovirsen – See the medicine description under "Our Late-Stage Pipeline" section above.

IONIS-FB-L$_{Rx}$ – IONIS-FB-L$_{Rx}$ (RG6299) is an investigational LICA medicine we designed to inhibit the production of complement factor B, or FB, and the alternative complement pathway. Genetic association studies have shown that overaction of the alternative complement pathway has been associated with the development of several complement-mediated diseases, including immunoglobulin A, or IgA, nephropathy, or IgAN, and geographic atrophy, or GA, secondary to age-related macular degeneration, or AMD.

IgAN is one of the most common causes of inflammation that impairs the filtering ability of kidneys and is an important cause of chronic kidney disease and kidney failure. Also known as Berger's disease, IgAN is characterized by deposits of IgA in the kidneys, resulting in inflammation and tissue damage. AMD is the leading cause of central vision loss in developed countries. GA is an advanced form of AMD.

In November 2022, we presented positive results from the Phase 2 study of IONIS-FB-L$_{Rx}$ in patients with IgAN at the American Society of Nephrology's, or ASN, Kidney Week. In the Phase 2 study, which included results from the first 10 patients treated with IONIS-FB-L$_{Rx}$, IONIS-FB-L$_{Rx}$ met its primary endpoint of change in 24-hour urinary protein, demonstrating a 44% mean reduction in proteinuria from baseline to week 29. Kidney function, as measured by estimated glomerular filtration rate, or eGFR, was maintained in all patients in the study. The results from the Phase 2 study provided proof-of-concept for the potential of IONIS-FB-L$_{Rx}$ to treat patients with IgAN by inhibiting complement FB and the alternative complement pathway. IONIS-FB-L$_{Rx}$ had a favorable safety and tolerability profile supportive of continued development. The Phase 2 open-label study remains ongoing and will evaluate IONIS-FB-L$_{Rx}$ in approximately 25 patients with IgAN.

In June 2019, we initiated a Phase 2 study evaluating IONIS-FB-L$_{Rx}$ in patients with GA secondary to age-related macular degeneration. The study is a randomized, masked, placebo-controlled study in approximately 330 patients designed to assess the efficacy, safety and tolerability of multiple ascending doses of IONIS-FB-L$_{Rx}$ administered subcutaneously in adults with GA. The primary endpoint is the absolute change from baseline in GA area at week 49.

In July 2022, Roche exercised its option to license IONIS-FB-L$_{Rx}$ following the positive Phase 2 results described above. As a result, Roche is responsible for global development, regulatory and commercialization activities, and costs for IONIS-FB-L$_{Rx}$, except for the open label Phase 2 study in patients with IgAN and the Phase 2 study in patients with GA, both of which we are conducting and funding.

Cimdelirsen (GHR) – Cimdelirsen (formerly IONIS-GHR-L$_{Rx}$) is an investigational LICA medicine we designed to inhibit the production of growth hormone receptor, or GHr, to decrease the circulating level of insulin-like growth factor-1, or IGF-1. Elevated levels of IGF-1 results in acromegaly, a chronic, slowly progressing and potentially fatal disease. Patients with acromegaly experience multiple chronic conditions, such as type 2 diabetes, hypertension, respiratory complications and premature death. Current treatments to block IGF-1 are often unsuccessful. Drug treatments to normalize IGF-1 levels are also available but are associated with potentially serious side effects.

In January 2021, we initiated a Phase 2 study evaluating cimdelirsen as a monotherapy in patients with acromegaly. The Phase 2 study is a multi-center, randomized, open label study in approximately 40 patients designed to assess the efficacy, safety and tolerability of cimdelirsen. The primary endpoint is the percent change from baseline in IGF-1 to week 27.

We completed a Phase 2 study evaluating cimdelirsen as an add-on therapy in patients with uncontrolled acromegaly despite stable therapy with long-acting somatostatin receptor ligands, or SRL. Due to enrollment difficulties associated with the COVID-19 pandemic, the study closed early, resulting in smaller cohort sizes than planned. While no longer powered to assess the primary endpoint (percentage of IGF- lowering at Day 141) in accordance with the protocol, the study did permit placebo-controlled evaluation of safety and efficacy. Cimdelirsen had a favorable safety and tolerability profile supportive of continued development.

ION224 (DGAT) – ION224 is an investigational LICA medicine we designed to reduce the production of diacylglycerol acyltransferase 2, or DGAT2, to treat patients with nonalcoholic steatohepatitis, or NASH. NASH is a common liver disease characterized by liver steatosis, inflammation and scarring and can lead to increased risk of cardiovascular disease, liver cancer, need for liver transplantation and early death. DGAT2 is an enzyme that catalyzes the final step in triglyceride synthesis in the liver. Reducing the production of DGAT2 should therefore decrease triglyceride synthesis in the liver. In animal studies, antisense inhibition of DGAT2 significantly improved liver steatosis, lowered blood lipid levels and reversed diet-induced insulin resistance.

Nonalcoholic fatty liver disease, or NAFLD, describes the full spectrum of liver disease progression from fatty liver to NASH to cirrhosis to hepatocellular carcinoma. NASH epidemiology studies have estimated 13 to 32 percent of the global population has NAFLD, 1.5 to 6.5 percent have NASH, and approximately nine percent of NASH patients progress to advanced liver disease. There are currently no commercially available medications to treat NASH.

NASH is sometimes considered a “silent” liver disease because people with early-stage NASH feel well, even though they are starting to accumulate fat in their livers and may not be aware that they have the disease. However, NASH can develop into more severe diseases such as liver cirrhosis and liver failure. Currently, liver transplant is the only therapeutic option for patients with liver cirrhosis. In addition, NASH has been shown to be a major risk factor for the development of liver cancer.

In June 2021, we initiated a Phase 2 study of ION224 in patients with confirmed non-alcoholic steatohepatitis. The Phase 2 study is a multi-center, randomized, double-blind, placebo-controlled clinical study in approximately 160 patients designed to assess the efficacy, safety and tolerability of multiple subcutaneous doses of ION224 on NASH histologic improvement.

Our Technology

For more than 30 years, we have advanced genetic medicines with the goal to change standards of care and transform the lives of people with devastating diseases. Our recent technology advancements have enabled us to advance programs with the potential for extended dosing and delivery to new tissues, such as muscle. We also recently added capabilities to potentially utilize RNA interference, or RNAi, or gene editing in addition to our novel antisense technology, which we believe, gives us the potential to deliver genetic medicines for a greater number of patients in need.

Overview of Antisense Technology

All of the medicines currently in our clinical pipeline use our antisense technology — an innovative platform for discovering first-in-class and/or best-in-class medicines. Antisense medicines target RNA, the intermediary that conveys genetic information from a gene to the protein synthesis machinery in the cell. By targeting RNA instead of proteins, we can use antisense technology to increase, decrease or alter the production of specific proteins. Most of our antisense medicines are designed to bind to mRNAs and inhibit the production of disease-causing proteins. Examples of these include eplontersen, olezarsen and donidalorsen. SPINRAZA is an example of an antisense medicine that modulates RNA splicing to increase protein production of the SMN protein, which is critical to the health and survival of nerve cells in the spinal cord that are responsible for neuro-muscular function. The SMN protein is deficient in people with SMA. Our antisense technology is also broadly applicable to many additional antisense mechanisms including decreasing toxic RNAs.

Our advanced LICA technology is a chemical technology we developed that involves attaching a molecule called a ligand that binds with receptors on the surfaces of cells in a highly specific manner. Because these receptors are often found only on certain cell types, LICA allows us to increase effective delivery of our antisense medicines with higher specificity to certain cell types that express these receptors relative to non-conjugated antisense medicines. We currently have an integrated assessment of data from multiple LICA medicines and clinical programs which demonstrates that our LICA technology for liver targets can increase potency by 20-30-fold over our non-LICA antisense medicines. Our LICA medicines have also demonstrated consistently favorable safety and tolerability in clinical trials. In 2022, we reported positive interim analysis data from the NEURO-TTRansform study of eplontersen in patients with ATTRv-PN. Eplontersen demonstrated a favorable safety and tolerability profile with no specific concerns.

Our generation 2.5 chemistry can enable up to 10-fold greater potency compared to our medicines using our Generation 2 chemistries. We can combine our Generation 2.5 chemistry with our LICA technology to further increase potency.

In addition, we are developing LICA conjugation technology that we can use to target tissues other than the liver, such as muscle, and initial results in animals are promising. In the fourth quarter of 2022, we advanced our first program incorporating LICA technology for enhanced delivery to muscle into preclinical development.

Emerging Technology Advancements

Our recent technology advancements have enabled us to create even more potent medicines amenable to more potential targets and tissue types. We have also diversified the approaches we can use in designing our medicines in order to reach more patients with severe diseases. Today our medicines and those entering our pipeline utilize our key technology advances, including our LICA technology and mesyl phosphoramidate, or MsPA, backbone chemistry. We may also now be able to use RNAi in addition to antisense, in the development of new medicines, depending on which approach demonstrates the best potential product profile for the indication we are pursuing. And through our Metagenomi collaboration, we added the potential to use gene editing, which modifies DNA.

Mesyl phosphoramidate Backbone Chemistry

We designed our MsPA backbone chemistry to improve both therapeutic index and durability. It does this by increasing metabolic stability relative to the other backbone chemistries we utilize. We have also shown it can improve potency in certain circumstances and reduce non-specific interactions with proteins that can cause undesirable effects, such as proinflammatory effects. In the fourth quarter of 2022, we advanced new programs using our MsPA backbone, designed to improve both efficacy and durability, into preclinical development.

Gene Editing and Metagenomi Collaboration

In November 2022, we entered into a collaboration with Metagenomi that leverages our extensive expertise in RNA-targeted therapeutics and Metagenomi's versatile next-generation gene editing systems to pursue a mix of validated and novel genetic targets with the goal of discovering and developing new drugs. These targets have the potential to expand therapeutic options for patients.

Gene editing utilizes specific RNA-guided nucleases known as Cas enzymes to precisely and permanently modify a DNA sequence. Because of this, gene editing holds the promise of treatments that could provide long-term, potentially permanent, therapeutic benefits.

Gene editing is highly complementary and synergistic with RNA-targeted therapeutics. Both platforms rely on the same nucleic acid hybridization principals to precisely target nucleases to either RNA, in the case of RNase H and siRNA drugs, or to DNA in the case of Clustered Regularly Interspaced Short Palindromic Repeats, or CRISPR-Cas systems. This enables us to leverage our expertise in nucleic acids and modified nucleic acid chemistry with the goal to enhance gene editing's ability to treat diseases for which there are limited treatment options.

Collaborative Arrangements

We have established alliances with a cadre of leading global pharmaceutical companies. Our partners include the following companies, among others: AstraZeneca, Biogen, GSK, Novartis and Roche. Through our partnerships, we have earned both commercial revenue and a broad and sustaining base of R&D revenue in the form of license fees, upfront payments and milestone payments. In 2022, we recognized $587 million in revenue, the majority of which was from our partnered medicines and programs. We have the potential to earn more than $23 billion in future milestone payments, licensing fees and other payments from our current partnerships. In addition, we are eligible to receive up to mid-20 percent royalties under our partnerships. Below, we include the significant terms of our collaboration agreements. For additional details, including other financial information, refer to Part IV, Item 15, Note 7, *Collaborative Arrangements and Licensing Agreements,* in the Notes to the Consolidated Financial Statements.

Strategic Partnership

Biogen

We have several strategic collaborations with Biogen focused on using our technology to advance the treatment of neurological disorders. These collaborations combine our expertise in creating antisense medicines with Biogen's expertise in developing therapies for neurological disorders. We developed and licensed to Biogen SPINRAZA, our approved medicine to treat people with SMA. We and Biogen are currently developing numerous investigational medicines to treat neurodegenerative diseases under our collaborations, including medicines in development to treat people with ALS, SMA, AS, Alzheimer's disease and Parkinson's disease. In addition to these medicines, our collaborations with Biogen include a substantial pipeline that addresses a broad range of neurological diseases. From inception through December 31, 2022, we have generated more than $3.5 billion in payments from our Biogen collaborations.

Spinal Muscular Atrophy Collaborations

SPINRAZA

In January 2012, we entered into a collaboration agreement with Biogen to develop and commercialize SPINRAZA, an RNA-targeted therapy for the treatment of SMA. We are receiving tiered royalties ranging from 11 percent to 15 percent on sales of SPINRAZA. We have exclusively in-licensed patents related to SPINRAZA from Cold Spring Harbor Laboratory and the University of Massachusetts. We pay Cold Spring Harbor Laboratory and the University of Massachusetts a low single digit royalty on net sales of SPINRAZA. Under our agreement, Biogen is responsible for global development, regulatory and commercialization activities and costs for SPINRAZA. From inception through December 31, 2022, we recognized more than $1.8 billion in total revenue under our SPINRAZA collaboration, including nearly $1.4 billion in revenue from SPINRAZA royalties and more than $425 million in R&D revenue.

New antisense medicines for the treatment of SMA

In December 2017, we entered into a collaboration agreement with Biogen to identify new antisense medicines for the treatment of SMA. Biogen has the option to license therapies arising out of this collaboration following the completion of preclinical studies. Upon licensing, Biogen will be responsible for global development, regulatory and commercialization activities and costs for such therapies. Under the collaboration agreement, we received a $25 million upfront payment in December 2017. In December 2021, Biogen exercised its option to license ION306, for which we earned a $60 million license fee payment. Biogen is solely responsible for the costs and expenses related to the development, manufacturing and potential future commercialization of ION306 following the option exercise.

We will receive development and regulatory milestone payments from Biogen if new medicines, including ION306, advance towards marketing approval.

Over the term of the collaboration, we are eligible to receive up to $1.2 billion, which is comprised of a $25 million upfront payment, up to $110 million in license fees, up to $80 million in development milestone payments, up to $180 million in regulatory milestone payments and up to $800 million in sales milestone payments and other payments, including up to $555 million if Biogen advances ION306. In addition, we are eligible to receive tiered royalties from the mid-teens to mid-20 percent range on net sales from any product that Biogen successfully commercializes under this collaboration. From inception through December 31, 2022, we have generated $85 million in payments under this collaboration.

Neurology Collaborations

2018 Strategic Neurology

In April 2018, we and Biogen entered into a strategic collaboration agreement to develop novel antisense medicines for a broad range of neurological diseases. We also entered into a Stock Purchase Agreement, or SPA. As part of the collaboration, Biogen gained exclusive rights to the use of our antisense technology to develop therapies for these diseases for 10 years. We are responsible for the identification of antisense drug candidates based on selected targets. Biogen will usually be responsible for conducting IND-enabling toxicology studies for the selected medicine. Biogen has the option to license the selected medicine after it completes the IND-enabling toxicology study. If Biogen exercises its option to license a medicine, it will assume global development, regulatory and commercialization responsibilities and costs for that medicine.

In June 2018, we received $1 billion from Biogen, comprised of $625 million to purchase our stock at an approximately 25 percent cash premium and $375 million in an upfront payment.

Over the term of the collaboration, we are eligible to receive up to $270 million, which is comprised of a $15 million license fee, up to $105 million in development milestone payments and up to $150 million in regulatory milestone payments for each medicine that achieves marketing approval. In addition, we are eligible to receive tiered royalties up to the 20 percent range on net sales from any product that Biogen successfully commercializes under this collaboration. We are currently advancing multiple programs under this collaboration. From inception through December 31, 2022, we have generated nearly $1.1 billion in payments under this collaboration.

2013 Strategic Neurology

In September 2013, we and Biogen entered into a long-term strategic relationship focused on applying antisense technology to advance the treatment of neurodegenerative diseases. As part of the collaboration, Biogen gained exclusive rights to the use of our antisense technology to develop therapies for neurological diseases and has the option to license medicines resulting from this collaboration. We will usually be responsible for drug discovery and early development of antisense medicines and Biogen will have the option to license antisense medicines after Phase 2 proof-of-concept. In October 2016, we expanded our collaboration to include additional research activities we will perform. If Biogen exercises its option to license a medicine, it will assume global development, regulatory and commercialization responsibilities and costs for that medicine. We are currently advancing five investigational medicines in development under this collaboration, including a medicine for Parkinson's disease, two medicines for ALS, a medicine for multiple system atrophy and a medicine for an undisclosed target. In December 2018, Biogen exercised its option to license our most advanced ALS medicine, tofersen, and as a result Biogen is responsible for global development, regulatory and commercialization activities and costs for tofersen.

Under the terms of the agreement, we received an upfront payment of $100 million and are eligible to receive milestone payments, license fees and royalty payments for all medicines developed under this collaboration, with the specific amounts dependent upon the modality of the molecule advanced by Biogen.

Over the term of the collaboration for tofersen, we are eligible to receive nearly $110 million, which is comprised of a $35 million license fee, up to $18 million in development milestone payments and $55 million in regulatory milestone payments. For each of the other antisense medicines that are chosen for drug discovery and development under this collaboration, we are eligible to receive up to approximately $260 million, which is comprised of a $70 million license fee, up to $60 million in development milestone payments and up to $130 million in regulatory milestone payments. In addition, we are eligible to receive tiered royalties up to the mid-teens on net sales from any product that Biogen successfully commercializes under this collaboration. From inception through December 31, 2022, we have generated more than $300 million under this collaboration, including more than $25 million in milestone payments we received from Biogen in 2022 when Biogen advanced three programs under this collaboration.

2012 Neurology

In December 2012, we and Biogen entered into a collaboration agreement to develop and commercialize novel antisense medicines to treat neurodegenerative diseases. We are responsible for the development of each of the medicines through the completion of the initial Phase 2 clinical study for such medicine. Biogen has the option to license a medicine from each of the programs through the completion of the first Phase 2 study for each program. Under this collaboration, Biogen is conducting the IONIS-MAPT$_{Rx}$ study for AD and we are currently advancing ION582 for AS. If Biogen exercises its option to license a medicine, it will assume global development, regulatory and commercialization responsibilities and costs for that medicine. In December 2019, Biogen exercised its option to license IONIS-MAPT$_{Rx}$ and as a result Biogen is responsible for global development, regulatory and commercialization activities and costs for IONIS-MAPT$_{Rx}$.

Under the terms of the agreement, we received an upfront payment of $30 million. Over the term of the collaboration, we are eligible to receive up to $210 million, which is comprised of a $70 million license fee, up to $10 million in development milestone payments per program and up to $130 million in regulatory milestone payments per program, plus a mark-up on the cost estimate of the Phase 1 and 2 studies. In addition, we are eligible to receive tiered royalties up to the mid-teens on net sales from any product that Biogen successfully commercializes under this collaboration. From inception through December 31, 2022, we have generated more than $190 million under this collaboration, including nearly $20 million in milestone payments we received from Biogen for advancing ION582 and a $10 million milestone payment we received from Biogen when Biogen advanced IONIS-MAPT$_{Rx}$ during 2022.

Joint Development and Commercialization Arrangement

AstraZeneca

Eplontersen Collaboration

In December 2021, we entered into a joint development and commercialization agreement with AstraZeneca to develop and commercialize eplontersen for the treatment of ATTR. We are jointly developing and preparing to commercialize eplontersen with AstraZeneca in the U.S. We granted AstraZeneca exclusive rights to commercialize eplontersen outside the U.S., except certain countries in Latin America.

The collaboration also includes territory-specific development, commercial and medical affairs cost-sharing provisions. AstraZeneca is currently responsible for 55 percent of the costs associated with the ongoing global Phase 3 development program. AstraZeneca is responsible for the majority of the commercial and medical affairs costs in the U.S. and all costs associated with bringing eplontersen to market outside the U.S.

Over the term of the collaboration, we are eligible to receive up to $3.6 billion, which is comprised of a $200 million upfront payment, up to $485 million in development and approval milestone payments and up to $2.9 billion in sales milestone payments. In addition, we are eligible to receive up to mid-20 percent royalties for sales in the U.S. and tiered royalties up to the high teens for sales outside the U.S. From inception through December 31, 2022, we have generated more than $275 million in payments under this collaboration, including more than $75 million we earned from cost sharing provisions in 2022.

Research and Development Partners

AstraZeneca

In addition to our collaboration for eplontersen, we have a collaboration with AstraZeneca focused on discovering and developing treatments for cardiovascular, renal and metabolic diseases. In July 2015, we and AstraZeneca formed a collaboration to discover and develop antisense therapies for treating cardiovascular, renal and metabolic diseases. Under our collaboration, AstraZeneca has licensed multiple medicines from us. AstraZeneca is responsible for global development, regulatory and commercialization activities and costs for each of the medicines it has licensed from us.

Over the term of the collaboration, we are eligible to receive up to $5.8 billion, which is comprised of a $65 million upfront payment, up to $290 million in license fees, up to $1.1 billion in development milestone payments, up to $2.9 billion in regulatory milestone payments and up to $1.5 billion in sales milestone payments. In addition, we are eligible to receive tiered royalties up to the low teens on net sales from any product that AstraZeneca successfully commercializes under this collaboration agreement. From inception through December 31, 2022, we have generated $285 million in payments under this collaboration.

GSK

In March 2010, we entered into a collaboration with GSK using our antisense drug discovery platform to discover and develop new medicines against targets for serious and rare diseases, including infectious diseases. Our collaboration with GSK covers bepirovirsen, an investigational antisense medicine we designed to reduce the production of viral proteins associated with HBV infection. In 2019, following positive Phase 2 results, GSK licensed our HBV program. GSK is responsible for all global development, regulatory and commercialization activities and costs for the HBV program.

Over the term of the collaboration, we are eligible to receive nearly $260 million, which is comprised of a $25 million license fee, up to $42.5 million in development milestone payments, up to $120 million in regulatory milestone payments and up to $70 million in sales milestone payments if GSK successfully develops bepirovirsen. In addition, we are eligible to receive tiered royalties up to the low-teens on net sales of bepirovirsen. From inception through December 31, 2022, we have generated more than $50 million in payments under the HBV program collaboration. Subsequent to December 31, 2022, we earned a $15 million milestone payment when GSK initiated a Phase 3 study of bepirovirsen in patients with chronic HBV in January 2023.

Novartis

In January 2017, we initiated a collaboration with Novartis to develop and commercialize pelacarsen. Novartis is responsible for conducting and funding development and regulatory activities for pelacarsen, including a global Phase 3 cardiovascular outcomes study, which Novartis initiated in December 2019. In connection with Novartis' license of pelacarsen, we and Novartis established a more definitive framework under which the companies would negotiate the co-commercialization of pelacarsen in selected markets. Included in this framework is an option by which Novartis could solely commercialize pelacarsen in exchange for Novartis paying us increased sales milestone payments based on sales of pelacarsen.

Over the term of the collaboration, we are eligible to receive up to $900 million, which is comprised of a $75 million upfront payment, a $150 million license fee, a $25 million development milestone payment, up to $290 million in regulatory milestone payments and up to $360 million in sales milestone payments. We are also eligible to receive tiered royalties in the mid-teens to low 20 percent range on net sales of pelacarsen. From inception through December 31, 2022, we have generated nearly $275 million in payments under this collaboration.

In conjunction with this collaboration, we entered into a SPA with Novartis. As part of the SPA, Novartis purchased 1.6 million shares of our common stock for $100 million in the first quarter of 2017.

Roche

Huntington's Disease

In April 2013, we entered into an agreement with Hoffmann-La Roche Inc and F. Hoffmann-La Roche Ltd, collectively Roche, to develop treatments for HD based on our antisense technology. Under the agreement, we discovered and developed tominersen, an investigational medicine targeting HTT protein. We developed tominersen through completion of our Phase 1/2 clinical study in people with early-stage HD. In December 2017, upon completion of the Phase 1/2 study, Roche exercised its option to license tominersen and is now responsible for the global development, regulatory and commercialization activities and costs for tominersen.

Over the term of the collaboration, we are eligible to receive up to $395 million, which is comprised of a $30 million upfront payment, a $45 million license fee, up to $70 million in development milestone payments, up to $170 million in regulatory milestone payments and up to $80 million in sales milestone payments as tominersen advances. In addition, we are eligible to receive up to $136.5 million in milestone payments for each additional medicine successfully developed. We are also eligible to receive tiered royalties up to the mid-teens on net sales from any product resulting from this collaboration. From inception through December 31, 2022, we have generated more than $150 million in payments under this collaboration.

IONIS-FB-L_{Rx} for Complement-Mediated Diseases

In October 2018, we entered into a collaboration agreement with Roche to develop IONIS-FB-L_{Rx} for the treatment of complement-mediated diseases. We are currently conducting Phase 2 studies in two disease indications for IONIS-FB-L_{Rx}, one for the treatment of patients with GA, the advanced stage of dry AMD, and a second for the treatment of patients with IgA nephropathy. After receiving positive data from the Phase 2 clinical study of IONIS-FB-L_{Rx} in patients with IgAN, Roche licensed IONIS-FB-L_{Rx} in July 2022. As a result, Roche is responsible for global development, regulatory and commercialization activities, and costs for IONIS-FB-L_{Rx}, except for the open label Phase 2 study in patients with IgAN and the Phase 2 study in patients with GA, both of which we are conducting and funding.

Over the term of the collaboration, we are eligible to receive more than $810 million, which is comprised of a $75 million upfront payment, a $35 million license fee, up to $145 million in development milestone payments, up to $279 million in regulatory milestone payments and up to $280 million in sales milestone payments. In addition, we are also eligible to receive tiered royalties from the high teens to 20 percent on net sales. From inception through December 31, 2022, we have generated more than $130 million under this collaboration, including $55 million in payments we earned in 2022 for advancing IONIS-FB-L_{Rx}.

Commercialization Partnerships

Swedish Orphan Biovitrum AB (Sobi)

We began commercializing TEGSEDI and WAYLIVRA in Europe in January 2021 and TEGSEDI in North America in April 2021 through distribution agreements with Sobi. Under our agreements, we are responsible for supplying finished goods inventory to Sobi and Sobi is responsible for selling each medicine to the end customer. In exchange, we earn a distribution fee on net sales from Sobi for each medicine.

PTC Therapeutics

In August 2018, we entered into an exclusive license agreement with PTC Therapeutics to commercialize TEGSEDI and WAYLIVRA in Latin America and certain Caribbean countries. Under the license agreement, we are eligible to receive royalties from PTC in the mid-20 percent range on net sales for each medicine. In December 2021, we started receiving royalties from PTC for TEGSEDI sales. We expect to receive royalties from PTC for WAYLIVRA sales starting in 2023.

Technology Enhancement Collaborations

Bicycle Therapeutics License Agreement

In December 2020, we entered into a collaboration agreement with Bicycle Therapeutics, or Bicycle, and obtained an option to license its peptide technology to potentially increase the delivery capabilities of our LICA medicines. In July 2021, we paid $42 million when we exercised our option to license Bicycle's technology, which included an equity investment in Bicycle. As part of our stock purchase, we entered into a lockup agreement with Bicycle that restricted our ability to trade our Bicycle shares for one year. As a result, we recorded a $7 million equity investment for the shares we received in Bicycle in 2021. We recognized the remaining $35 million as R&D expense in 2021. From inception through December 31, 2022, we have paid Bicycle $47 million under this collaboration agreement.

Metagenomi

In November 2022, we entered into a collaboration and license agreement with Metagenomi to research, develop and commercialize investigational medicines for up to four initial genetic targets, and, upon the achievement of certain development milestones, four additional genetic targets using gene editing technologies. As a result, we paid $80 million to license Metagenomi's technologies. We will also pay Metagenomi certain fees for the selection of genetic targets, and contingent on the achievement of certain development, regulatory and sales events, milestone payments and royalties. In addition, we will reimburse Metagenomi for certain of its costs in conducting its research and drug discovery activities under the collaboration.

Other Agreements

Alnylam Pharmaceuticals, Inc.

Under the terms of our agreement with Alnylam, we co-exclusively (with ourselves) licensed to Alnylam our patent estate relating to antisense motifs and mechanisms and oligonucleotide chemistry for double-stranded RNAi therapeutics, with Alnylam having the exclusive right to grant platform sublicenses for double-stranded RNAi. In exchange for such rights, Alnylam gave us a technology access fee, participation in fees from Alnylam's partnering programs, as well as future milestone and royalty payments from Alnylam. We retained exclusive rights to our patents for single-stranded antisense therapeutics and for a limited number of double-stranded RNAi therapeutic targets and all rights to single-stranded RNAi, or ssRNAi, therapeutics. In turn, Alnylam nonexclusively licensed to us its patent estate relating to antisense motifs and mechanisms and oligonucleotide chemistry to research, develop and commercialize single-stranded antisense therapeutics, ssRNAi therapeutics, and to research double-stranded RNAi compounds. We also received a license to develop and commercialize double-stranded RNAi therapeutics targeting a limited number of therapeutic targets on a nonexclusive basis. Additionally, in 2015, we and Alnylam entered into an alliance in which we cross-licensed intellectual property. Under this alliance, we and Alnylam each obtained exclusive license rights to four therapeutic programs. Alnylam granted us an exclusive, royalty-bearing license to its chemistry, RNA targeting mechanism and target-specific intellectual property for oligonucleotides against four targets, including FXI and Apo(a) and two other targets. In exchange, we granted Alnylam an exclusive, royalty-bearing license to our chemistry, RNA targeting mechanism and target-specific intellectual property for oligonucleotides against four other targets. Alnylam also granted us a royalty-bearing, non-exclusive license to new platform technology arising from May 2014 through April 2019 for single-stranded antisense therapeutics. In turn, we granted Alnylam a royalty-bearing, non-exclusive license to new platform technology arising from May 2014 through April 2019 for double-stranded RNAi therapeutics.

In the fourth quarter of 2020, we completed an arbitration process with Alnylam. The arbitration panel awarded us $41 million for payments owed to us by Alnylam related to Alnylam's agreement with Sanofi Genzyme. We recognized the $41 million payment from Alnylam as R&D revenue in the fourth quarter of 2020.

Manufacturing

We manufacture most of the active pharmaceutical ingredient, or API, we use for our research and development activities ourselves. We have also manufactured API and commercial supply for our approved medicines. We have dedicated significant resources to develop ways to improve manufacturing efficiency and capacity. Since we can use variants of the same nucleotide building blocks and the same type of equipment to produce our oligonucleotide medicines, we found that the same techniques we used to efficiently manufacture one oligonucleotide medicine could help improve the manufacturing processes for our other medicines. By developing several proprietary chemical processes to scale up our manufacturing capabilities, we have greatly reduced the cost of producing oligonucleotide medicines. For example, we have significantly reduced the cost of raw materials through improved yield efficiency, while at the same time increasing our capacity to make our medicines. Through both our internal research and development programs and collaborations with outside vendors, we may achieve even greater efficiency and further cost reductions.

Our manufacturing facility is located in a 26,800 square foot building in Carlsbad, California. We purchased this building in 2017. In addition, we have a 25,800 square foot building that houses support functions for our manufacturing activities. We lease this facility under a lease that has a term ending in August 2026 with an option to extend the lease for an additional five-year period. Our manufacturing facility is subject to periodic inspections by the FDA and foreign equivalents to ensure that it is operating in compliance with current Good Manufacturing Practices, or cGMP, requirements. We have begun work on a new manufacturing facility in Oceanside, California that will expand our manufacturing capacity to support our advancing pipeline. Refer to Part I, Item 2, *Properties*, for further discussion of this lease facility.

As part of our collaborations, we may agree to manufacture clinical trial material and/or commercial drug supply for our partners. For example, in the past we have manufactured clinical trial material for AstraZeneca, Biogen, GSK and Novartis and commercial drug supply for Biogen.

We believe we have sufficient manufacturing capacity at our own facility or at contract manufacturing organizations, or CMOs, to meet our current internal research, development and potential commercial needs, as well as our obligations under existing agreements with our partners for research, development and commercial material. We manufacture process performance qualification batches and pre-approval inspection batches of our Phase 3 medicines that may be used for regulatory submissions and, pending regulatory approval, commercial sale. We believe our current network of CMO partners are capable of providing sufficient quantities to meet anticipated commercial demands. Additionally, we continue to evaluate relationships with additional suppliers to increase overall capacity and diversify our supply chain. While we believe that there are alternate sources of supply that can satisfy our commercial requirements, it is possible that identifying and establishing relationships with such sources, if necessary, could result in significant delay or material additional costs. We also could experience a disruption in supply from our current CMO partners.

CMOs are subject to the FDA's cGMP requirements and other rules and regulations prescribed by foreign regulatory authorities. We depend on our CMO partners for continued compliance with cGMP requirements and applicable foreign standards.

Specifically, we have the following in place for our approved medicines, SPINRAZA, TEGSEDI and WAYLIVRA and our medicines in Phase 3 development.

SPINRAZA

Biogen is responsible for SPINRAZA drug supply.

TEGSEDI and WAYLIVRA

For TEGSEDI's commercial drug supply, we are using CMOs to produce custom raw materials, API and finished goods. For WAYLIVRA's commercial drug supply, we have manufactured custom raw materials and API. We are using CMOs to produce the finished goods for WAYLIVRA. Our CMO partners have extensive technical expertise and cGMP experience. We believe we and our current network of CMO partners are capable of manufacturing sufficient quantities to meet anticipated commercial demands.

Eplontersen

Our CMO partner supplied the API and the finished drug product for eplontersen's Phase 3 program. Pursuant to our collaboration with AstraZeneca, we will manufacture and supply eplontersen through a CMO for the ongoing clinical trials, process performance qualification batches and pre-approval inspection batches. AstraZeneca is responsible for commercial drug supply.

Olezarsen, Donidalorsen, ION363

We and/or the CMOs have supplied the API and the finished drug product for olezarsen, donidalorsen and ION363 that we believe will be sufficient through the completion of the Phase 3 programs for each medicine, including process performance qualification batches and pre-approval inspection batches. We plan to leverage our relationships with CMOs to procure long-term raw material and drug supply at competitive prices in the future.

Tofersen

Biogen is responsible for tofersen drug supply, including launch supplies.

Pelacarsen

We supplied the API and the finished drug product for pelacarsen's Phase 3 program. Pursuant to our collaboration with Novartis, Novartis is responsible for any further pelacarsen drug supply.

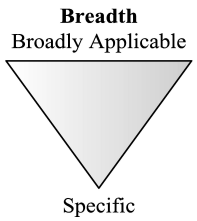
Patents and Proprietary Rights

Our success depends, in part, on our ability to obtain patent protection for our products in the U.S. and other countries. We own or have exclusively licensed a substantial patent estate with numerous issued patents worldwide protecting our products and, more generally, our platform for development and commercialization of RNA-targeting therapeutics. We focus our resources on patents and new patent applications that drive value for our company.

We own or control patents that provide exclusivity for products in our pipeline and patents that provide exclusivity for our core technology in the field of oligonucleotides and RNA-targeting therapeutics more generally. Our core technology patents include claims to chemically modified oligonucleotides as well as medicine designs utilizing these chemical modifications. These core claims are independent of specific therapeutic target, nucleic acid sequence, or clinical indication. We also own a large number of patents claiming oligonucleotide compounds having nucleic acid sequences complementary to therapeutic target nucleic acids, independent of the particular chemical modifications incorporated into the oligonucleotide compound. Importantly, we seek and obtain issued patent claims to specifically protect each of our medicines. For example, we file and seek to obtain claims covering each drug's nucleic acid sequence and precise drug design. In sum, we maintain our competitive advantage in the field of oligonucleotide therapeutics technology by protecting our core platform technology and by creating multiple layers of patent protection for each of our specific medicines in development.

Type of Patent Claim
(Broadly Applicable to Specific)

- Chemically Modified Nucleosides and Oligonucleotides (target and sequence independent)
- Drug Design Motifs (target and sequence independent)
- LIgand-Conjugated Antisense (LICA) Technology
- Therapeutic Methods (sequence and chemistry independent)
- Oligonucleotide Sequence (chemistry independent)
- Drug Composition



Chemically Modified Nucleosides and Oligonucleotides

The most broadly applicable of our patents are those that claim modified nucleosides and oligonucleotides comprising the modified nucleosides that we incorporate into our medicines to increase their therapeutic efficacy. Nucleosides and chemically modified nucleosides are the basic building blocks of our medicines. Therefore, claims that cover any oligonucleotide incorporating one of our proprietary modified nucleosides can apply to a wide array of therapeutic mechanisms of action as well as several therapeutic targets. The following are some of our patents in this category in key jurisdictions (U.S., Europe and Japan):

Jurisdiction	Patent No.	Title	Expiration	Description of Claims
United States	7,399,845	6-MODIFIED BICYCLIC NUCLEIC ACID ANALOGS	2027	cEt nucleosides and oligonucleotides containing these nucleoside analogs
United States	7,741,457	6-MODIFIED BICYCLIC NUCLEIC ACID ANALOGS	2027	cEt nucleosides and oligonucleotides containing these nucleoside analogs
United States	8,022,193	6-MODIFIED BICYCLIC NUCLEIC ACID ANALOGS	2027	Oligonucleotides containing cEt nucleoside analogs
Europe	1984381	6-MODIFIED BICYCLIC NUCLEIC ACID ANALOGS	2027	cEt nucleosides and oligonucleotides containing these nucleoside analogs
Europe	2314594	6-MODIFIED BICYCLIC NUCLEIC ACID ANALOGS	2027	Oligonucleotides containing cEt nucleoside analogs and methods of use
Japan	5342881	6-MODIFIED BICYCLIC NUCLEIC ACID ANALOGS	2027	cEt nucleosides and oligonucleotides containing these nucleoside analogs
United States	7,569,686	COMPOUNDS AND METHODS FOR SYNTHESIS OF BICYCLIC NUCLEIC ACID ANALOGS	2027	Methods of synthesizing cEt nucleosides

Drug Design Motifs

We also have patents that claim oligonucleotides comprising drug design motifs, or patterns of nucleoside modifications at specified positions in an oligonucleotide. Patent claims covering drug design motifs are independent of nucleic acid sequence, so they cover oligonucleotides having the recited motif, regardless of cellular target or clinical indication. The claimed motifs generally confer properties that optimize oligonucleotides for a particular mechanism of action, such as ribonuclease H (RNase H), RNAi, or splicing. We have designed oligonucleotides incorporating motifs, which we refer to as chimeric compounds or gapmers, to exploit the RNase H mechanism to achieve target RNA reduction. We have patent claims to such antisense drug design motifs incorporating bicyclic nucleosides, which include both locked nucleic acids, or “LNA” and cEt. The following patents are some examples of our issued patents in this category in key jurisdictions (U.S., Europe and Japan):

Jurisdiction	Patent No.	Title	Expiration	Description of Claims
United States	7,750,131	5’-MODIFIED BICYCLIC NUCLEIC ACID ANALOGS	2027	Oligonucleotides having 5’-methyl BNA nucleosides
Europe	2092065	ANTISENSE COMPOUNDS	2027	Gapmer oligonucleotides having 2’-modifed and LNA nucleosides
Europe	2410053	ANTISENSE COMPOUNDS	2027	Gapmer oligonucleotides having wings comprised of 2’-MOE and bicyclic nucleosides
Europe	2410054	ANTISENSE COMPOUNDS	2027	Gapmer oligonucleotides having a 2’-modifed nucleoside in the 5’-wing and a bicyclic nucleoside in the 3’-wing
Japan	5665317	ANTISENSE COMPOUNDS	2027	Gapmer oligonucleotides having wings comprised of 2’-MOE and bicyclic nucleosides
United States	9,550,988	ANTISENSE COMPOUNDS	2028	Gapmer oligonucleotides having BNA nucleosides and 2’-MOE nucleosides
United States	10,493,092	ANTISENSE COMPOUNDS	2028	Gapmer oligonucleotides having BNA nucleosides and 2’-MOE nucleosides and/or 2’-OMe nucleosides
Europe	3067421	OLIGOMERIC COMPOUNDS COMPRISING BICYCLIC NUCLEOTIDES AND USES THEREOF	2032	Gapmer oligonucleotides having at least one bicyclic, one 2’-modified nucleoside and one 2’-deoxynucleoside

LIgand-Conjugated Antisense (LICA) Technology

We also have patent claims to new chemistries created to enhance targeting of antisense medicines to specific tissues and cells to improve a drug's properties. We designed our GalNAc LICA medicines to provide an increase in potency for targets in the liver. We have successfully obtained issued patent claims covering our LICA technology conjugated to any modified oligonucleotide, including gapmers, double-stranded siRNA compounds, and fully modified oligonucleotides. The following patents are some examples of our issued patents in this category:

Jurisdiction	Patent No.	Title	Expiration	Description of Claims
United States	9,127,276	CONJUGATED ANTISENSE COMPOUNDS AND THEIR USE	2034	Preferred THA LICA conjugated to any group of nucleosides, including gapmers, double-stranded siRNA compounds, and fully modified oligonucleotides
United States	9,181,549	CONJUGATED ANTISENSE COMPOUNDS AND THEIR USE	2034	Preferred THA conjugate having our preferred linker and cleavable moiety conjugated to any oligomeric compound or any nucleoside having a 2'-MOE modification or a cEt modification
Europe	2991661	CONJUGATED ANTISENSE COMPOUNDS AND THEIR USE	2034	Preferred THA LICA conjugated to any group of nucleosides, including gapmers, double-stranded siRNA compounds, and fully modified oligonucleotides

Therapeutic Methods of Treatment and Oligonucleotide Drug Sequences

In addition to our broad core patents, we also own hundreds of patents, worldwide, with claims to antisense compounds having particular sequences and compounds directed to particular therapeutically important targets or methods of achieving cellular or clinical endpoints using these antisense compounds. These "Target" patents also include claims reciting the specific nucleic acid sequences utilized by our products, independent of chemical modifications and motifs. In addition, our product-specific patents typically include claims combining specific nucleic acid sequences with nucleoside modifications and motifs. In this way, we seek patent claims narrowly tailored to protect our products specifically, in addition to the broader core antisense patents described above.

SPINRAZA and Survival Motor Neuron

We believe SPINRAZA is protected from generic competition in the U.S. until at least 2035 and in Europe until at least 2030 by a suite of patents. These issued patents include: (i) patents licensed from the University of Massachusetts drawn to antisense compounds having the sequence of SPINRAZA, independent of chemical modification and uses of such compounds for treating SMA, and (ii) joint patents with Cold Spring Harbor Laboratory claiming fully modified 2'MOE compositions targeting SMN2, including the precise composition of matter of SPINRAZA and methods of using such compositions. We have filed for patent term extension, to potentially extend the term beyond 2030. With Biogen's license of SPINRAZA, we assigned our interest in these patents to Biogen. The table below lists some key issued patents protecting SPINRAZA in the U.S. and Europe:

Jurisdiction	Patent No.	Title	Expiration	Description of Claims
United States	10,266,822	SPINAL MUSCULAR ATROPHY (SMA) TREATMENT VIA TARGETING OF SMN2 SPLICE SITE INHIBITORY SEQUENCES	2025	Methods of increasing exon-7 containing SMN2 mRNA in a cell using an oligonucleotide having the sequence of SPINRAZA
United States	8,110,560	SPINAL MUSCULAR ATROPHY (SMA) TREATMENT VIA TARGETING OF SMN2 SPLICE SITE INHIBITORY SEQUENCES	2025	Methods of using antisense oligonucleotides having sequence of SPINRAZA to alter splicing of SMN2 and/or to treat SMA
Europe	1910395	COMPOSITIONS AND METHODS FOR MODULATION OF SMN2 SPLICING	2026	Sequence and chemistry (full 2'-MOE) of SPINRAZA
Europe	3308788	COMPOSITIONS AND METHODS FOR MODULATION OF SMN2 SPLICING	2026	Pharmaceutical compositions that include SPINRAZA
United States	7,838,657	SPINAL MUSCULAR ATROPHY (SMA) TREATMENT VIA TARGETING OF SMN2 SPLICE SITE INHIBITORY SEQUENCES	2027	Oligonucleotides having sequence of SPINRAZA
United States	8,361,977	COMPOSITIONS AND METHODS FOR MODULATION OF SMN2 SPLICING	2030	Sequence and chemistry (full 2'-MOE) of SPINRAZA
United States	8,980,853	COMPOSITIONS AND METHODS FOR MODULATION OF SMN2 SPLICING IN A SUBJECT	2030	Methods of administering SPINRAZA
United States	9,717,750	COMPOSITIONS AND METHODS FOR MODULATION OF SMN2 SPLICING IN A SUBJECT	2030	Methods of administering SPINRAZA to a patient
Europe	3449926	COMPOSITIONS AND METHODS FOR MODULATION OF SMN2 SPLICING IN A SUBJECT	2030	Pharmaceutical compositions that include SPINRAZA for treating SMA
Europe	3305302	COMPOSITIONS AND METHODS FOR MODULATION OF SMN2 SPLICING IN A SUBJECT	2030	Antisense compounds including SPINRAZA for treating SMA
United States	9,926,559	COMPOSITIONS AND METHODS FOR MODULATION OF SMN2 SPLICING IN A SUBJECT	2034	SPINRAZA doses for treating SMA
United States	10,436,802	METHODS FOR TREATING SPINAL MUSCULAR ATROPHY	2035	SPINRAZA dosing regimen for treating SMA

TEGSEDI and Transthyretin

We believe TEGSEDI is protected from generic competition in the U.S. and Europe until at least 2031. Additional patent applications designed to protect TEGSEDI in other foreign jurisdictions are being pursued. The table below lists some key issued patents protecting TEGSEDI in the U.S. and Europe:

Jurisdiction	Patent No.	Title	Expiration	Description of Claims
United States	8,101,743	MODULATION OF TRANSTHYRETIN EXPRESSION	2025	Antisense sequence and chemistry of TEGSEDI
United States	8,697,860	DIAGNOSIS AND TREATMENT OF DISEASE	2031	Composition of TEGSEDI
United States	9,061,044	MODULATION OF TRANSTHYRETIN EXPRESSION	2031	Sodium salt composition of TEGSEDI
United States	9,399,774	MODULATION OF TRANSTHYRETIN EXPRESSION	2031	Methods of treating transthyretin amyloidosis by administering TEGSEDI
Europe	2563920	MODULATION OF TRANSTHYRETIN EXPRESSION	2031	Composition of TEGSEDI

WAYLIVRA and Apolipoprotein C-III

We have obtained patent claims in the U.S. and Europe drawn to the use of antisense compounds complementary to a broad active region of human ApoC-III, including the site targeted by WAYLIVRA. We have also obtained issued patents claiming the specific sequence and chemical composition of WAYLIVRA in the U.S. and Europe. We believe the issued claims protect WAYLIVRA from generic competition in the U.S. and Europe until at least 2023 and 2024, respectively. The table below lists some key issued patents protecting WAYLIVRA in the U.S. and Europe:

Jurisdiction	Patent No.	Title	Expiration	Description of Claims
United States	9,624,496	MODULATION OF APOLIPOPROTEIN C-III EXPRESSION	2023	Antisense compounds specifically hybridizable within the nucleotide region of ApoCIII targeted by WAYLIVRA
United States	7,598,227	MODULATION OF APOLIPOPROTEIN C-III EXPRESSION	2023	Methods of treating hyperlipidemia, lowering cholesterol levels or lowering triglyceride levels with WAYLIVRA
United States	7,750,141	MODULATION OF APOLIPOPROTEIN C-III EXPRESSION	2023	Antisense sequence and chemistry of WAYLIVRA
Europe	1622597	MODULATION OF APOLIPOPROTEIN C-III EXPRESSION	2024	Antisense sequence and chemistry of WAYLIVRA
Europe	2441449	MODULATION OF APOLIPOPROTEIN C-III EXPRESSION	2024	Antisense compounds specifically hybridizable within the nucleotide region of ApoCIII targeted by WAYLIVRA
Europe	3002007	MODULATION OF APOLIPOPROTEIN C-III EXPRESSION	2024	Compounds complementary to an ApoCIII nucleic acid for use in therapy
United States	9,157,082	MODULATION OF APOLIPOPROTEIN C-III (APOCIII) EXPRESSION	2032	Methods of using ApoCIII antisense oligonucleotides for reducing pancreatitis and chylomicronemia and increasing HDL
United States	9,593,333	MODULATION OF APOLIPOPROTEIN C-III (APOCIII) EXPRESSION IN LIPOPROTEIN LIPASE DEFICIENT (LPLD) POPULATIONS	2034	Methods of treating lipoprotein lipase deficiency with an ApoCIII specific inhibitor wherein triglyceride levels are reduced
Europe	2956176	MODULATION OF APOLIPOPROTEIN C-III (APOCIII) EXPRESSION IN LIPOPROTEIN LIPASE DEFICIENT (LPLD) POPULATIONS	2034	ApoCIII specific inhibitors including WAYLIVRA for treating lipoprotein lipase deficiency or FCS

Eplontersen and Transthyretin

We believe eplontersen is protected from generic competition in the U.S. and Europe until at least 2034. Additional patent applications to protect eplontersen in other foreign jurisdictions are being pursued. The table below lists some key issued patents protecting eplontersen in the U.S. and Europe:

Jurisdiction	Patent No.	Title	Expiration	Description of Claims
United States	10,683,499	COMPOSITIONS AND METHODS FOR MODULATING TTR EXPRESSION	2034	Composition of eplontersen
Europe	3524680	COMPOSITIONS AND METHODS FOR MODULATING TTR EXPRESSION	2034	Composition of eplontersen

Olezarsen and ApoC-III

We believe olezarsen is protected from generic competition in the U.S. and Europe until at least 2034. Additional patent applications to protect olezarsen in other foreign jurisdictions are being pursued. The table below lists some key issued patents protecting olezarsen in the U.S. and Europe.

Jurisdiction	Patent No.	Title	Expiration	Description of Claims
United States	9,163,239	COMPOSITIONS AND METHODS FOR MODULATING APOLIPOPROTEIN C-III EXPRESSION	2034	Composition of olezarsen
Europe	2991656	COMPOSITIONS AND METHODS FOR MODULATING APOLIPOPROTEIN C-III EXPRESSION	2034	Composition of olezarsen

Donidalorsen and PKK

We believe donidalorsen is protected from generic competition in the U.S. and Europe until at least 2035. Additional patent applications to protect donidalorsen in other foreign jurisdictions are being pursued. The table below lists some key issued patents protecting donidalorsen in the U.S. and Europe.

Jurisdiction	Patent No.	Title	Expiration	Description of Claims
United States	9,315,811	METHODS FOR MODULATING KALLIKREIN (KLKB1) EXPRESSION	2032	Methods of treating HAE
Europe	2717923	METHODS FOR MODULATING KALLIKREIN (KLKB1) EXPRESSION	2032	Compounds for use in treating an inflammatory condition, including HAE
United States	10,294,477	COMPOSITIONS AND METHODS FOR MODULATING PKK EXPRESSION	2035	Composition of donidalorsen
Europe	3137091	COMPOSITIONS AND METHODS FOR MODULATING PKK EXPRESSION	2035	Composition of donidalorsen

ION363 and FUS

Patent applications designed to protect ION363 from generic competition are being pursued in the U.S. and Europe. Patents issued from these applications would have terms until at least 2040. The table below lists some key pending patent applications designed to protect ION363 in the U.S. and Europe:

Jurisdiction	Patent No.	Title	Expiration	Description of Claims
United States	17/613,183	COMPOUNDS AND METHODS FOR REDUCING FUS EXPRESSION	2040	Composition of ION363
Europe	20815459.1	COMPOUNDS AND METHODS FOR REDUCING FUS EXPRESSION	2040	Composition of ION363

Tofersen and SOD-1

We believe tofersen is protected from generic competition in the U.S. and Europe until at least 2035. Additional patent applications designed to protect tofersen in other foreign jurisdictions are being pursued. With Biogen's license of tofersen, we assigned our interest in these patents to Biogen. The table below lists some key issued patents protecting tofersen in the U.S. and Europe:

Jurisdiction	Patent No.	Title	Expiration	Description of Claims
United States	10,385,341	COMPOSITIONS FOR MODULATING SOD-1 EXPRESSION	2035	Composition of tofersen
United States	10,669,546	COMPOSITIONS FOR MODULATING SOD-1 EXPRESSION	2035	Methods of treating a SOD-1 associated neurodegenerative disorder by administering tofersen
United States	10,968,453	COMPOSITIONS FOR MODULATING SOD-1 EXPRESSION	2035	Methods of treating a SOD-1 associated neurodegenerative disorder by administering a pharmaceutical composition of tofersen
Europe	3126499	COMPOSITIONS FOR MODULATING SOD-1 EXPRESSION	2035	Composition of tofersen

Pelacarsen and Apo(a)

We believe pelacarsen is protected from generic competition in the U.S. and Europe until at least 2034. Additional patent protection designed to protect pelacarsen in other foreign jurisdictions are being pursued. The table below lists some key issued patents protecting pelacarsen in the U.S. and Europe:

Jurisdiction	Patent No.	Title	Expiration	Description of Claims
United States	9,574,193	METHODS AND COMPOSITIONS FOR MODULATING APOLIPOPROTEIN (A) EXPRESSION	2033	Methods of lowering Apo(a) and/or Lp(a) levels with an oligonucleotide complementary within the nucleotide region of Apo(a) targeted by pelacarsen
United States	10,478,448	METHODS AND COMPOSITIONS FOR MODULATING APOLIPOPROTEIN (A) EXPRESSION	2033	Methods of treating hyperlipidemia with an oligonucleotide complementary within the nucleotide region of Apo(a) targeted by pelacarsen
United States	9,884,072	METHODS AND COMPOSITIONS FOR MODULATING APOLIPOPROTEIN (A) EXPRESSION	2033	Oligonucleotides complementary within the nucleotide region of Apo(a) targeted by pelacarsen
Europe	2855500	METHODS AND COMPOSITIONS FOR MODULATING APOLIPOPROTEIN (A) EXPRESSION	2033	Oligonucleotides complementary within the nucleotide region of Apo(a) targeted by pelacarsen for decreasing Apo(a) expression
United States	9,181,550	COMPOSITIONS AND METHODS FOR MODULATING APOLIPOPROTEIN (a) EXPRESSION	2034	Composition of pelacarsen
Europe	2992009	COMPOSITIONS AND METHODS FOR MODULATING APOLIPOPROTEIN (a) EXPRESSION	2034	Composition of pelacarsen

We seek patent protection in significant markets and/or countries for each medicine in development. We also seek to maximize patent term. In some cases, the patent term can be extended to recapture a portion of the term lost during FDA regulatory review. The patent exclusivity period for a medicine will prevent generic medicines from entering the market. Patent exclusivity depends on a number of factors including initial patent term and available patent term extensions based upon delays caused by the regulatory approval process.

Manufacturing Patents

We also own patents claiming methods of manufacturing and purifying oligonucleotides. These patents claim methods for improving oligonucleotide drug manufacturing, including processes for large-scale oligonucleotide synthesis and purification. These methods allow us to manufacture oligonucleotides at lower cost by, for example, eliminating expensive manufacturing steps.

We also rely on trade secrets, proprietary know-how and continuing technological innovation to develop and maintain a competitive position in antisense therapeutics.

Government Regulation

Regulation by government authorities in the U.S. and other countries is a significant component in the development, manufacture and commercialization of pharmaceutical products and services. In addition to regulations enforced by the FDA and relevant foreign regulatory authorities, we are also subject to regulation under the Occupational Safety and Health Act, the Environmental Protection Act, the Toxic Substances Control Act, the Resource Conservation and Recovery Act and other present and potential future federal, state and local regulations.

Extensive regulation by the U.S. and foreign governmental authorities governs the development, manufacture and sale of our medicines. In particular, our medicines are subject to a number of approval requirements by the FDA in the U.S. under the Federal Food, Drug and Cosmetic Act, or FDCA, and other laws and by comparable agencies in those foreign countries in which we conduct business. The FDCA and other various federal, state and foreign statutes govern or influence the research, testing, manufacture, safety, labeling, storage, recordkeeping, approval, promotion, marketing, distribution, post-approval monitoring and reporting, sampling, quality, and import and export of our medicines. State, local, and other authorities also regulate pharmaceutical manufacturing facilities and procedures.

Our manufacturing facility and our CMOs are subject to periodic inspection by the FDA and other foreign equivalents to ensure that they are operating in compliance with cGMP requirements. In addition, marketing authorization for each new medicine may require a rigorous manufacturing pre-approval inspection by regulatory authorities. Post approval, there are strict regulations regarding changes to the manufacturing process, and, depending on the significance of the change, changes may require prior FDA approval. FDA regulations also require investigation and correction of any deviations from cGMP and impose reporting and documentation requirements upon us and any third-party manufacturers that we may decide to use.

The FDA must approve any new medicine before a manufacturer can market it in the U.S. In order to obtain approval, we and our partners must complete clinical studies and prepare and submit an NDA to the FDA. If the FDA approves a medicine, it will issue an approval letter authorizing commercial marketing of the medicine and may require a risk evaluation and mitigation strategy, or REMS, to help ensure the benefits of the medicine outweigh the potential risks. For example, TEGSEDI has a REMS program. The requirements for REMS can materially affect the potential market and profitability of our medicines. In foreign jurisdictions, the drug approval process is similarly demanding.

For any approved medicine, domestic and foreign sales of the medicine depend, in part, on the availability and amount of coverage and adequate reimbursement by third-party payers, including governments and private health plans. The process for determining whether a payer will provide coverage for a product may be separate from the process for setting the reimbursement rate that the payer will pay for the product, or procedures which utilize such product. Private health plans may seek to manage cost and use of our medicines by implementing coverage and reimbursement limitations. For example, third-party payers may limit coverage to specific products on an approved list, or formulary, which might not include all U.S. FDA-approved products for a particular indication. In certain jurisdictions, governments may also regulate or influence coverage, reimbursement and/or pricing of our medicines to control cost or affect use. Within the EU a variety of payers pay for medicines, with governments being the primary source of payment. Negotiating pricing with governmental authorities can delay commercialization. Such pricing and reimbursement factors could impact our ability and that of our commercial partners to successfully commercialize approved medicines. Further, it is possible that additional governmental action is taken in response to the COVID-19 pandemic.

Both the federal and state governments in the U.S. and foreign governments continue to propose and pass new legislation and regulations designed to contain or reduce the cost of healthcare. For example, in July 2021, the Biden administration released an executive order, "Promoting Competition in the American Economy," with multiple provisions aimed at prescription drugs. In response to Biden's executive order, on September 9, 2021, the U.S. Department of Health and Human Services, or HHS, released a Comprehensive Plan for Addressing High Drug Prices that outlines principles for drug pricing reform and sets out a variety of potential legislative policies that Congress could pursue as well as potential administrative actions HHS can take to advance these principles. No legislation or administrative actions have been finalized to implement these principles. Congress is also considering additional health reform measures that may result in decreased reimbursement, which may further exacerbate industry-wide pressure to reduce the prices charged for medical products.

There has also been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in efforts to bring more transparency to drug pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for medicines. For example, in August 2022, President Biden signed the Inflation Reduction Act of 2022, or the IRA, into law, which includes key actions aimed at reducing the costs of prescription drugs and allows HHS to negotiate the price of certain single-source drugs covered under Medicare and establish a price cap on such drugs, known as the Maximum Fair Price. It is currently unclear how the IRA will be effectuated but it is likely to have a significant impact on the pharmaceutical industry. There are important exemptions to the Maximum Fair Price, including for medications that are orphan drug designated and approved for only one rare disease, and drugs with low Medicare spend as defined by the Centers for Medicare & Medicaid Services. In an effort to curb Medicare patients' out-of-pocket costs for prescription drugs, the Part D redesign legislation requires manufacturers to contribute to the catastrophic coverage phase for Part D drugs as discounts through a manufacturer discount program. Furthermore, any reduction in reimbursement from Medicare and other government programs may result in a similar reduction in payments from private payers. Our future product sales may be subject to additional discounts from list price in the form of rebates and discounts provided to 340B covered entities. Changes to the 340B program or to Medicare or Medicaid programs at the federal or state level, including outcomes of ongoing litigation in our industry, may impact our product prices and rebate liability.

In addition, the distribution of prescription pharmaceutical products is subject to the Drug Supply Chain Security Act, or DSCA, which regulates the distribution and tracing of prescription drugs and prescription drug samples at the federal level and sets minimum standards for the regulation of drug distributors by the states. The DSCA imposes requirements to ensure accountability in distribution and to identify and remove counterfeit and other illegitimate products from the market.

Other healthcare laws that may affect our ability to operate include, for example, the following:

- The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, which governs the conduct of certain electronic healthcare transactions and protects the security and privacy of protected health information;
- Foreign and state laws governing the privacy and security of health information, such as the General Data Protection Regulation, or GDPR, in the EU; and the California Consumer Privacy Act, or CCPA, in California, some of which are more stringent than HIPAA and many of which differ from each other in significant ways and may not have the same effect; and
- The Physician Payments Sunshine Act, which requires manufacturers of medicines, devices, biologics, and medical supplies to report annually to the HHS information related to payments and other transfers of value to physicians (defined to include doctors, dentists, optometrists, podiatrists, and chiropractors), other healthcare providers (such as physician assistants and nurse practitioners), and teaching hospitals, and ownership and investment interests held by physicians and their immediate family members.

Sales and Marketing

Numerous regulatory authorities in addition to the FDA, including, in the U.S., the Centers for Medicare and Medicaid Services, other divisions of the HHS, the U.S. Department of Justice, and similar foreign, state and local government authorities, regulate sales, promotion and other activities following drug approval. As described above, the FDA regulates all advertising and promotion activities for drugs under its jurisdiction both prior to and after approval. Only those claims relating to safety and efficacy that the FDA has approved may be used in labeling. Physicians may prescribe legally available drugs for uses that are not described in the drug's labeling and that differ from those we tested and the FDA approved. Such off-label uses are common across medical specialties and often reflect a physician's belief that the off-label use is the best treatment for the patients. The FDA does not regulate the behavior of physicians in their choice of treatments, but FDA regulations do impose stringent restrictions on manufacturers' communications regarding off-label uses. If we do not comply with applicable FDA requirements, we may face adverse publicity, enforcement action by the FDA, corrective advertising, consent decrees and the full range of civil and criminal penalties available to the FDA. Promotion of off-label uses of drugs can also implicate the false claims laws described below.

In the U.S. sales, marketing and scientific/educational programs must also comply with various federal and state laws pertaining to healthcare "fraud and abuse," including anti-kickback laws and false claims laws. Anti-kickback laws make it illegal for a prescription drug manufacturer to solicit, offer, receive, or pay any remuneration in exchange for, or to induce, the referral of business, including the purchase or prescription of a particular drug. Due to the breadth of the statutory provisions, limited statutory exceptions and regulatory safe harbors, and the absence of guidance in the form of regulations and very few court decisions addressing industry practices, it is possible that our practices might be challenged under anti-kickback or similar laws. Moreover, recent healthcare reform legislation has strengthened these laws. For example, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or Affordable Care Act, among other things, amends the intent requirement of the federal anti-kickback and criminal healthcare fraud statutes to clarify that a person or entity does not need to have actual knowledge of this statute or specific intent to violate it. In addition, the Affordable Care Act clarifies that the government may assert that a claim that includes items or services resulting from a violation of the federal anti-kickback statute constitutes a false or fraudulent claim for purposes of the false claims statutes. False claims laws prohibit anyone from knowingly and willingly presenting, or causing to be presented for payment, to third-party payers (including Medicare and Medicaid) claims for reimbursed drugs or services that are false or fraudulent, claims for items or services not provided as claimed, or claims for medically unnecessary items or services. Our activities relating to the sale and marketing of our drugs may be subject to scrutiny under these laws. Violations of fraud and abuse laws may be punishable by criminal and civil sanctions, including fines and civil monetary penalties, the possibility of exclusion from federal healthcare programs (including Medicare and Medicaid) and corporate integrity agreements, which impose, among other things, rigorous operational and monitoring requirements on companies. Similar sanctions and penalties also can be imposed upon executive officers and employees, including criminal sanctions against executive officers under the so-called "responsible corporate officer" doctrine, even in situations where the executive officer did not intend to violate the law and was unaware of any wrongdoing.

Given the significant penalties and fines that can be imposed on companies and individuals if convicted, allegations of such violations often result in settlements even if the company or individual being investigated admits no wrongdoing. Settlements often include significant civil sanctions, including fines and civil monetary penalties, and corporate integrity agreements. If the government were to allege or convict us or our executive officers of violating these laws, our business could be harmed. In addition, private individuals can bring similar actions. Our activities could be subject to challenge for the reasons discussed above and due to the broad scope of these laws and the increasing attention being given to them by law enforcement authorities. Other healthcare laws that may affect our ability to operate include HIPAA, which prohibits, among other things, executing or attempting to execute a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters. HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, also governs the conduct of certain electronic healthcare transactions and protects the security and privacy of protected health information; analogous state laws governing the privacy and security of health information, some of which are more stringent than HIPAA and many of which differ from each other in significant ways and may not have the same effect, and the Physician Payments Sunshine Act, which requires manufacturers of drugs, devices, biologics, and medical supplies to report annually to the HHS information related to payments and other transfers of value to physicians, other healthcare providers and teaching hospitals, and ownership and investment interests held by physicians and their immediate family members. Further, there are an increasing number of state laws that require manufacturers to make reports to states on pricing and marketing information. Many of these laws contain ambiguities as to what is required to comply with the laws. Given the lack of clarity in laws and their implementation, our reporting actions could be subject to the penalty provisions of the pertinent state authorities.

Similar rigid restrictions are imposed on the promotion and marketing of drugs in the E.U. and other countries. Even in those countries where we may not be directly responsible for the promotion and marketing of our medicines, if our potential international distribution partners engage in inappropriate activity, it can have adverse implications for us.

The U.S. Foreign Corrupt Practices Act, or FCPA, prohibits certain individuals and entities, including us, from promising, paying, offering to pay, or authorizing the payment of anything of value to any foreign government official, directly or indirectly, to obtain or retain business or an improper advantage. If we violate the FCPA, it could result in large civil and criminal penalties as well as an adverse effect on our reputation, operations, and financial condition. We could also face collateral consequences such as debarment and the loss of export privileges.

Competition

Our Business in General

Some of our medicines may compete with existing therapies for market share and some of our medicines in development may compete for patients in clinical trials. In addition, there are a number of companies pursuing the development of genetic medicines and the development of pharmaceuticals utilizing these technologies. These companies include biopharmaceutical companies and large pharmaceutical companies acting either independently or together. Our medicines are differentiated from traditional small molecule medicines by their chemistry, how they move in the body, how they act in the body, delivery technology, and formulations.

Our approved medicines and our medicines under development address numerous markets. The diseases our medicines target for which we have or may receive marketing authorization will determine our competition. For some of our medicines, an important factor may be the timing of market introduction of competitive products. Accordingly, the relative speed with which we can develop medicines, complete the clinical trials and marketing authorization processes and supply commercial quantities of the medicines to the market are important competitive factors. We expect to compete with products approved for sale based on a variety of factors, including, among other things, product efficacy, safety, mechanism of action, dosing administration, marketing and sales strategy and tactics, availability, price, and reimbursement.

Below we have included what we believe to be medicines that compete or may compete directly with our marketed medicines and the medicines we currently have in Phase 3 trials. We included competitors, potential competitors that are past Phase 1 development or potential competitors that plan to start a pivotal study this year. We do not believe that any medicines meet these criteria to compete with ION363.

SPINRAZA

We consider the following medicines as competitors to SPINRAZA for the indication of SMA:

Medicine	Company	Medicine Description (1)	Phase (1)	Route of Administration (1)
Zolgensma (Onasemnogene abeparvovec)	Novartis	Gene therapy targeting the genetic root cause of SMA by replacing the missing or nonworking SMN1 gene	Approved for pediatric SMA patients less than 2 years of age	Intravenous infusion
Evrysdi (Risdiplam)	Roche	A small molecule medicine that modulates splicing of the SMN2 gene	Approved for SMA in pediatric and adult patients	Oral

(1) Taken from public documents including respective company press releases, company presentations, and scientific presentations.

TEGSEDI and Eplontersen

We consider the following medicines as competitors and potential future competitors to TEGSEDI and eplontersen for the indication of hATTR amyloidosis and/or ATTR cardiomyopathy:

Medicine	Company	Medicine Description (1)	Phase (1)	Route of Administration (1)
Onpattro (Patisiran)	Alnylam	An RNAi medicine formulated with lipid nanoparticles to inhibit TTR mRNA	Approved ATTRv-PN/ Submitted in the U.S. for ATTR-CM	Intravenous infusion
Vyndaqel/Vyndamax (Tafamidis and tafamidis meglumine)	Pfizer	A small molecule medicine to stabilize TTR protein	Approved in EU, Japan and select other markets for ATTRv-PN; Approved in U.S., EU, Japan and select other markets for ATTR-CM; indications vary by region	Oral
Amvuttra (Vutrisiran)	Alnylam	An RNAi medicine conjugated with GalNAc to inhibit TTR mRNA	Approved for ATTRv-PN in the U.S., Submitted in the EU for ATTRv-PN, Phase 3 for ATTR-CM	Subcutaneous Injection
Acoramidis	BridgeBio	Small molecule that binds and stabilizes TTR in the blood	Phase 3 ATTR-CM	Oral

(1) Taken from public documents including respective company press releases, company presentations, and scientific presentations.

WAYLIVRA and Olezarsen

We believe that the following medicines could compete with WAYLIVRA and olezarsen in FCS and SHTG:

Medicine	Company	Medicine Description [1]	Phase [1]	Route of Administration [1]
ARO-APOC3	Arrowhead Pharmaceuticals	Targets APOCIII by utilizing Targeted RNAi Molecule Platform	Phase 3 FCS, Phase 2 SHTG	Subcutaneous Injection
Lomitapide	Amryt Pharma	Microsomal triglyceride transfer protein (MTP) inhibitor	Phase 2 FCS (investigator led)	Oral
Pegozafermin	89bio	FGF21 analog	Phase 2 SHTG	Subcutaneous Injection

(1) Taken from public documents including respective company press releases, company presentations, and scientific presentations.

Donidalorsen

We believe that the following medicines could compete with donidalorsen as a prophylactic treatment for patients with HAE:

Medicine	Company	Medicine Description [1]	Phase [1]	Route of Administration [1]
Takhzyro (lanadelumab-flyo)	Takeda	A monoclonal antibody that inhibits plasma kallikrein activity	Approved for HAE patients 12 years and older	Subcutaneous Infusion
Cinryze (C1 esterase inhibitor)	Takeda	A human plasma protein that mediates inflammation and coagulation	Approved for HAE patients six years and older	Intravenous Infusion
Orladeyo (berotralstat)	BioCryst	Oral plasma kallikrein inhibitor	Approved for HAE patients 12 years and older	Oral
Haegarda (C1 esterase inhibitor)	CSL Behring	C1 esterase inhibitor	Approved for HAE patients six years and older	Subcutaneous Injection
garadacimab	CSL Behring	An anti-factor XIIa monoclonal antibody	Phase 3	Subcutaneous Injection
NTLA-2002	Intellia	CRISPR therapeutic candidate designed to inactivate the kallikrein B1 gene	Phase 1/2	Intravenous Infusion

(1) Taken from public documents including respective company press releases, company presentations, and scientific presentations.

Pelacarsen

We believe that the following medicines could compete with pelacarsen in CVD in patients with elevated LP(a):

Medicine	Company	Medicine Description [1]	Phase [1]	Route of Administration [1]
Olpasiran	Amgen/ Arrowhead Pharmaceuticals	RNAi therapeutic designed to lower Lp(a)	Phase 3	Subcutaneous Injection
SLN360	Silence Therapeutics	RNAi therapeutic designed to lower Lp(a)	Phase 2	Subcutaneous Injection

(1) Taken from public documents including respective company press releases, company presentations, and scientific presentations.

Tofersen

We believe that the following medicine could compete with tofersen in SOD1-ALS:

Medicine	Company	Medicine Description [1]	Phase [1]	Route of Administration [1]
NI-204	Neurimmune	A human derived antibody targeting misfolded SOD1	Phase 2	Intravenous Infusion

(1) Taken from public documents including respective company press releases, company presentations, and scientific presentations.

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We believe there is no medicine in clinical development for FUS-ALS.

Environmental, Social and Governance Initiatives

We recognize the importance of Environmental, Social and Governance, or ESG, initiatives as it relates to our business strategy and risk assessment. During 2021 and 2022, we took steps to formalize our corporate responsibility program and capture and report on the impact of our ESG efforts. In December 2022, we issued our latest corporate responsibility report. As part of our ongoing work, we identified the following corporate responsibility initiatives that we believe are most important to our business:

- Safety of patients in clinical trials;
- Product quality and safety and supply chain management;
- Access to medicines and tackling untreatable diseases;
- Environmental sustainability;
- Human resource management;
- Diversity, equity and inclusion;
- Employee health and safety; and
- Governance and business ethics

We continue to build our corporate responsibility program and ESG framework to support our ongoing commitment to operate our business responsibly and sustainably. In 2022, we established a formal Corporate Responsibility Steering Committee, or Committee, to ensure we develop the right programs and policies to continue to integrate ESG across our organization. Our corporate responsibility initiatives, policies and programs are reviewed on a regular basis by the Committee and its recommendations are key to driving efforts to advance our corporate responsibility strategy to support our growth.

The Committee reports to our Chief Executive Officer and consists of senior leaders in key functions across the company, including legal, finance, human resources and corporate affairs. The Committee is now part of our governance framework, which defines responsibilities and ensures we have the right systems and controls to oversee ethical and sustainable operations across our business. The Committee periodically updates our executive leadership and the appropriate committees of our Board of Directors on our ongoing ESG efforts.

We look to our stakeholders and third-party frameworks such as the Sustainability Accounting Standards Board Health Care – Biotechnology and Pharmaceuticals Standard and the Task Force on Climate-Related Financial Disclosures to inform our approach and our disclosures.

We encourage you to view our *2022 Corporate Responsibility Report* published on our website for more detailed information regarding our ESG initiatives. Nothing in the report or on our website shall be deemed incorporated by reference into this Annual Report on Form 10-K.

Employees & Human Capital

As of February 16, 2023, we employed 796 people, the vast majority of whom reside in the U.S. A significant number of our management and professional employees have had prior experience with pharmaceutical, biotechnology or medical product companies. Our average employee turnover rate in 2022 was 13 percent, while the turnover for life sciences and medical device companies over this period was 23 percent according to a survey published by Radford – an Aon Hewitt Company. Given the uniqueness and complexity of our technology, it is critical to retain the knowledge and experience of outstanding long service employees. The experience and seniority of our employees is as critical to our future success as it has been to the success we have enjoyed to date.

Collective bargaining agreements do not cover any of our employees, and management considers relations with our employees to be good. We believe that the future will be defined by outstanding people and we are committed to recruiting, developing, motivating, and rewarding them.

We encourage you to visit our website for more detailed information regarding our Human Capital programs and initiatives. Nothing on our website shall be deemed incorporated by reference into this Annual Report on Form 10-K.

Benefits

We reward our employees individually on the basis of their responsibilities and accomplishments. We offer competitive compensation and benefits to our employees. In addition to salary and bonus programs, we also offer:

- Comprehensive medical, dental and vision insurance;
- 401(k) matching;
- Stock options, RSUs and an Employee Stock Purchase Plan, or ESPP;
- Vacation, holiday, sick time and paid time off for volunteering;
- Wellness programs;
- Flexible spending accounts for health and dependent day care needs;
- Life, AD&D insurance and long-term disability insurance coverage options; and
- Employee Assistance Program, or EAP.

We recognize achievements with salary increases, equity awards, promotions, and bonus opportunities.

Pay Equity

We are committed to paying our employees fairly, regardless of their gender, race, or other personal characteristics. To ensure we are achieving our commitment, we benchmark and evaluate pay based on market data and consider factors such as an employee's role and experience, an employee's performance and internal equity. We also regularly review our compensation practices, in terms of our overall workforce and individual employees, to ensure our pay is fair and equitable.

In 2021, we engaged an independent third-party expert to perform a pay equity analysis that reviewed pay equity by gender, race and age. The results of this analysis did not reveal any pay gaps based on gender, race or age. We plan to continue to engage a third-party expert to review pay equity and report on this analysis as required by future reporting requirements. In 2022, we performed an internal analysis, leveraging our biostatistics team. The analysis showed similar results to the analysis performed in 2021. In addition, we are implementing a comprehensive plan to comply with the new California pay transparency law that went into effect on January 1, 2023.

Diversity, Equity and Inclusion

At Ionis, we encourage diversity in our workforce. Prejudicial barriers to human potential and productivity are foreign to our values. We recognize that for the full potential of our workforce to be realized, we must cultivate an inclusive culture where all employees feel empowered to contribute fully in an environment that values different perspectives, leading to better ideas and increased innovation. We have several employee-led resource groups dedicated to different aspects of diversity and a diverse management team and board of directors.

Training and Development

We designed our training and development programs to help employees gain important Ionis knowledge and develop the skills to be successful at Ionis. All of our trainings from new hire through senior leader, are focused on the Ionis culture and core principles and learning what we mean when we say: "Working the Ionis Way."

We empower our employees to build rewarding careers at Ionis, driven by a culture of having a bias to act that encourages personal and professional employee growth. Ionis offers robust training opportunities with course offerings and events available to every employee regardless of level or function. In addition, employees also have access to Ionis' learning and development library that houses important information on career growth and planning. By supporting our employees, we know that each professional development milestone enables our continued success.

Information about our Executive Officers

The following sets forth certain information regarding our executive officers as of February 16, 2023:

Name	Age	Position
Brett P. Monia, Ph.D.	61	Chief Executive Officer
Joseph T. Baroldi	45	Executive Vice President, Chief Business Officer
C. Frank Bennett, Ph.D.	66	Executive Vice President, Chief Scientific Officer
Onaiza Cadoret-Manier	58	Executive Vice President, Chief Global Product Strategy and Operations Officer
Richard S. Geary, Ph.D.	65	Executive Vice President, Chief Development Officer
Elizabeth L. Hougen	61	Executive Vice President, Finance and Chief Financial Officer
Patrick R. O'Neil, Esq.	49	Chief Legal Officer, General Counsel and Corporate Secretary
Eugene Schneider, M.D.	50	Executive Vice President, Chief Clinical Development Officer
Eric E. Swayze, Ph.D.	57	Executive Vice President, Research

BRETT P. MONIA, Ph.D.

Chief Executive Officer

Dr. Monia was promoted to Chief Executive Officer in January 2020. From January 2018 to December 2019, Dr. Monia served as Chief Operating Officer. From January 2012 to January 2018, Dr. Monia served as Senior Vice President. From February 2009 to January 2012, Dr. Monia served as our Vice President, Drug Discovery and Corporate Development and from October 2000 to February 2009, he served as our Vice President, Preclinical Drug Discovery. From October 1989 to October 2000 he held various positions within our Molecular Pharmacology department.

JOSEPH T. BAROLDI

Executive Vice President, Chief Business Officer

Mr. Baroldi has served as Ionis' Executive Vice President, Chief Business Officer since January 2022. Prior to Ionis, Mr. Baroldi was the chief operating officer at Avidity Biosciences, a biotechnology company focused on oligonucleotide-based therapies. Prior to Avidity, Mr. Baroldi was Vice President, Business Development at Ionis, where he held several roles of increasing responsibility from 2009 to 2020. Mr. Baroldi has also held positions in strategic planning and scientific research for Gen-Probe Inc.

C. FRANK BENNETT, Ph.D.

Executive Vice President, Chief Scientific Officer

Dr. Bennett has served as Ionis' Executive Vice President, Chief Scientific Officer since April 2020. In January 2020, Dr. Bennett was promoted to Chief Scientific Officer. From January 2006 to December 2019, Dr. Bennett served as Senior Vice President, Antisense Research. From June 1995 to January 2006, Dr. Bennett served as our Vice President, Research. From March 1993 to June 1995, he was Director, Molecular Pharmacology, and from May 1992 to March 1993, he was an Associate Director in our Molecular and Cellular Biology department. Prior to joining Ionis in 1989, Dr. Bennett was employed by SmithKline and French Laboratories in various research positions. He is a member of the Board of Directors for Flamingo Therapeutics and an external member of the Hereditary Disease Foundation.

ONAIZA CADORET-MANIER

Executive Vice President, Chief Global Product Strategy and Operations Officer

Ms. Cadoret-Manier has served as Ionis' Executive Vice President, Chief Product Strategy and Operations Officer since February 2022. From April 2020 to February 2022, Ms. Cadoret-Manier served as our Executive Vice President, Chief Corporate Development and Commercial Officer. Ms. Cadoret-Manier joined Ionis as Chief Corporate Development and Commercial Officer in January 2020. Prior to joining Ionis, from 2018 to 2019 Ms. Cadoret-Manier was the chief commercial officer for Grail Biosciences, an early detection genomics company. Prior to Grail, Ms. Cadoret-Manier was vice president of the Respiratory Franchise at Genentech where she worked from 2011 to 2018. Ms. Cadoret-Manier also has held multiple senior management positions overseeing corporate strategy, alliances, and marketing and sales for numerous disease areas for Genentech, Pfizer and Amylin Pharmaceuticals.

RICHARD S. GEARY, Ph.D.

Executive Vice President, Chief Development Officer

Dr. Geary has served as Ionis' Executive Vice President, Chief Development Officer since January 2021. From April 2020 to December 2020, Dr. Geary served as our Executive Vice President, Development and from August 2008 to March 2020, was our Senior Vice President, Development. From August 2003 to August 2008, Dr. Geary served as our Vice President, Preclinical Development. From November 1995 to August 2003, he held various positions within the Preclinical Development department. Prior to joining Ionis in 1995, Dr. Geary was Senior Research Scientist and Group Leader for the bioanalytical and preclinical pharmacokinetics group in the Applied Chemistry Department at Southwest Research Institute.

ELIZABETH L. HOUGEN

Executive Vice President, Finance and Chief Financial Officer

Ms. Hougen has served as Ionis' Executive Vice President and Chief Financial Officer since April 2020. From January 2013 to March 2020, Ms. Hougen served as our Senior Vice President, Finance and Chief Financial Officer. From January 2007 to December 2012, Ms. Hougen served as our Vice President, Finance and Chief Accounting Officer and from May 2000 to January 2007, she served as our Vice President, Finance. Prior to joining Ionis in 2000, Ms. Hougen was Executive Director, Finance and Chief Financial Officer for Molecular Biosystems, Inc., a public biotechnology company.

PATRICK R. O'NEIL, Esq.

Chief Legal Officer, General Counsel and Corporate Secretary

Mr. O'Neil has served as Ionis' Chief Legal Officer and General Counsel since September 2021. Mr. O'Neil also serves as our Corporate Secretary. From March 2020 to September 2021, Mr. O'Neil served as our Executive Vice President, Legal & General Counsel and Chief Compliance Officer. From January 2013 to March 2020, Mr. O'Neil served as our Senior Vice President, Legal and General Counsel. From September 2010 to January 2013, Mr. O'Neil served as our Vice President, Legal and General Counsel and from January 2009 to September 2010, he served as our Vice President, Legal and Senior Transactions Counsel. From October 2001 to January 2009 he held various positions within our Legal department. Prior to joining Ionis, Mr. O'Neil was an associate at Cooley LLP.

EUGENE SCHNEIDER, M.D.

Executive Vice President, Chief Clinical Development Officer

Dr. Schneider was promoted to Executive Vice President and Chief Clinical Development Officer of Ionis in January 2021. From August 2018 to December 2020, Dr. Schneider served as our Senior Vice President, Head of Clinical Development. From April 2015 to July 2018, Dr. Schneider was our Vice President, Clinical Development, Severe and Rare Diseases. Dr. Schneider joined Ionis in December 2013 as Executive Director, Clinical Development. Dr. Schneider has two decades of experience in clinical development primarily in the rare diseases space. Prior to joining Ionis, Dr. Schneider was senior medical director at both Synageva BioPharma and Biovail Technologies Ltd.

ERIC E. SWAYZE, Ph.D.

Executive Vice President, Research

Dr. Swayze has served as Ionis' Executive Vice President, Research since April 2020 and is responsible for leading preclinical antisense drug discovery and antisense technology research. In January 2020, Dr. Swayze was promoted to Senior Vice President of Research. Previously, Dr. Swayze was Vice President of Chemistry and Neuroscience Drug Discovery at Ionis, overseeing the advancement of multiple programs to clinical development. He joined Ionis in 1994 and has contributed to key technology advancements, including Ionis' Generation 2.5 chemistry and LICA technology.

Item 1A. RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the following information about the risks described below, together with the other information contained in this report and in our other public filings in evaluating our business. If any of the following risks actually occur, our business could be materially harmed, and our financial condition and results of operations could be materially and adversely affected. As a result, the trading price of our securities could decline, and you might lose all or part of your investment.

Risks Related to the Commercialization of our Medicines

We have limited experience as a company in commercializing medicines and we will have to invest significant resources to develop our capabilities. If we are unable to establish effective marketing, sales, market access, distribution, and related functions, or enter into agreements with third parties to commercialize our medicines, we may not be able to generate revenue from our medicines.

We currently rely on third parties for the commercialization of our marketed medicines, have limited experience as a company in commercializing medicines and we will have to invest significant financial and management resources to develop the infrastructure required to successfully commercialize our medicines. There are significant risks involved in building and managing a sales organization, including our ability to hire, retain and incentivize qualified individuals, generate sufficient sales leads, provide adequate training to sales and marketing personnel, and effectively manage a geographically dispersed sales and marketing team. We will also need to scale-up existing internal support functions to aid our commercialization efforts, in particular, regulatory affairs and medical affairs. Any failure to effectively build or maintain the infrastructure required to successfully commercialize our medicines, including our sales, marketing, market access, distribution, and related capabilities, or scale-up our existing support functions, could adversely impact the revenue we generate from our medicines. In addition, if we choose to rely on third parties to assist us in commercializing our medicines, we may not be able to enter into collaborations or hire consultants or external service providers on acceptable financial terms, or at all. If we continue to engage third parties to assist us in the commercialization of our medicines, our product revenues and profitability may be lower than if we commercialized such medicines ourselves.

If the market does not accept our medicines, including SPINRAZA, TEGSEDI, WAYLIVRA, eplontersen and tofersen, and our medicines in development, we are not likely to generate substantial revenues or become consistently profitable.

Even if our medicines are authorized for marketing, our success will depend upon the medical community, patients and third-party payers accepting our medicines as medically useful, cost-effective, safe and convenient. Even when the FDA or foreign regulatory authorities authorize our or our partners' medicines for commercialization, doctors may not prescribe our medicines to treat patients. Furthermore, we and our partners may not successfully commercialize additional medicines.

Additionally, in many of the markets where we or our partners may sell our medicines in the future, if we or our partners cannot agree with the government or other third-party payers regarding the price we can charge for our medicines, we may not be able to sell our medicines in that market. Similarly, cost control initiatives by governments or third-party payers could decrease the price received for our medicines or increase patient coinsurance to a level that makes our medicines, including SPINRAZA, TEGSEDI, WAYLIVRA, eplontersen and tofersen, and our medicines in development, economically unviable. If the pricing of any of our medicines decreases for any reason, it will reduce our revenue for such medicine. For example, Biogen has disclosed that SPINRAZA revenue has decreased in part due to lower pricing in the U.S. and certain rest of world markets.

The degree of market acceptance for our medicines, including SPINRAZA, TEGSEDI, WAYLIVRA, eplontersen and tofersen, and our medicines in development, depends upon a number of factors, including the:

- receipt and scope of marketing authorizations;
- establishment and demonstration in the medical and patient community of the efficacy and safety of our medicines and their potential advantages over competing products;
- cost and effectiveness of our medicines compared to other available therapies;
- patient convenience of the dosing regimen for our medicines; and
- reimbursement policies of government and third-party payers.

Based on the profile of our medicines, physicians, patients, patient advocates, payers or the medical community in general may not accept or use any of the medicines that we may develop.

For example, TEGSEDI requires periodic blood and urine monitoring, is available in the U.S. only through a REMS program, and the product label in the U.S. has a boxed warning for thrombocytopenia and glomerulonephritis. Our main competitors in the U.S. market for TEGSEDI are patisiran and vutrisiran, both marketed by Alnylam Pharmaceuticals, Inc. Neither patisiran nor vutrisiran has a boxed warning nor does either require use of a REMS program. Additionally, the product label for WAYLIVRA in the European Union, or EU, requires regular blood monitoring. In each case, these label requirements have negatively affected our ability to attract and retain patients for these medicines. If we or our partner cannot effectively maintain patients on TEGSEDI or WAYLIVRA, including due to limitations or restrictions on the ability to conduct periodic blood and urine monitoring of our patients as a result of the COVID-19 pandemic, we may not be able to generate substantial revenue from TEGSEDI or WAYLIVRA sales.

If government or other third-party payers fail to provide adequate coverage and payment rates for our medicines, including SPINRAZA, TEGSEDI, WAYLIVRA, eplontersen and tofersen, and our medicines in development, our revenue will be limited.

In both domestic and foreign markets, sales of our current and future products will depend in part upon the availability of coverage and reimbursement from third-party payers. The majority of patients in the U.S. who would fit within our target patient populations for our medicines have their healthcare supported by a combination of Medicare coverage, other government health programs such as Medicaid, managed care providers, private health insurers and other organizations. Coverage decisions may depend upon clinical and economic standards that disfavor new medicines when more established or lower cost therapeutic alternatives are already available or subsequently become available. Assuming coverage is approved, the resulting reimbursement payment rates might not be enough to make our medicines affordable. Even if favorable coverage status and adequate reimbursement rates are attained, less favorable coverage policies and reimbursement rates may be implemented in the future. Accordingly, SPINRAZA, TEGSEDI, WAYLIVRA, eplontersen and tofersen, and our medicines in development, will face competition from other therapies and medicines for limited financial resources. We or our partners may need to conduct post-marketing studies to demonstrate the cost-effectiveness of any future products to satisfy third-party payers. These studies might require us to commit a significant amount of management time and financial and other resources. Third-party payers may never consider our future products as cost-effective. Adequate third-party coverage and reimbursement might not be available to enable us to maintain price levels sufficient to realize an appropriate return on investment in product development.

Third-party payers, whether foreign or domestic, or governmental or commercial, are developing increasingly sophisticated methods of controlling healthcare costs. In addition, in the U.S., no uniform policy of coverage and reimbursement for medicines exists among third-party payers. Therefore, coverage and reimbursement for medicines can differ significantly from payer to payer. For example, the Affordable Care Act, or ACA, was passed in March 2010, and substantially changed the way healthcare is financed by both governmental and private insurers and continues to significantly impact the U.S. pharmaceutical industry. There have been judicial and Congressional challenges to certain aspects of the ACA, as well as efforts to repeal or replace certain aspects of the ACA. It is unclear how future litigation and healthcare reform measures will impact the ACA and our business.

Further, we believe that future coverage, reimbursement and pricing will likely be subject to increased restrictions both in the U.S. and in international markets. In the U.S., recent health reform measures have resulted in reductions in Medicare and other healthcare funding, and there have been several recent U.S. Congressional inquiries, legislation and executive orders designed to, among other things, reduce drug prices, increase competition, lower out-of-pocket drug costs for patients, and foster scientific innovation to promote better health care and improved health. In addition, the IRA, among other things, allows HHS to negotiate the price of certain single-source drugs covered under Medicare and imposes rebates under Medicare Part B and Medicare Part D. In an effort to curb Medicare patients' out-of-pocket costs for prescription drugs, the Part D redesign legislation requires manufacturers to contribute to the catastrophic coverage phase for Part D drugs as discounts through a manufacturer discount program. Furthermore, any reduction in reimbursement from Medicare and other government programs may result in a similar reduction in payments from private payers. Our future product sales may be subject to additional discounts from list price in the form of rebates and discounts provided to 340B covered entities. Changes to the 340B program or to Medicare or Medicaid programs at the federal or state level, including outcomes of ongoing litigation in our industry, may impact our product prices and rebate liability. Further, the Biden administration released an executive order on October 14, 2022, directing HHS to submit a report on how the Center for Medicare and Medicaid Innovation can be further leveraged to test new models for lowering drug costs for Medicare and Medicaid beneficiaries. It is unclear whether or how this executive order or similar policy initiatives will be implemented in the future.

At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. Third-party coverage and reimbursement for medicines may not be available or adequate in either the U.S. or international markets, which would negatively affect the potential commercial success of our products, our revenue and our profits.

If we or our partners fail to compete effectively, our medicines, including SPINRAZA, TEGSEDI, WAYLIVRA, eplontersen and tofersen, and our medicines in development, will not generate significant revenues.

Our competitors engage in drug discovery throughout the world, are numerous, and include, among others, major pharmaceutical companies and specialized biopharmaceutical firms. In addition, other companies are engaged in developing RNA-targeted technology. Our competitors may succeed in developing medicines that are:

- priced lower than our medicines;
- reimbursed more favorably by government and other third-party payers than our medicines;
- safer than our medicines;
- more effective than our medicines; or
- more convenient to use than our medicines.

These competitive developments could make our medicines, including SPINRAZA, TEGSEDI, WAYLIVRA, eplontersen and tofersen, and our medicines in development, obsolete or non-competitive.

Certain of our partners are pursuing other technologies or developing other medicines either on their own or in collaboration with others, including our competitors, to treat some of the same diseases our own collaborative programs target. Competition may negatively impact a partner's focus on and commitment to our medicines and, as a result, could delay or otherwise negatively affect the commercialization of our medicines, including SPINRAZA, TEGSEDI, WAYLIVRA, eplontersen and tofersen.

Many of our competitors have substantially greater financial, technical and human resources than we do. In addition, many of these competitors have significantly greater experience than we do in conducting preclinical testing and human clinical studies of new pharmaceutical products, in obtaining FDA and other regulatory authorizations of such products and in commercializing such products. Accordingly, our competitors may succeed in obtaining regulatory authorization for products earlier than we do or more successfully commercialize their products.

There are several pharmaceutical and biotechnology companies engaged in the development or commercialization in certain geographic markets of products against targets that are also targets of products in our development pipeline. For example:

- Onasemnogene abeparvovec and risdiplam compete with SPINRAZA;
- Patisiran, tafamidis, tafamidis meglumine and vutrisiran compete with TEGSEDI and could compete with eplontersen;
- Acoramidis could compete with TEGSEDI and eplontersen;
- ARO-APOC3, lomitapide and pegozafermin could compete with WAYLIVRA and olezarsen;
- Lanadelumab-flyo, C1 esterase inhibitor, berotralstat, C1 esterase inhibitor subcutaneous, garadacimab, and NTLA-2002 could compete with donidalorsen;
- Olpasiran and SLN360 could compete with pelacarsen; and
- NI-204 could compete with tofersen.

SPINRAZA injection for intrathecal use is an antisense medicine indicated for the treatment of SMA patients of all ages approved in over 50 countries. Specifically, SPINRAZA faces competition from onasemnogene abeparvovec, a gene therapy product that was approved in the U.S. in May 2019 and in the EU in May 2020 for the treatment of SMA, as well as risdiplam, an oral product for the treatment of SMA that was approved in the U.S. in August 2020 and in the EU in March 2021. Biogen has disclosed that SPINRAZA revenue has decreased primarily due to a reduction in demand as a result of increased competition and that future sales of SPINRAZA may be adversely affected by competing products.

Additionally, companies that are developing medicines that target the same patient populations as our medicines in development may compete with us to enroll participants in the clinical trials for such medicines, which could make it more difficult for us to complete enrollment for these clinical trials.

Our medicines could be subject to regulatory limitations following approval.

Following approval of a medicine, we and our partners must comply with comprehensive government regulations regarding the manufacture, marketing and distribution of medicines. Promotional communications regarding prescription medicines must be consistent with the information in the product's approved labeling. We or our partners may not obtain the labeling claims necessary or desirable to successfully commercialize our medicines, including SPINRAZA, TEGSEDI, WAYLIVRA, eplontersen and tofersen, and our medicines in development.

The FDA and foreign regulatory bodies have the authority to impose significant restrictions on an approved medicine through the product label and on advertising, promotional and distribution activities. For example:

- in the U.S., TEGSEDI's label contains a boxed warning for thrombocytopenia and glomerulonephritis;
- TEGSEDI requires periodic blood and urine monitoring; and
- in the U.S., TEGSEDI is available only through a REMS program.

Prescription medicines may be promoted only for the approved indication(s) in accordance with the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability.

In addition, when approved, the FDA or a foreign regulatory authority may condition approval on the performance of post-approval clinical studies or patient monitoring, which could be time consuming and expensive. For example, in connection with the conditional marketing approval for WAYLIVRA in the EU, we are required to conduct a post-authorization safety study to evaluate the safety of WAYLIVRA on thrombocytopenia and bleeding in FCS patients taking WAYLIVRA. If the results of such post-marketing studies are not satisfactory, the FDA, EC or other foreign regulatory authorities may withdraw marketing authorization or may condition continued marketing on commitments from us or our partners that may be expensive and time consuming to fulfill.

If we or others identify side effects after any of our medicines are on the market, or if manufacturing problems occur subsequent to regulatory approval, or if we, our manufacturers or our partners fail to comply with regulatory requirements, we or our partners may, among other things, lose regulatory approval and be forced to withdraw products from the market, need to conduct additional clinical studies, incur restrictions on the marketing, distribution or manufacturing of the product, and/or change the labeling of our medicines.

We depend on our collaboration with Biogen for the development and commercialization of SPINRAZA.

We have entered into a collaborative arrangement with Biogen to develop and commercialize SPINRAZA. We entered into this collaboration primarily to:

- fund our development activities for SPINRAZA;
- seek and obtain regulatory approvals for SPINRAZA; and
- successfully commercialize SPINRAZA.

We are relying on Biogen to obtain additional regulatory approvals for SPINRAZA, generate additional clinical data for SPINRAZA, manufacture, and continue to successfully commercialize SPINRAZA. In general, we cannot control the amount and timing of resources that Biogen devotes to our collaboration. If Biogen fails to further develop SPINRAZA, obtain additional regulatory approvals for SPINRAZA, manufacture or continue to successfully commercialize SPINRAZA, or if Biogen's efforts in any of these respects are ineffective, revenues for SPINRAZA would be negatively affected.

In addition, our collaboration with Biogen may not continue for various reasons. Biogen can terminate our collaboration at any time. If Biogen stops developing or commercializing SPINRAZA, we would have to seek or spend additional funding, and SPINRAZA's commercialization may be harmed or delayed.

We depend on our collaboration with AstraZeneca for the joint development and commercialization of eplontersen.

We have entered into a collaborative arrangement with AstraZeneca to develop and commercialize eplontersen. Under the terms of the collaboration agreement, we and AstraZeneca will co-develop and co-commercialize eplontersen in the U.S. and AstraZeneca will have the sole right to commercialize eplontersen in all other countries, except for certain Latin American countries. Prior to co-commercializing eplontersen in the U.S., we will need to negotiate a co-commercialization agreement with AstraZeneca to govern the parties' performance of co-commercialization, which agreement will include a commercial plan and budget. As a company we do not have experience with co-commercialization arrangements. We also do not have control over the amount and timing of resources that AstraZeneca devotes to our collaboration, particularly outside of the U.S. If the co-commercialization arrangement for eplontersen is not successful for any reason, eplontersen may not meet our commercial objectives and our revenues for eplontersen may be limited.

In addition, a Joint Steering Committee, or JSC, having equal membership from us and AstraZeneca, and various subcommittees oversee and coordinate the development, manufacturing, commercialization and other exploitation activities for eplontersen in the U.S. by mutual agreement. If any subcommittee cannot reach unanimous agreement on any matter within its respective scope of authority, such matter may be referred to the JSC for resolution. If the JSC cannot come to a mutual agreement on any particular matter, this could delay our ability to develop or commercialize eplontersen.

If we are not successful in expanding our manufacturing capabilities or cannot manufacture our medicines or contract with a third party to manufacture our medicines at costs that allow us to charge competitive prices to buyers, we cannot market our products profitably.

To successfully commercialize any of our medicines, we need to optimize and manage large-scale commercial manufacturing capabilities either on a standalone basis or through a third-party manufacturer. As our drug development and commercial pipeline increases and matures, we will have a greater need for clinical trial and commercial manufacturing capacity. To that end, we have begun work on a new manufacturing facility in Oceanside, California that will expand our manufacturing infrastructure. We will incur substantial expenditures to build our new manufacturing facility and, following its completion, will likely need to hire and train additional staff to operate the facility. If we are not successful in executing this expansion, it could limit our ability to meet our manufacturing requirements and commercial objectives in the future.

In addition, we have limited experience manufacturing pharmaceutical products of the chemical class represented by our medicines, called oligonucleotides, on a commercial scale for the systemic administration of a medicine. There are a small number of suppliers for certain capital equipment and raw materials that we use to manufacture our medicines, and some of these suppliers will need to increase their scale of production to meet our projected needs for commercial manufacturing. Further, we must continue to improve our manufacturing processes to allow us to reduce our drug costs. We or our partners may not be able to manufacture our medicines at a cost or in quantities necessary to make commercially successful products.

Manufacturers, including us, must adhere to the FDA's cGMP regulations and similar regulations in foreign countries, which the applicable regulatory authorities enforce through facilities inspection programs. We, our partners and our contract manufacturers may not comply or maintain compliance with cGMP, or similar foreign regulations. Non-compliance could significantly delay or prevent receipt of marketing authorizations for our medicines, including authorizations for SPINRAZA, TEGSEDI, WAYLIVRA, eplontersen and tofersen, and our medicines in development, or could result in enforcement action after authorization that might limit the commercial success of our medicines, including SPINRAZA, TEGSEDI, WAYLIVRA, eplontersen and tofersen, and our medicines in development.

We rely on third-party manufacturers to supply the drug substance and drug product for TEGSEDI and drug product for WAYLIVRA. Any delays or disruption to our own or third-party commercial manufacturing capabilities, including any interruption to our supply chain as a result of the COVID-19 pandemic or the ongoing war between Russia and Ukraine, could limit the commercial success of our medicines.

We are relying on third parties to market, sell and distribute TEGSEDI and WAYLIVRA.

We have entered into agreements with third parties to commercialize TEGSEDI and WAYLIVRA as follows:

- In April 2021, we entered into a distribution agreement with Sobi to commercialize TEGSEDI in the U.S. and Canada;
- In December 2020, we entered into a distribution agreement with Sobi to commercialize TEGSEDI and WAYLIVRA in Europe; and
- In August 2018, we granted PTC the exclusive right to commercialize TEGSEDI and WAYLIVRA in Latin America and certain Caribbean countries.

We are relying on Sobi and PTC to effectively market, sell and distribute TEGSEDI and WAYLIVRA and have less control over sales efforts and may receive less revenue than if we commercialized TEGSEDI or WAYLIVRA by ourselves. If Sobi or PTC does not successfully commercialize TEGSEDI or WAYLIVRA, including as a result of delays or disruption caused by the COVID-19 pandemic, we may receive limited revenue for TEGSEDI or WAYLIVRA in the U.S., Canada, Europe, Latin America or certain Caribbean countries, which could adversely affect our business, prospects, financial condition and results of operations.

Risks Related to the Development and Regulatory Approval of our Medicines

If we or our partners fail to obtain regulatory approval for our medicines and additional approvals for SPINRAZA, TEGSEDI and WAYLIVRA, we or our partners cannot sell them in the applicable markets.

We cannot guarantee that any of our medicines will be considered safe and effective or will be approved for commercialization. In addition, it is possible that SPINRAZA, TEGSEDI and WAYLIVRA may not be approved in additional markets or for additional indications. We and our partners must conduct time-consuming, extensive and costly clinical studies to demonstrate the safety and efficacy of each of our medicines before they can be approved or receive additional approvals for sale. We and our partners must conduct these studies in compliance with FDA regulations and with comparable regulations in other countries.

We and our partners may not obtain necessary regulatory approvals on a timely basis, if at all, for our medicines. It is possible that regulatory agencies will not approve our medicines for marketing or SPINRAZA, TEGSEDI or WAYLIVRA in additional markets or for additional indications. If the FDA or another regulatory agency believes that we or our partners have not sufficiently demonstrated the safety or efficacy of any of our medicines, including SPINRAZA, TEGSEDI and WAYLIVRA, or our medicines in development, the agency will not approve the specific medicine or will require additional studies, which could be time consuming and expensive and delay or harm commercialization of the medicine. For example, in August 2018 we received a complete response letter from the FDA regarding the new drug application for WAYLIVRA in which the FDA determined that the safety concerns identified with WAYLIVRA in our clinical development program outweighed the expected benefits of triglyceride lowering in patients with FCS. We also received a Non-W from Health Canada for WAYLIVRA in November 2018.

The FDA or other comparable foreign regulatory authorities can delay, limit or deny approval of a medicine for many reasons, including:

- such authorities may disagree with the design or implementation of our clinical studies;
- we or our partners may be unable to demonstrate to the satisfaction of the FDA or other regulatory authorities that a medicine is safe and effective for any indication;
- such authorities may not accept clinical data from studies conducted at clinical facilities that have deficient clinical practices or that are in countries where the standard of care is potentially different from the U.S.;
- we or our partners may be unable to demonstrate that our medicine's clinical and other benefits outweigh its safety risks to support approval;
- such authorities may disagree with the interpretation of data from preclinical or clinical studies;
- such authorities may find deficiencies in the manufacturing processes or facilities of third-party manufacturers who manufacture clinical and commercial supplies for our medicines, or may delay the inspection of such facilities due to restrictions related to the COVID-19 pandemic; and
- the approval policies or regulations of such authorities or their prior guidance to us or our partners during clinical development may significantly change in a manner rendering our clinical data insufficient for approval.

Failure to receive marketing authorization for our medicines, or failure to receive additional marketing authorizations for SPINRAZA, TEGSEDI or WAYLIVRA, or delays in these authorizations, could prevent or delay commercial introduction of the medicine, and, as a result, could negatively impact our ability to generate revenue from product sales.

If the results of clinical testing indicate that any of our medicines are not suitable for commercial use, we may need to abandon one or more of our drug development programs.

Drug discovery and drug development have inherent risks and the historical failure rate for drugs is high. Antisense medicines are a relatively new approach to therapeutics. If we cannot demonstrate that our medicines are safe and effective for human use in the intended indication(s), we may need to abandon one or more of our drug development programs.

Even if our medicines are successful in preclinical and human clinical studies, the medicines may not be successful in late-stage clinical studies.

Successful results in preclinical or initial human clinical studies, including the Phase 2 results for some of our medicines in development, may not predict the results of subsequent clinical studies. If any of our medicines in Phase 3 clinical studies, including the studies of donidalorsen, eplontersen, ION363, olezarsen, pelacarsen and tofersen, do not show sufficient efficacy in patients with the targeted indication, or if such studies are discontinued for any other reason, it could negatively impact our development and commercialization goals for these medicines and our stock price could decline.

In the past, we have invested in clinical studies of medicines that have not met the primary clinical endpoints in their Phase 3 studies or have been discontinued for other reasons. For example, in October 2021, Biogen reported that tofersen did not meet the primary clinical endpoint in the Phase 3 VALOR study; however, trends favoring tofersen were seen across multiple secondary and exploratory measures of disease activity and clinical function. In addition, in March 2021, Roche decided to discontinue dosing in the Phase 3 GENERATION HD1 study of tominersen in patients with manifest Huntington's disease based on the results of a pre-planned review of data from the Phase 3 study conducted by an unblinded Independent Data Monitoring Committee. Similar results could occur in clinical studies for our other medicines, including the studies of donidalorsen, eplontersen, ION363, olezarsen, pelacarsen and tofersen.

There are a number of factors that could cause a clinical study to fail or be delayed, including:

- the clinical study may produce negative or inconclusive results;
- regulators may require that we hold, suspend or terminate clinical research for noncompliance with regulatory requirements;
- we, our partners, the FDA or foreign regulatory authorities could suspend or terminate a clinical study due to adverse side effects of a medicine on subjects or lack of efficacy in the trial;
- we or our partners may decide, or regulators may require us, to conduct additional preclinical testing or clinical studies;
- enrollment in our clinical studies may be slower than we anticipate;
- we or our partners, including our independent clinical investigators, contract research organizations and other third-party service providers on which we rely, may not identify, recruit and train suitable clinical investigators at a sufficient number of study sites or timely enroll a sufficient number of study subjects in the clinical study;
- the institutional review board for a prospective site might withhold or delay its approval for the study;
- people who enroll in the clinical study may later drop out due to adverse events, a perception they are not benefiting from participating in the study, fatigue with the clinical study process or personal issues;
- a clinical study site may deviate from the protocol for the study;
- the cost of our clinical studies may be greater than we anticipate;
- our partners may decide not to exercise any existing options to license and conduct additional clinical studies for our medicines; and
- the supply or quality of our medicines or other materials necessary to conduct our clinical studies may be insufficient, inadequate or delayed.

The COVID-19 pandemic could make some of these factors more likely to occur.

In addition, our current medicines, including SPINRAZA, TEGSEDI, WAYLIVRA, eplontersen and tofersen are chemically similar to each other. As a result, a safety observation we encounter with one of our medicines could have, or be perceived by a regulatory authority to have, an impact on a different medicine we are developing. This could cause the FDA or other regulators to ask questions or take actions that could harm or delay our ability to develop and commercialize our medicines or increase our costs. For example, the FDA or other regulatory agencies could request, among other things, additional information or commitments before we can start or continue a clinical study, protocol amendments, increased safety monitoring, additional product labeling information, and post-approval commitments. This happened in connection with the conditional marketing approval for WAYLIVRA in the EU, as the EC is requiring us to conduct a post-authorization safety study to evaluate the safety of WAYLIVRA on thrombocytopenia and bleeding in FCS patients taking WAYLIVRA. We have ongoing post-marketing studies for WAYLIVRA and TEGSEDI and an EAP for WAYLIVRA. Adverse events or results from these studies or the EAPs could negatively impact our pending or future marketing approval applications for WAYLIVRA and TEGSEDI in patients with FCS or ATTRv-PN, respectively, or the commercial opportunity for WAYLIVRA or TEGSEDI.

Any failure or delay in our clinical studies, including the studies of donidalorsen, eplontersen, ION363, olezarsen, pelacarsen and tofersen, could reduce the commercial potential or viability of our medicines.

We depend on third parties to conduct clinical studies for our medicines and any failure of those parties to fulfill their obligations could adversely affect our development and commercialization plans.

We depend on independent clinical investigators, contract research organizations and other third-party service providers to conduct our clinical studies for our medicines and expect to continue to do so in the future. For example, we use clinical research organizations, such as Icon Clinical Research Limited, Medpace, Inc., Parexel International Corporation, Syneos Health, Inc. and Thermo Fisher Scientific Inc. for the clinical studies for our medicines, including donidalorsen, eplontersen, ION363, olezarsen, pelacarsen and tofersen. We rely heavily on these parties for successful execution of our clinical studies, but do not control many aspects of their activities. For example, the investigators are not our employees, but we are responsible for ensuring that such investigators conduct each of our clinical studies in accordance with the general investigational plan and approved protocols for the study. Third parties may not complete activities on schedule or may not conduct our clinical studies in accordance with regulatory requirements or our stated protocols. For example, some of our key vendors are experiencing labor shortages, which could impact their ability to perform services for us for certain of our clinical trials. The failure of these third parties to carry out their obligations, including as a result of delays or disruptions caused by the COVID-19 pandemic, or a termination of our relationship with such third parties, could delay or prevent the development, marketing authorization and commercialization of our medicines or additional marketing authorizations for TEGSEDI and WAYLIVRA.

In addition, while we do not have any clinical trial sites in Ukraine, we do have a limited number of clinical trial sites in Russia and surrounding countries that may be impacted by the ongoing war between Russia and Ukraine and could result in difficulties enrolling or completing our clinical trials in such areas on schedule. Furthermore, the U.S. and its European allies have imposed significant sanctions against Russia, including regional embargoes, full blocking sanctions, and other restrictions targeting major Russian financial institutions. The U.S. government has also indicated it will consider imposing additional sanctions and other similar measures in the future. Our ability to conduct clinical trials in Russia may become restricted under applicable sanctions laws, which would require us to identify alternative trial sites, and could increase our costs and delay the clinical development of certain of our medicines.

Since corporate partnering is a significant part of our strategy to fund the advancement and commercialization of our development programs, if any of our collaborative partners fail to fund our collaborative programs, or if we cannot obtain additional partners, we may have to delay or stop progress on our drug development programs.

To date, corporate partnering has played a significant role in our strategy to fund our development programs and to add key development resources. We plan to continue to rely on additional collaborative arrangements to develop and commercialize some of our unpartnered medicines. However, we may not be able to negotiate favorable collaborative arrangements for these drug programs. If we cannot continue to secure additional collaborative partners, our revenues could decrease and the development of our medicines could suffer.

Our corporate partners are developing and funding many of the medicines in our development pipeline. For example, we are relying on:

- AstraZeneca for the joint development and funding of eplontersen;
- Novartis for development and funding of pelacarsen;
- Biogen for development and funding of tofersen;
- Biogen for additional studies of SPINRAZA; and
- GSK for development and funding of bepirovirsen.

If any of these pharmaceutical companies stops developing and funding these medicines, our business could suffer and we may not have, or be willing to dedicate, the resources available to develop these medicines on our own. Our collaborators can terminate their relationships with us under certain circumstances, many of which are outside of our control. For example, in 2022, Pfizer and Bayer decided to discontinue the clinical development programs for vupanorsen and fesomersen, respectively.

Even with funding from corporate partners, if our partners do not effectively perform their obligations under our agreements with them, it would delay or stop the progress of our drug development and commercial programs.

In addition to receiving funding, we enter into collaborative arrangements with third parties to:

- conduct clinical studies;
- seek and obtain marketing authorizations; and
- manufacture and commercialize our medicines.

Once we have secured a collaborative arrangement to further develop and commercialize one of our drug development programs, such as our collaborations with AstraZeneca, Biogen, GSK, Novartis, and Roche, these collaborations may not continue or result in commercialized medicines, or may not progress as quickly as we anticipated.

For example, a collaborator such as AstraZeneca, Biogen, GSK, Novartis, or Roche, could determine that it is in its financial interest to:

- pursue alternative technologies or develop alternative products that may be competitive with the medicine that is part of the collaboration with us;
- pursue higher-priority programs or change the focus of its own development programs; or
- choose to devote fewer resources to our medicines than it does to its own medicines.

If any of these occur, it could affect our partner’s commitment to the collaboration with us and could delay or otherwise negatively affect the commercialization of our medicines, including SPINRAZA, eplontersen, pelacarsen and tofersen.

We may not be able to benefit from orphan drug designation for our medicines.

In the U.S., under the Orphan Drug Act, the FDA may designate a medicine as an orphan drug if it is intended to treat a rare disease or condition affecting fewer than 200,000 individuals in the U.S. Orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process, but it can provide financial incentives, such as tax advantages and user-fee waivers, as well as longer regulatory exclusivity periods. The FDA has granted orphan drug designation to eplontersen for the treatment of patients with transthyretin-mediated amyloidosis and to ION582 for the treatment of patients with Angelman syndrome. The FDA and EMA have granted orphan drug designation to TEGSEDI for the treatment of patients with ATTRv-PN, to WAYLIVRA for the treatment of patients with FCS, and to tominersen for the treatment of patients with HD. In addition, the EMA has granted orphan drug designation to WAYLIVRA for the treatment of patients with FPL. Even if approval is obtained on a medicine that has been designated as an orphan drug, we may lose orphan drug exclusivity if the FDA or EMA determines that the request for designation was materially defective or if we cannot assure sufficient quantity of the applicable medicine to meet the needs of patients with the rare disease or condition, or if a competitor is able to gain approval for the same medicine in a safer or more effective form or that makes a major contribution to patient care. If we lose orphan drug exclusivity on any of our medicines, we may face increased competition and lose market share for such medicine.

Risks Associated with our Businesses as a Whole

Risks related to our financial condition

If we fail to obtain timely funding, we may need to curtail or abandon some of our programs.

Many of our medicines are undergoing clinical studies or are in the early stages of research and development. Most of our programs will require significant additional research, development, manufacturing, preclinical and clinical testing, marketing authorizations, preclinical activities and commitment of significant additional resources prior to their successful commercialization. In addition, as we commercialize more medicines on our own, we will need to invest significant financial resources to continue developing the infrastructure required to successfully commercialize our medicines, including the build-out of a new manufacturing facility. All of these activities will require significant cash. As of December 31, 2022, we had cash, cash equivalents and short-term investments equal to $2.0 billion. If we or our partners do not meet our goals to successfully commercialize our medicines, including SPINRAZA, TEGSEDI and WAYLIVRA, or to license certain medicines and proprietary technologies, we will need additional funding in the future. Our future capital requirements will depend on many factors such as:

- successful commercialization of SPINRAZA, TEGSEDI and WAYLIVRA;
- the profile and launch timing of our medicines, including donidalorsen, eplontersen, ION363, olezarsen, pelacarsen and tofersen;
- changes in existing collaborative relationships and our ability to establish and maintain additional collaborative arrangements;
- continued scientific progress in our research, drug discovery and development programs;
- the size of our programs and progress with preclinical and clinical studies;
- the time and costs involved in obtaining marketing authorizations;
- competing technological and market developments, including the introduction by others of new therapies that address our markets; and
- our manufacturing requirements and capacity to fulfill such requirements.

If we need additional funds, we may need to raise them through public or private financing. Additional financing may not be available on acceptable terms or at all. If we raise additional funds by issuing equity securities, the shares of existing stockholders will be diluted and the price, as well as the price of our other securities, may decline. If adequate funds are not available or not available on acceptable terms, we may have to cut back on one or more of our research, drug discovery or development programs. Alternatively, we may obtain funds through arrangements with collaborative partners or others, which could require us to give up rights to certain of our technologies or medicines.

We have incurred losses, and our business will suffer if we fail to consistently achieve profitability in the future.

Because drug discovery and development require substantial lead-time and money prior to commercialization, our expenses have generally exceeded our revenue since we were founded in January 1989. As of December 31, 2022, we had an accumulated deficit of approximately $1.4 billion and stockholders' equity of approximately $0.6 billion. Most of our historical losses resulted from costs incurred in connection with our research and development programs and from selling, general and administrative costs associated with our operations. Most of our income has historically come from collaborative arrangements, including commercial revenue from royalties and R&D revenue, with additional income from research grants and the sale or licensing of our patents, as well as interest income. We will now and continuing into the foreseeable future need to invest significant financial resources to develop capabilities to commercialize medicines on our own and expect that our income in the future will be driven primarily by commercial sales. If we do not earn substantial revenue from commercial sales, we may incur additional operating losses in the future, which could restrict our ability to successfully develop additional medicines or sustain future profitability.

We may not be entitled to obtain additional milestone payments under our royalty monetization agreement with Royalty Pharma.

In January 2023, we entered into a Royalty Purchase Agreement with Royalty Pharma Investments. In addition to the $500 million we received at closing, this agreement makes available to us up to an additional $625 million in milestone payments. However, these additional milestone payments are subject to satisfaction of certain conditions related to the regulatory approval or commercial sales of pelacarsen, in certain cases by specific deadlines. Should we not satisfy such conditions by the applicable deadlines, or if we fail to meet our obligations or default under this agreement, the actual amount of additional payments to us could be substantially less than the maximum amounts available thereunder.

Risks related to our intellectual property

If we cannot protect our patent rights or our other proprietary rights, others may compete more effectively against us.

Our success depends to a significant degree upon whether we can continue to develop, secure and maintain intellectual property rights to proprietary products and services. However, we may not receive issued patents on any of our pending patent applications in the U.S. or in other countries and we may not be able to obtain, maintain or enforce our patents and other intellectual property rights, any of which could impact our ability to compete effectively. In addition, the scope of any of our issued patents may not be sufficiently broad to provide us with a competitive advantage. Furthermore, other parties may successfully challenge, invalidate or circumvent our issued patents or patents licensed to us so that our patent rights do not create an effective competitive barrier or revenue source.

We cannot be certain that the U.S. Patent and Trademark Office, or U.S. PTO, and courts in the U.S. or the patent offices and courts in foreign countries will consider the claims in our patents and applications covering SPINRAZA, TEGSEDI, WAYLIVRA, eplontersen and tofersen, or any of our medicines in development as patentable. Method-of-use patents protect the use of a product for the specified method. This type of patent does not prevent a competitor from making and marketing a product that is identical to our product for an indication that is outside the scope of the patented method. Moreover, even if competitors do not actively promote their product for our targeted indications, physicians may prescribe these products off-label. Although off-label prescriptions may infringe or contribute to the infringement of method-of-use patents, the practice is common and such infringement is difficult to prevent, even through legal action.

If we or any licensor partner loses or cannot obtain patent protection for SPINRAZA, TEGSEDI, WAYLIVRA, eplontersen and tofersen, or any of our medicines in development, it could have a material adverse impact on our business.

Intellectual property litigation could be expensive and prevent us from pursuing our programs.

From time to time, we have to defend our intellectual property rights. If we are involved in an intellectual property dispute, we may need to litigate to defend our rights or assert them against others. Disputes can involve arbitration, litigation or proceedings declared by the U.S. PTO or the International Trade Commission or foreign patent authorities. Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses and could distract our technical and management personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock.

If a third party claims that our medicines or technology infringe its patents or other intellectual property rights, we may have to discontinue an important product or product line, alter our products and processes, pay license fees or cease certain activities. We may not be able to obtain a license to needed intellectual property on favorable terms, if at all. There are many patents issued or applied for in the biotechnology industry, and we may not be aware of patents or patent applications held by others that relate to our business. This is especially true since patent applications in the U.S. are filed confidentially for the first 18 months. Moreover, the validity and breadth of biotechnology patents involve complex legal and factual questions for which important legal issues remain.

Risks related to product liability

We are exposed to potential product liability claims, and insurance against these claims may not be available to us at a reasonable rate in the future or at all.

Our business exposes us to potential product liability risks that are inherent in the testing, manufacturing, marketing and sale of therapeutic products, including potential product liability claims related to SPINRAZA, TEGSEDI and WAYLIVRA, and our medicines in development. We have clinical study insurance coverage and commercial product liability insurance coverage. However, this insurance coverage may not be adequate to cover claims against us, or be available to us at an acceptable cost, if at all. Regardless of their merit or eventual outcome, product liability claims may result in decreased demand for our medicines, injury to our reputation, withdrawal of clinical study volunteers and loss of revenues. Thus, whether or not we are insured, a product liability claim or product recall may result in losses that could be material.

Risks related to our personnel

The loss of key personnel, or the inability to attract and retain highly skilled personnel, could make it more difficult to run our business and reduce our likelihood of success.

We are dependent on the principal members of our management and scientific staff, and as we move towards commercializing medicines on our own, we will become increasingly dependent on the principal members of our commercial team. We do not have employment agreements with any of our employees that would prevent them from leaving us. The loss of our management, key scientific or commercial employees might slow the achievement of important research and development or commercial goals. It is also critical to our success that we recruit and retain qualified scientific personnel to perform research and development work. We may not be able to attract and retain skilled and experienced scientific personnel on acceptable terms because of intense competition for experienced scientists among many pharmaceutical and health care companies, universities and non-profit research institutions. In addition, failure to succeed in clinical studies may make it more challenging to recruit and retain qualified scientific personnel.

Risks related to the COVID-19 pandemic and other events

Our business may be adversely affected by pandemics, climate change, extreme weather events, earthquakes, war, civil or political unrest, terrorism or other catastrophic events.

Our business could be adversely affected by health epidemics in regions where we or our partners are commercializing our medicines, have concentrations of clinical trial sites or other business operations, and could cause disruption in the operations of third-party manufacturers and contract research organizations upon whom we rely. For example, some physician and hospital policies that were put in place as a result of the COVID-19 pandemic restricted in-person access by third parties, which in some cases impacted our commercialization efforts for TEGSEDI and WAYLIVRA. In addition, in December 2021, Novartis announced that enrollment for the Phase 3 HORIZON study had been delayed due to the COVID-19 pandemic. The COVID-19 pandemic continues to evolve, and while we believe we have not experienced material adverse effects to our business as a result of the COVID-19 pandemic, the ultimate impact of the COVID-19 pandemic or a similar health epidemic is highly uncertain.

In recent years, extreme weather events and changing weather patterns have become more common. As a result, we are potentially exposed to varying natural disaster or extreme weather risks such as hurricanes, tornadoes, fires, droughts, floods, or other events that may result from the impact of climate change on the environment. The potential impacts of climate change may also include increased operating costs associated with additional regulatory requirements and investments in reducing energy, water use and greenhouse gas emissions. In addition, we currently manufacture most of our research and clinical supplies in a manufacturing facility located in Carlsbad, California and will move such manufacturing to our new facility in Oceanside, California once it is built. We manufacture the finished drug product for TEGSEDI and WAYLIVRA at third-party contract manufacturers. Biogen manufactures the finished drug product for SPINRAZA. The facilities and the equipment we, our partners and our contract manufacturers use to research, develop and manufacture our medicines would be costly to replace and could require substantial lead time to repair or replace. Our facilities or those of our partners or contract manufacturers may be harmed by natural disasters or other events outside our control, such as earthquakes, war, civil or political unrest, deliberate acts of sabotage, terrorism or industrial accidents such as fire and explosion, whether due to human or equipment error, and if such facilities are affected by a disaster or other event, our development and commercialization efforts would be delayed. Although we possess property damage and business interruption insurance coverage, this insurance may not be sufficient to cover all of our potential losses and may not continue to be available to us on acceptable terms, or at all. In addition, our development and commercialization activities could be harmed or delayed by a shutdown of the U.S. government, including the FDA.

Risks related to cybersecurity

We are dependent on information technology systems, infrastructure and data, which exposes us to data security risks.

We are dependent upon our own and third-party information technology systems, infrastructure and data, including mobile technologies, to operate our business. The multitude and complexity of our computer systems may make them vulnerable to service interruption or destruction, disruption of data integrity, malicious intrusion, or random attacks. Likewise, data privacy or security incidents or breaches by employees or others may pose a risk that sensitive data, including our intellectual property, trade secrets or personal information of our employees, patients, customers or other business partners may be exposed to unauthorized persons or to the public. Cyber-attacks are increasing in their frequency, sophistication and intensity, with third-party phishing and social engineering attacks in particular increasing during the COVID-19 pandemic. In addition, the number and frequency of cybersecurity events globally may be heightened during times of geopolitical tension or instability between countries, including, for example, the ongoing war between Russia and Ukraine, as a result of which several companies (not including us) have reported recent cybersecurity events.

Cyber-attacks could include the deployment of harmful malware, denial-of-service, social engineering and other means to affect service reliability and threaten data confidentiality, integrity and availability. Our business partners face similar risks and any security breach of their systems could adversely affect our security posture. A security breach or privacy violation that leads to disclosure or modification of or prevents access to patient information, including personally identifiable information or protected health information, could harm our reputation, compel us to comply with federal and state breach notification laws and foreign law equivalents, subject us to financial penalties and mandatory and costly corrective action, require us to verify the correctness of database contents and otherwise subject us to litigation or other liability under laws and regulations that protect personal data, any of which could disrupt our business and result in increased costs or loss of revenue. Moreover, the prevalent use of mobile devices that access confidential information increases the risk of data security breaches, which could lead to the loss of confidential information, trade secrets or other intellectual property. While we have invested, and continue to invest, in the protection of our data and information technology infrastructure, our efforts may not prevent service interruptions or identify breaches in our systems that could adversely affect our business and operations and result in the loss of critical or sensitive information, which could result in financial, legal, business or reputational harm to us.

Risks related to our securities and the global credit markets

If we do not progress in our programs as anticipated, the price of our securities could decrease.

For planning purposes, we estimate and may disclose the timing of a variety of clinical, regulatory and other milestones, such as when we anticipate a certain medicine will enter clinical trials, when we anticipate completing a clinical study, or when we anticipate filing an application for, or obtaining, marketing authorization, or when we or our partners plan to commercially launch a medicine. We base our estimates on present facts and a variety of assumptions, many of which are outside of our control, including the impacts of the COVID-19 pandemic. If we do not achieve milestones in accordance with our or our investors' or securities analysts' expectations, including milestones related to SPINRAZA, TEGSEDI, WAYLIVRA, donidalorsen, eplontersen, ION363, olezarsen, pelacarsen and tofersen, the price of our securities could decrease.

If the price of our securities continues to be highly volatile, this could make it harder to liquidate your investment and could increase your risk of suffering a loss.

The market price of our common stock, like that of the securities of many other biopharmaceutical companies, has been and is likely to continue to be highly volatile. These fluctuations in our common stock price may significantly affect the trading price of our securities. During the 12 months preceding December 31, 2022, the market price of our common stock ranged from $48.82 to $28.25 per share. Many factors can affect the market price of our securities, including, for example, fluctuations in our operating results, announcements of collaborations, clinical study results, technological innovations or new products being developed by us or our competitors, the commercial success of our approved medicines, governmental regulation, marketing authorizations, changes in payers' reimbursement policies, developments in patent or other proprietary rights and public concern regarding the safety of our medicines.

Broad market factors may materially harm the market price of our common stock irrespective of our operating performance. For example, the COVID-19 pandemic caused a significant disruption of global financial markets and resulted in increased volatility in the trading price of our common stock. The global credit and financial markets may also be adversely affected by the ongoing war between Russia and Ukraine and measures taken in response thereto. In addition, industry factors may materially harm the market price of our common stock. Nasdaq, and the market for biotechnology companies in particular, have historically experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of the particular companies affected. The trading prices and valuations of these stocks, and of ours, may not be predictable. A loss of investor confidence in the market for biotechnology or pharmaceutical stocks or the stocks of other companies that investors perceive to be similar to us, the opportunities in the biotechnology and pharmaceutical market or the stock market in general, could depress our stock price regardless of our business, prospects, financial conditions or results of operations.

Provisions in our certificate of incorporation, convertible notes documents, call spread hedge transaction documents and Delaware law may prevent stockholders from receiving a premium for their shares.

Our certificate of incorporation provides for classified terms for the members of our board of directors. Our certificate also includes a provision that requires at least 66 2/3 percent of our voting stockholders to approve a merger or certain other business transactions with, or proposed by, any holder of 15 percent or more of our voting stock, except in cases where certain directors approve the transaction or certain minimum price criteria and other procedural requirements are met.

Our certificate of incorporation also requires that any action required or permitted to be taken by our stockholders must be taken at a duly called annual or special meeting of stockholders and may not be taken by written consent. In addition, only our board of directors, chairman of the board or chief executive officer can call special meetings of our stockholders. We have in the past, and may in the future, implement a stockholders' rights plan, also called a poison pill, which could make it uneconomical for a third party to acquire our company on a hostile basis. In addition, our board of directors has the authority to fix the rights and preferences of, and issue shares of preferred stock, which may have the effect of delaying or preventing a change in control of our company without action by our stockholders.

The provisions of our convertible senior notes could make it more difficult or more expensive for a third party to acquire us. Upon the occurrence of certain transactions constituting a fundamental change, holders of the notes will have the right, at their option, to require us to repurchase all of their notes or a portion of their notes, which may discourage certain types of transactions in which our stockholders might otherwise receive a premium for their shares over the then-current market prices.

In April 2021, we completed a $632.5 million offering of 0% Notes and used a portion of the net proceeds from the issuance of the 0% Notes to repurchase $247.9 million of our 1% Notes for $257.0 million. In December 2019, we entered into privately negotiated exchange and/or subscription agreements with certain new investors and certain holders of our existing 1% Notes to exchange $375.6 million of our 1% Notes for $439.3 million of our 0.125% Notes, and to issue $109.5 million of our 0.125% Notes. Additionally, in connection with the pricing of our 0% Notes and 0.125% Notes, we entered into call spread transactions in which we purchased note hedges and sold warrants. Terminating or unwinding the call spread transactions could require us to make substantial payments to the counterparties under those agreements or may increase our stock price. The costs or any increase in stock price that may arise from terminating or unwinding such agreements could make an acquisition of our company significantly more expensive to the purchaser.

These provisions, as well as Delaware law, including Section 203 of the Delaware General Corporation Law, and other of our agreements, may discourage certain types of transactions in which our stockholders might otherwise receive a premium for their shares over then-current market prices, and may limit the ability of our stockholders to approve transactions that they think may be in their best interests.

Future sales of our common stock in the public market could adversely affect the trading price of our securities.

Future sales of substantial amounts of our common stock in the public market, or the perception that such sales could occur, could adversely affect trading prices of our securities. For example, we may issue approximately 17.5 million shares of our common stock upon conversion of our 0% Notes and 0.125% Notes, up to 10.9 million shares in connection with the warrant transactions we entered into in connection with the issuance of our 0% Notes, and up to 6.6 million shares in connection with the warrant transactions we entered into in connection with the issuance of our 0.125% Notes, in each case subject to customary anti-dilution adjustments. The addition of any of these shares into the public market may have an adverse effect on the price of our securities.

In addition, pursuant to the call spread transactions we entered into in connection with the pricing of our 0% Notes and 0.125% Notes, the counterparties are likely to modify their hedge positions from time to time at or prior to the conversion or maturity of the notes by purchasing and selling shares of our common stock, other of our securities, or other instruments, including over-the-counter derivative instruments, that they may wish to use in connection with such hedging, which may have a negative effect on the conversion value of those notes and an adverse impact on the trading price of our common stock. The call spread transactions are expected generally to reduce potential dilution to holders of our common stock upon any conversion of our 0% Notes or 0.125% Notes or offset any cash payments we are required to make in excess of the principal amount of the converted 0% Notes or 0.125% Notes, as the case may be. However, the warrant transactions could separately have a dilutive effect to the extent that the market value per share of our common stock exceeds the applicable strike price of the warrants.

Negative conditions in the global credit markets and financial services and other industries may adversely affect our business.

The global credit markets, the financial services industry, the U.S. capital markets, and the U.S. economy as a whole have recently experienced substantial turmoil and uncertainty characterized by unprecedented intervention by the U.S. federal government in response to the COVID-19 pandemic. While the potential economic impact brought by, and the duration of, the COVID-19 pandemic may be difficult to assess or predict, it could result in significant disruption of global financial markets, reducing our ability to access capital, which could in the future negatively affect our liquidity. In addition, a recession or market correction resulting from the spread of COVID-19 could materially affect our business and has and could continue to affect the value of our securities. In addition, the global credit and financial markets may be adversely affected by the ongoing war between Russia and Ukraine and measures taken in response thereto. In the past, the failure, bankruptcy, or sale of various financial and other institutions created similar turmoil and uncertainty in such markets and industries. It is possible that a similar crisis in the global credit markets, the U.S. capital markets, the financial services industry or the U.S. economy may adversely affect our business, vendors and prospects, as well as our liquidity and financial condition. Additionally, our insurance carriers and insurance policies covering all aspects of our business may become financially unstable or may not be sufficient to cover any or all of our losses and may not continue to be available to us on acceptable terms, or at all. In addition, due to the rapidly rising inflation rate, we may experience significantly increased costs of goods and services for our business.

A variety of risks associated with operating our business and marketing our medicines internationally could adversely affect our business. In addition to our U.S. operations, we are commercializing TEGSEDI in the EU, Canada, Latin America and certain Caribbean countries, and WAYLIVRA in the EU, Latin America and certain Caribbean countries. We face risks associated with our international operations, including possible unfavorable regulatory, pricing and reimbursement, political, tax and labor conditions, which could harm our business. Because we have international operations, we are subject to numerous risks associated with international business activities, including:

- compliance with differing or unexpected regulatory requirements for our medicines and foreign employees;
- complexities associated with managing multiple payer reimbursement regimes, government payers or patient self-pay systems;
- difficulties in staffing and managing foreign operations;
- in certain circumstances, increased dependence on the commercialization efforts and regulatory compliance of third-party distributors or strategic partners;
- foreign government taxes, regulations and permit requirements;
- U.S. and foreign government tariffs, trade restrictions, price and exchange controls and other regulatory requirements;
- anti-corruption laws, including the Foreign Corrupt Practices Act, or the FCPA, and its equivalent in foreign jurisdictions;
- economic weakness, including inflation, natural disasters, war, events of terrorism, political instability or public health issues or pandemics, such as the COVID-19 pandemic, in particular foreign countries or globally;
- fluctuations in currency exchange rates, which could result in increased operating expenses and reduced revenue, and other obligations related to doing business in another country;
- compliance with tax, employment, privacy, immigration and labor laws, regulations and restrictions for employees living or traveling abroad;
- workforce uncertainty in countries where labor unrest is more common than in the U.S.; and
- changes in diplomatic and trade relationships.

Our business activities outside of the U.S. are subject to the FCPA and similar anti-bribery or anti-corruption laws, regulations or rules of other countries in which we operate, including the United Kingdom's Bribery Act 2010. In many other countries, the healthcare providers who prescribe pharmaceuticals are employed by their government, and the purchasers of pharmaceuticals are government entities; therefore, any dealings with these prescribers and purchasers may be subject to regulation under the FCPA. There is no certainty that all employees and third-party business partners (including our distributors, wholesalers, agents, contractors and other partners) will comply with anti-bribery laws. In particular, we do not control the actions of manufacturers and other third-party agents, although we may be liable for their actions. Violation of these laws may result in civil or criminal sanctions, which could include monetary fines, criminal penalties, and disgorgement of past profits, which could have an adverse impact on our business and financial condition.

Risks related to compliance with laws

Our operations are subject to additional healthcare laws.

Our operations are subject to additional healthcare laws, including federal and state anti-kickback laws, false claims laws, transparency laws, such as the federal Sunshine Act, and health information privacy and security laws, which are subject to change at any time. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. Penalties for violations of applicable healthcare laws and regulations may include significant civil, criminal and administrative penalties, damages, disgorgement, fines, imprisonment, exclusion of products from government funded healthcare programs, such as Medicare and Medicaid, and additional reporting requirements and oversight if we enter into a corporate integrity agreement or similar agreement to resolve allegations of non-compliance with these laws. In addition, violations may also result in reputational harm, diminished profits and future earnings.

Because we use biological materials, hazardous materials, chemicals and radioactive compounds, if we do not comply with laws regulating the protection of the environment and health and human safety, our business could be adversely affected.

Our research, development and manufacturing activities involve the use of potentially harmful biological materials as well as materials, chemicals and various radioactive compounds that could be hazardous to human health and safety or the environment. We store most of these materials and various wastes resulting from their use at our facilities in Carlsbad, California pending ultimate use and disposal. We cannot completely eliminate the risk of contamination, which could cause:

- interruption of our research, development and manufacturing efforts;
- injury to our employees and others;
- environmental damage resulting in costly clean up; and
- liabilities under federal, state and local laws and regulations governing health and human safety, as well as the use, storage, handling and disposal of these materials and resultant waste products.

In such an event, we may be held liable for any resulting damages, and any liability could exceed our resources. Although we carry insurance for pollution liability in amounts and types that we consider commercially reasonable, the coverage or coverage limits of our insurance policies may not be adequate. If our losses exceed our insurance coverage, our financial condition would be adversely affected.

Our business is subject to changing regulations for corporate governance and public disclosure that has increased both our costs and the risk of noncompliance.

Each year we are required to evaluate our internal control systems to allow management to report on and our Independent Registered Public Accounting Firm to attest to, our internal controls as required by Section 404 of the Sarbanes-Oxley Act. As a result, we continue to incur additional expenses and divert our management's time to comply with these regulations. In addition, if we cannot continue to comply with the requirements of Section 404 in a timely manner, we might be subject to sanctions or investigation by regulatory authorities, such as the SEC, the Public Company Accounting Oversight Board, or PCAOB, or The Nasdaq Global Select Market. Any such action could adversely affect our financial results and the market price of our common stock.

The SEC and other regulators have continued to adopt new rules and regulations and make additional changes to existing regulations that require our compliance. In July 2010, the Dodd-Frank Wall Street Reform and Protection Act, or the Dodd-Frank Act, was enacted, and in August 2022, the SEC adopted additional rules and regulations under the Dodd-Frank Act related to "say on pay" and proxy access. Stockholder activism, the current political environment and the current high level of government intervention and regulatory reform may lead to substantial new regulations and disclosure obligations, which has and may in the future lead to additional compliance costs and impact the manner in which we operate our business.

Risks related to taxes

Our ability to use our net operating loss carryovers and certain other tax attributes may be limited.

Under the Internal Revenue Code of 1986, as amended, or the Code, a corporation is generally allowed a deduction for net operating losses, or NOLs, carried over from a prior taxable year. Under the Code, we can carryforward our NOLs to offset our future taxable income, if any, until such NOLs are used or expire. The same is true of other unused tax attributes, such as tax credits.

Under the current U.S. federal income tax law, U.S. federal NOLs generated in taxable years beginning after December 31, 2017 may be carried forward indefinitely, but the deductibility of such U.S. federal NOLs is limited to 80 percent of taxable income. It is uncertain if and to what extent various states will conform to current U.S. federal income tax law, and there may be periods during which states suspend or otherwise limit the use of NOLs for state income tax purposes.

In addition, under Sections 382 and 383 of the Code, and corresponding provisions of state law, if a corporation undergoes an "ownership change," which is generally defined as a greater than 50 percentage-point cumulative change, by value, in its equity ownership over a three-year period, the corporation's ability to use its pre-change NOL carryforwards and other pre-change tax attributes to offset its post-change income or taxes may be limited. We may experience ownership changes in the future as a result of subsequent shifts in our stock ownership, some of which may be outside of our control. If an ownership change occurs and our ability to use our NOL carryforwards or other tax attributes is materially limited, it would harm our future operating results by effectively increasing our future tax obligations. As a result of the Akcea Merger, we are subject to the separate return limitation year, or SRLY, rules. Under the SRLY rules, our utilization of Akcea's pre-merger NOL and tax credit carryforwards is limited to the amount of income that Akcea contributes to our consolidated taxable income. The Akcea pre-merger tax attributes cannot be used to offset any of the income that Ionis contributes to our consolidated taxable income. In addition, at the state level, there may be periods during which the use of net operating losses is suspended or otherwise limited, which could accelerate or permanently increase state taxes owed.

Our future taxable income could be impacted by changes in tax laws, regulations and treaties.

A change in tax laws, treaties or regulations, or their interpretation, of any country in which we operate could materially affect us.

We could be subject to additional tax liabilities.

We are subject to U.S. federal, state, local and foreign income taxes, sales taxes in the U.S., withholding taxes and transaction taxes in foreign jurisdictions. Significant judgment is required in evaluating our tax positions and our worldwide provision for taxes. During the ordinary course of business, there are many activities and transactions for which the ultimate tax determination is uncertain. In addition, our tax obligations and effective tax rates could be adversely affected by changes in the relevant tax, accounting and other laws, regulations, principles and interpretations, including those relating to income tax nexus, by recognizing tax losses or lower than anticipated earnings in jurisdictions where we have lower statutory rates and higher than anticipated earnings in jurisdictions where we have higher statutory rates, by changes in foreign currency exchange rates, or by changes in the valuation of our deferred tax assets and liabilities. We may be audited in various jurisdictions, and such jurisdictions may assess additional taxes, sales taxes and value-added taxes against us. Although we believe our tax estimates are reasonable, the final determination of any tax audits or litigation could be materially different from our historical tax provisions and accruals, which could have a material adverse effect on our operating results or cash flows in the period for which a determination is made.

Item 1B. Unresolved Staff Comments

Not applicable.

Item 2. Properties

As of February 16, 2023, the following are the primary facilities in which we operate:

Property Description	Location	Square Footage	Owned or Leased	Initial Lease Term End Date	Lease Extension Options
Laboratory and office space facility	Carlsbad, CA	176,300	Leased	2037	Two, five-year options to extend
Office and meeting space facility	Carlsbad, CA	74,000	Leased	2037	Two, five-year options to extend
Manufacturing facility	Carlsbad, CA	26,800	Owned		
Manufacturing support facility	Carlsbad, CA	25,800	Leased	2026	One, five-year option to extend
Office and storage space facility	Carlsbad, CA	18,700	Leased	2023	None
Office space facility	Boston, MA	14,300	Leased	2029	One, five-year option to extend
Office space facility	Carlsbad, CA	5,800	Leased	2027	None
		341,700			

In October 2022, we concurrently entered into two purchase and sale agreements with a real estate investor. Under the agreements, we sold and leased back the facilities at our headquarters location in Carlsbad, California and will sell, subject to meeting certain closing conditions, two lots of undeveloped land adjacent to our headquarters. We sold the facilities at our headquarters for net proceeds of approximately $200 million, with the potential to receive additional payments of up to $40 million plus funding to expand our R&D campus. We used a portion of the sale proceeds to extinguish our mortgage debt on our headquarters facilities of $51 million. The initial lease term for our headquarters facilities is 15 years with options to extend the lease for two additional terms of five years each. In connection with the sale of our two undeveloped lots, we will enter into a build-to-suit lease agreement with the same real estate investor to lease a new R&D facility. The lessor will develop and construct a new building composed of research and development space and office space. We will design and construct tenant improvements to customize the facility's interior space. Once this new facility is completed, our lease will commence.

In October 2022, we entered into a build-to-suit lease agreement to lease a development chemistry and manufacturing facility in Oceanside, California. The lessor will develop and construct a 217,000-square-foot building, composed of manufacturing space, office space, research and development space and warehouse space. We will design and construct tenant improvements to customize the facility's interior space. We will lease the facility for an initial term of 20 years and 3 months with options to extend the lease for two additional terms of 10 years each. The lease will commence when the lessor's construction is complete and we are able to begin constructing tenant improvements.

We believe that our current and future facilities will be adequate for the foreseeable future.

Item 3. Legal Proceedings

For details of legal proceedings, refer to Part IV, Item 15, Note 9, *Legal Proceedings,* in the Notes to the Consolidated Financial Statements.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

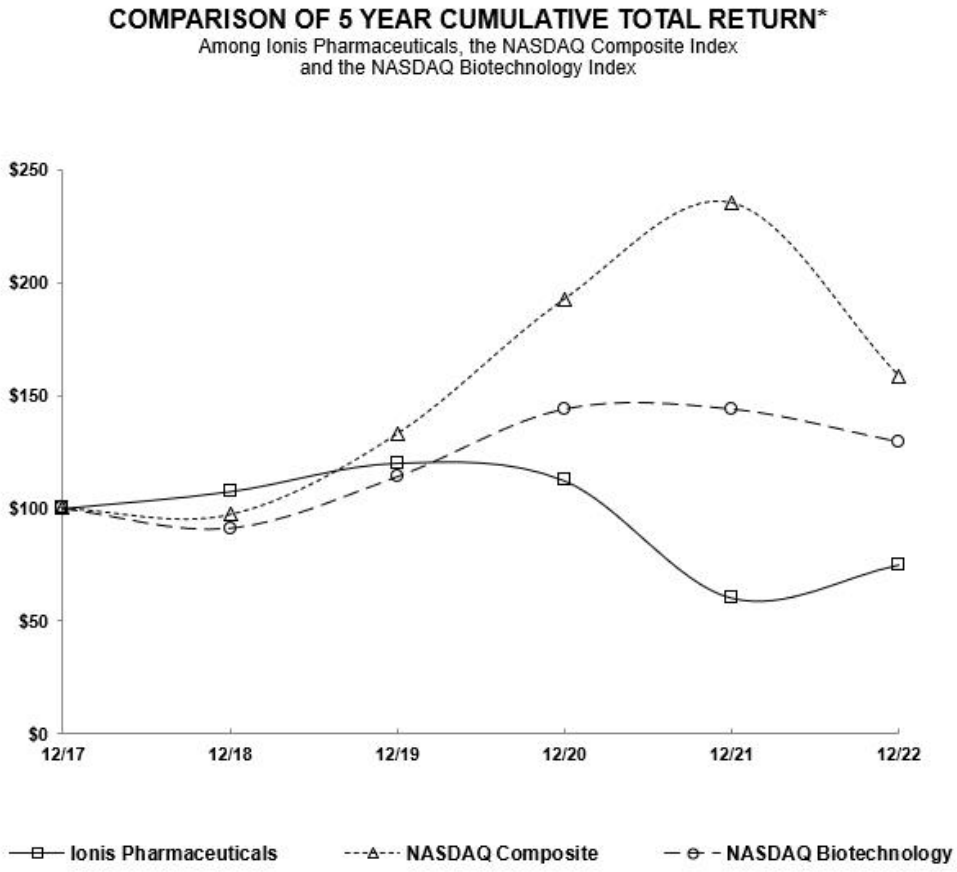
Market Information and Dividends

Our common stock is traded publicly through The Nasdaq Global Select Market under the symbol "IONS." As of February 16, 2023, there were approximately 483 stockholders of record of our common stock. Because many of our shares are held by brokers and other institutions on behalf of stockholders, we are unable to estimate the total number of stockholders represented by these record holders.

We have never paid dividends and do not anticipate paying any dividends in the foreseeable future.

Performance Graph (1)

Set forth below is a table and chart comparing the total return on an indexed basis of $100 invested on December 31, 2017 in our common stock, the Nasdaq Composite Index (total return) and the Nasdaq Biotechnology Index. The total return assumes reinvestment of dividends.



* $100 invested on December 31, 2017 in stock or index, including reinvestment of dividends. Fiscal year ending December 31.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN
Among Ionis Pharmaceuticals, Inc., the Nasdaq Composite Index,
and the Nasdaq Biotechnology Index

	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22
Ionis Pharmaceuticals, Inc.	$ 100.00	$ 107.48	$ 120.10	$ 112.41	$ 60.50	$ 75.09
Nasdaq Composite Index	$ 100.00	$ 97.16	$ 132.81	$ 192.47	$ 235.15	$ 158.65
Nasdaq Biotechnology Index	$ 100.00	$ 91.14	$ 114.02	$ 144.15	$ 144.18	$ 129.59

(1) This section is not "soliciting material," is not deemed "filed" with the SEC, is not subject to the liabilities of Section 18 of the Exchange Act and is not to be incorporated by reference in any of our filings under the Securities Act or the Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

Item 6. Selected Financial Data

Refer to our financial data contained within Part II, Item 7, *Management's Discussion and Analysis*, our financial statements and within other parts of this document.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

This financial review presents our operating results for each of the two years in the period ended December 31, 2022, and our financial condition as of December 31, 2022. Refer to our 2021 Form 10-K for our results of operations for 2021 compared to 2020. Except for the historical information contained herein, the following discussion contains forward-looking statements that are subject to known and unknown risks, uncertainties and other factors that may cause our actual results to differ materially from those expressed or implied by such forward-looking statements. We discuss such risks, uncertainties and other factors throughout this report and specifically under Item 1A of Part I of this report, "Risk Factors." In addition, the following review should be read in conjunction with the information presented in our consolidated financial statements and the related notes to our consolidated financial statements included in Item 8 of Part II of this report.

Overview

As noted in our Business Overview in Part I of this report, we were founded over 30 years ago to deliver innovative new medicines for diseases with great medical need. Today, we are building on our advancements in RNA-targeted therapeutics with a vision to be the leader in genetic medicines. We believe our genetic medicines have the potential to pioneer new markets, change standards of care and transform the lives of people with devastating diseases. We currently have three marketed medicines: SPINRAZA, TEGSEDI and WAYLIVRA. We also have two medicines, eplontersen and tofersen, that will add to our commercial portfolio this year, assuming positive regulatory outcomes. In addition to our commercial medicines and medicines under regulatory review, we have a rich innovative late- and mid-stage pipeline primarily focused on our leading cardiovascular and neurology franchises. We currently have seven medicines in Phase 3 development. Refer to Part I, Item 1, *Business*, for further details on our business and key developments in our medicines.

Results of Operations

Below we have included our results of operations for 2022 compared to 2021. Refer to our 2021 Form 10-K for our results of operations for 2021 compared to 2020. The following table provides selected summary information from our consolidated statements of operations for 2022 and 2021 (in millions):

	Year Ended December 31,	
	2022	2021
Total revenue	$ 587.4	$ 810.5
Total operating expenses	$ 997.6	$ 840.6
Loss from operations	$ (410.2)	$ (30.2)
Net loss	$ (269.7)	$ (28.6)
Cash, cash equivalents and short-term investments	$ 1,986.9	$ 2,115.0

Revenue

Total revenue for 2022 was $587.4 million compared to $810.5 million in 2021 and was comprised of the following (in millions):

	Year Ended December 31,	
	2022	2021
Revenue:		
Commercial revenue:		
SPINRAZA royalties	$ 242.3	$ 267.8
TEGSEDI and WAYLIVRA revenue, net	30.1	55.5
Licensing and other royalty revenue	31.0	19.1
Total commercial revenue	303.4	342.4
R&D revenue:		
Amortization from upfront payments	68.6	77.5
Milestone payments	74.0	88.3
License fees	37.0	291.3
Other services	27.6	11.0
Collaborative agreement revenue	207.2	468.1
Eplontersen joint development revenue	76.8	—
Total R&D revenue	284.0	468.1
Total revenue	$ 587.4	$ 810.5

Our 2022 revenue continued to be derived from diverse sources, with just over half coming from commercial products and the balance from numerous partnered programs. SPINRAZA royalties, the largest contributor to our commercial revenue, increased each quarter in 2022. Total SPINRAZA product sales increased six percent in the fourth quarter of 2022 compared to the third quarter of 2022 and also increased four percent compared to the same quarter in 2021. The increases were driven by stabilization in the U.S. and growth in Asian markets, partially offset by competition in Europe. Total SPINRAZA product sales decreased six percent year-over-year driven by foreign currency exchange and competition in Europe, partially offset stabilization in the U.S. and growth in Asian markets. Our TEGSEDI and WAYLIVRA revenue was also lower year-over-year due to the shift to distribution fees in 2021.

Our R&D revenue for 2022 included $112 million from Biogen for advancing several neurology disease programs, $77 million from AstraZeneca for its share of the global Phase 3 development costs for eplontersen and $64 million from Roche for licensing and advancing IONIS-FB-L_{Rx}, among other partnered payments. R&D revenue was higher in 2021 compared to 2022 driven primarily by the $200 million we earned in the fourth quarter of 2021 from AstraZeneca to jointly develop and commercialize eplontersen.

Eplontersen Collaboration with AstraZeneca

Our financial results for the year ended December 31, 2022 reflected the cost-sharing provisions related to our collaboration with AstraZeneca to develop and commercialize eplontersen for the treatment of ATTR. Under the terms of the collaboration agreement, AstraZeneca is currently paying 55 percent of the costs associated with the ongoing global Phase 3 development program. Because we are leading and conducting the Phase 3 development program, we are recognizing as R&D revenue the 55 percent of cost-share funding AstraZeneca is responsible for, net of our share of AstraZeneca's development expenses, in the same period we incur the related development expenses. In the year ended December 31, 2022, we earned $77 million in joint development revenue and recorded $147M of R&D expenses related to Phase 3 development expenses under this collaboration.

As AstraZeneca is responsible for the majority of the medical affairs and commercial costs in the U.S. and all costs associated with bringing eplontersen to market outside the U.S., we are recognizing cost-share funding we receive from AstraZeneca related to these activities as a reduction of our medical affairs and commercialization expenses, which we classify as R&D and selling, general and administrative, or SG&A, expenses, respectively. In the year ended December 31, 2022, we recognized $2.0 million and $2.6 million of medical affairs expenses and commercialization expenses for eplontersen, respectively, net of cost-share funding from AstraZeneca. We expect our medical affairs and commercialization expenses to increase as eplontersen advances toward the market under our collaboration with AstraZeneca.

The following is a summary of the financial impacts on our statement of operations for the year ended December 31, 2022 of the joint development activities under our eplontersen collaboration with AstraZeneca:

Operating Expenses

Our operating expenses were as follows (in millions):

	Year Ended December 31,	
	2022	2021
Operating expenses, excluding non-cash compensation expense related to equity awards	$ 897.3	$ 696.0
Restructuring expenses	—	23.9
Total operating expenses, excluding non-cash compensation expense related to equity awards	897.3	719.9
Non-cash compensation expense related to equity awards	100.3	120.7
Total operating expenses	$ 997.6	$ 840.6

Our operating expenses, excluding non-cash compensation expense related to equity awards, increased in 2022 compared to 2021. Our R&D expenses increased in 2022 compared to 2021 due to our investments in advancing our late-stage pipeline, including the expanded number of Phase 3 studies we are conducting, which doubled from three to six studies in 2021. Our R&D expenses also increased in 2022 compared to 2021 due to $80 million that we recognized in 2022 for licensing Metagenomi's gene editing technologies. Our SG&A expenses decreased in 2022 compared to 2021 as a result of savings we realized from integrating Akcea and restructuring our commercial operations for TEGSEDI and WAYLIVRA, partially offset by the increase in expenses related to our go-to-market activities for eplontersen, donidalorsen and olezarsen.

Our non-cash compensation expense related to equity awards decreased in 2022 compared to 2021 as a result of the decrease in our stock price in 2022 compared to 2021 and reduced headcount due to restructuring our commercial operations in 2021. We anticipate our non-cash compensation expense related to equity awards to increase in 2023 due to increased headcount and an increase in our stock price when we granted annual equity awards to our employees in January 2023 compared to January 2022.

To analyze and compare our results of operations to other similar companies, we believe it is important to exclude non-cash compensation expense related to equity awards from our operating expenses. We believe non-cash compensation expense related to equity awards is not indicative of our operating results or cash flows from our operations. Further, we internally evaluate the performance of our operations excluding it.

Cost of Sales

Our cost of sales is comprised of costs related to our commercial revenue, which consisted of manufacturing costs, including certain fixed costs, transportation and freight, indirect overhead costs associated with the manufacturing and distribution of TEGSEDI and WAYLIVRA and certain associated period costs.

Our cost of sales were as follows (in millions):

	Year Ended December 31,	
	2022	2021
Cost of sales, excluding non-cash compensation expense related to equity awards	$ 13.4	$ 10.4
Non-cash compensation expense related to equity awards	0.7	0.4
Total cost of sales	$ 14.1	$ 10.8

Research, Development and Patent Expenses

Our research, development and patent expenses consist of expenses for drug discovery, drug development, manufacturing and development chemistry and R&D support expenses.

The following table sets forth information on research, development and patent expenses (in millions):

	Year Ended December 31,	
	2022	2021
Research, development and patent expenses, excluding non-cash compensation expense related to equity awards	$ 759.4	$ 547.4
Restructuring expenses	—	8.5
Total research, development and patent expenses, excluding non-cash compensation expense related to equity awards	759.4	555.9
Non-cash compensation expense related to equity awards	73.7	87.6
Total research, development and patent expenses	$ 833.1	$ 643.5

Drug Discovery

We use our proprietary technologies to generate information about the function of genes and to determine the value of genes as drug discovery targets. We use this information to direct our own drug discovery research, and that of our partners. Drug discovery is also the function that is responsible for advancing our core technology. This function is also responsible for making investments in complementary technologies to expand the reach of our technologies.

Our drug discovery expenses were as follows (in millions):

	Year Ended December 31,	
	2022	2021
Drug discovery expenses, excluding non-cash compensation expense related to equity awards	$ 181.3	$ 136.6
Non-cash compensation expense related to equity awards	16.2	21.4
Total drug discovery expenses	$ 197.5	$ 158.0

Drug discovery expenses, excluding non-cash compensation expense related to equity awards, increased in 2022 compared to 2021 primarily due to $80 million that we recognized in 2022 for licensing Metagenomi's gene editing technologies. In 2021, we incurred certain licensing expenses, including $35 million for licensing Bicycle Therapeutics' peptide technology.

Drug Development

The following table sets forth drug development expenses, including expenses for our marketed medicines and those in Phase 3 development for which we have incurred significant costs (in millions):

	Year Ended December 31,	
	2022	2021
TEGSEDI and WAYLIVRA	$ 10.6	$ 8.3
Eplontersen	103.9	79.1
Olezarsen	68.1	22.0
Donidalorsen	14.1	6.7
ION363	8.4	7.7
Other development projects	129.1	104.5
Development overhead expenses	92.0	75.2
Restructuring expenses	—	7.7
Total drug development, excluding non-cash compensation expense related to equity awards	426.2	311.2
Non-cash compensation expense related to equity awards	31.5	37.8
Total drug development expenses	$ 457.7	$ 349.0

Our development expenses, excluding non-cash compensation expense related to equity awards, increased in 2022 compared to 2021 primarily due to our advancing late-stage pipeline, including the expanded number of Phase 3 studies we are conducting, which doubled over the course of 2021 from three to six studies.

We may conduct multiple clinical trials on a drug candidate, including multiple clinical trials for the various indications we may be studying. Furthermore, as we obtain results from trials, we may elect to discontinue clinical trials for certain drug candidates in certain indications in order to focus our resources on more promising drug candidates or indications. Our Phase 1 and Phase 2 programs are clinical research programs that fuel our Phase 3 pipeline. When our medicines are in Phase 1 or Phase 2 clinical trials, they are in a dynamic state in which we may adjust the development strategy for each medicine. Although we may characterize a medicine as "in Phase 1" or "in Phase 2," it does not mean that we are conducting a single, well-defined study with dedicated resources. Instead, we allocate our internal resources on a shared basis across numerous medicines based on each medicine's particular needs at that time. This means we are constantly shifting resources among medicines. Therefore, what we spend on each medicine during a particular period is usually a function of what is required to keep the medicines progressing in clinical development, not what medicines we think are most important. For example, the number of people required to start a new study is large, the number of people required to keep a study going is modest and the number of people required to finish a study is large. However, such fluctuations are not indicative of a shift in our emphasis from one medicine to another and cannot be used to accurately predict future costs for each medicine. And, because we always have numerous medicines in preclinical and varying stages of clinical research, the fluctuations in expenses from medicine to medicine, in large part, offset one another. If we partner a medicine, it may affect the size of a trial, its timing, its total cost and the timing of the related costs.

Medical Affairs

Our medical affairs function is responsible for managing publications planning, funding and coordinating investigator-sponsored trials and communicating scientific and clinical information to healthcare providers, medical professionals and patients.

Our medical affairs expenses were as follows (in millions):

	Year Ended December 31,	
	2022	2021
Medical affairs expenses, excluding non-cash compensation expense related to equity awards	$ 15.9	$ 11.6
Non-cash compensation expense related to equity awards	2.0	1.4
Total medical affairs expenses	$ 17.9	$ 13.0

Medical affairs expenses, excluding non-cash compensation expense related to equity awards, increased in 2022 compared to 2021 due to increased costs we incurred as we built our medical affairs function to support our late-stage pipeline.

Manufacturing and Development Chemistry

Expenditures in our manufacturing and development chemistry function consist primarily of personnel costs, specialized chemicals for oligonucleotide manufacturing, laboratory supplies and outside services. Our manufacturing and development chemistry function is responsible for providing drug supplies to drug development and our collaboration partners. Our manufacturing procedures include testing to satisfy good laboratory and good manufacturing practice requirements.

Our manufacturing and development chemistry expenses were as follows (in millions):

	Year Ended December 31,	
	2022	2021
Manufacturing and development chemistry expenses, excluding non-cash compensation expense related to equity awards	$ 76.2	$ 47.2
Restructuring expenses	—	0.8
Total manufacturing and development chemistry expenses, excluding non-cash compensation expense related to equity awards	76.2	48.0
Non-cash compensation expense related to equity awards	9.9	11.5
Total manufacturing and development chemistry expenses	$ 86.1	$ 59.5

Manufacturing and development chemistry expenses, excluding non-cash compensation expense related to equity awards, increased in 2022 compared to 2021 due to increased R&D-related manufacturing costs we incurred in preparation for our near-term commercial launches of eplontersen, olezarsen and donidalorsen. Refer to the section titled, *Manufacturing*, in Part I, Item 1, *Business*, for further details on the activities and types of costs we incur in our manufacturing process.

R&D Support

In our research, development and patent expenses, we include support costs such as rent, repair and maintenance for buildings and equipment, utilities, depreciation of laboratory equipment and facilities, amortization of our intellectual property, informatics costs, procurement costs and waste disposal costs. We call these costs R&D support expenses.

The following table sets forth information on R&D support expenses (in millions):

	Year Ended December 31,	
	2022	2021
Personnel costs	$ 21.2	$ 17.7
Occupancy	19.2	13.1
Patent expenses	4.7	5.3
Insurance	3.8	3.2
Computer software and licenses	1.9	1.8
Other	9.0	7.3
Restructuring expenses	—	0.1
Total R&D support expenses, excluding non-cash compensation expense related to equity awards	59.8	48.5
Non-cash compensation expense related to equity awards	14.1	15.5
Total R&D support expenses	$ 73.9	$ 64.0

R&D support expenses, excluding non-cash compensation expense related to equity awards, increased in 2022 compared to 2021. The increase was primarily related to increased occupancy and personnel costs to support advancing our pipeline and our technology. In October 2022, we executed a sale and leaseback transaction for our headquarters in Carlsbad, California. As a result, beginning in the fourth quarter of 2022, our occupancy costs increased because we began incurring rent expense for these facilities.

Selling, General and Administrative Expenses

Selling, general and administrative, or SG&A, expenses include personnel and outside costs associated with the pre-commercialization and commercialization activities for our medicines and costs to support our company, our employees and our stockholders including, legal, human resources, investor relations and finance. Additionally, we include in selling, general and administrative expenses such costs as rent, repair and maintenance of buildings and equipment, depreciation and utilities costs that we need to support the corporate functions listed above. We also include fees we owe under our in-licensing agreements related to SPINRAZA.

The following table sets forth information on SG&A expenses (in millions):

	Year Ended December 31,	
	2022	2021
Selling, general and administrative expenses, excluding non-cash compensation expense related to equity awards	$ 124.4	$ 138.1
Restructuring expenses	—	15.4
Total selling, general and administrative expenses, excluding non-cash compensation related to equity awards	124.4	153.5
Non-cash compensation expense related to equity awards	25.9	32.8
Total selling, general and administrative expenses	$ 150.3	$ 186.3

SG&A expenses, excluding non-cash compensation expense related to equity awards, decreased in 2022 compared to 2021 due to operating efficiencies achieved from restructuring our commercial operations for TEGSEDI and WAYLIVRA, partially offset by increased expenses for our go-to-market preparations for our near-term commercial opportunities. Non-cash compensation expense related to equity awards decreased in 2022 compared to 2021 as a result of restructuring our commercial operations for TEGSEDI and WAYLIVRA in 2021.

Investment Income

Investment income for 2022 was $25.3 million compared to $10.0 million for 2021. The increase in investment income was primarily due to an increase in interest rates during 2022 compared to 2021.

Interest Expense

The following table sets forth information on interest expense (in millions):

	Year Ended December 31,	
	2022	2021
Convertible senior notes:		
Non-cash amortization of the debt discounts and debt issuance costs	$ 5.3	$ 4.9
Interest expense payable in cash	0.7	1.9
Interest on mortgage for primary R&D and manufacturing facilities	2.1	2.5
Total interest expense	$ 8.1	$ 9.3

Gain (Loss) on Investments

We recorded a $7.3 million loss on investments for 2022 compared to a $10.1 million gain on investments for 2021. The period-over-period fluctuation in our gain (loss) on investments was primarily driven by changes in fair value of our investments in publicly traded biotechnology companies.

Gain on Sale of Real Estate

In October 2022, we concurrently entered into two purchase and sale agreements with a real estate investor. Under the agreements, we sold and leased back the facilities at our headquarters location in Carlsbad, California and will sell, subject to meeting certain closing conditions, two lots of undeveloped land adjacent to our headquarters. We sold the facilities at our headquarters for a total purchase price of $263.4 million and recorded a gain of $150.1 million in the fourth quarter of 2022, resulting in income tax expense of $8.8 million.

Other Expense

In 2022, we recorded a $7.7 million net expense to settle a litigation claim.

In 2021, as a result of a debt offering and debt repurchase, we recorded an $8.6 million loss on early retirement of debt, reflecting the early retirement of a portion of our 1% Notes. The loss on the early retirement of our debt is the difference between the amount we paid to retire our 1% Notes and the net carrying balance of the liability at the time that we retired the debt.

Income Tax Expense (Benefit)

We recorded an income tax expense of $11.7 million for 2022 compared to an income tax benefit of $0.6 million for 2021. Beginning in 2022, the Tax Cuts and Jobs Act of 2017, or TCJA, requires taxpayers to capitalize and amortize research and development expenditures pursuant to Internal Revenue Code, or IRC, Section 174. Our 2022 tax expense relates primarily to the impact of this new law and to federal and state tax on the gain from the sale of our headquarters facilities that closed in October 2022.

Net Loss and Net Loss per Share

We generated a net loss of $269.7 million for 2022 compared to $28.6 million for 2021. Our net loss increased for 2022 compared to 2021 primarily due to decreased revenue and increased expenses year-over-year, as discussed in the revenue and expenses sections, respectively.

Basic and diluted net loss per share for 2022 were each $1.90. Basic and diluted net loss per share for 2021 were each $0.20.

Liquidity and Capital Resources

We have financed our operations primarily from research and development collaborative agreements. We also finance our operations from commercial revenue from SPINRAZA royalties and TEGSEDI and WAYLIVRA commercial revenue. From our inception through December 31, 2022, we have earned approximately $6.4 billion in revenue. We have also financed our operations through the sale of our equity securities and the issuance of long-term debt. From the time we were founded through December 31, 2022, we have raised net proceeds of approximately $2.0 billion from the sale of our equity securities. Additionally, we borrowed approximately $2.1 billion under long-term debt arrangements to finance a portion of our operations over the same time period.

Our cash, cash equivalents and short-term investments, debt obligations and working capital decreased from 2021 to 2022. In 2021, we issued $632.5 million of 0% Notes (due in April 2026) and we used a portion of the proceeds to repurchase $247.9 million of our 1% Notes in April 2021. We paid the remaining principal balance of our 1% Notes with $62.0 million of cash at maturity in November 2021. In 2022, we sold the facilities and related land at our headquarters for a total purchase price of $263.4 million and used a portion of the proceeds to extinguish our mortgage debt on these facilities of $51.3 million. At December 31, 2022, we had $2.0 billion of cash and short-term investments on hand. We believe our cash and short-term investment balance is sufficient to fund our operations in the short-term and in the longer-term. In 2022, our working capital decreased because our cash and investments decreased as discussed above.

The following table summarizes our contractual obligations as of December 31, 2022. The table provides a breakdown of when obligations become due. We provide a more detailed description of the major components of our debt in Note 4, *Long-Term Obligations and Commitments*.

Contractual Obligations	**Payments Due by Period (in millions)**		
(selected balances described below)	**Total**	**Less than 1 year**	**More than 1 year**
0% Notes (principal payable)	$ 632.5	$ —	$ 632.5
0.125% Notes (principal and interest payable)	550.2	0.7	549.5
Building mortgage payments (principal and interest payable)	10.7	0.5	10.2
Operating leases	299.6	20.1	279.5
Other obligations (principal and interest payable)	0.9	0.1	0.8
Total	$ 1,493.9	$ 21.4	$ 1,472.5

Our contractual obligations consist primarily of our convertible debt. In addition, we also have a facility mortgage, facility leases, equipment financing arrangements and other obligations. Due to the uncertainty with respect to the timing of future cash flows associated with our unrecognized tax benefits, we are unable to make reasonably reliable estimates of the period of cash settlement with the respective taxing authorities. Therefore, we have excluded our gross unrecognized tax benefits from our contractual obligations table above. We have not entered into, nor do we currently have, any off-balance sheet arrangements (as defined under SEC rules).

Convertible Debt and Call Spread

Refer to our Convertible Debt and Call Spread accounting policies in Part IV, Item 15, Note 1, *Organization and Significant Accounting Policies*, and Note 4, *Long-Term Obligations and Commitments*, in the Notes to our consolidated financial statements for the significant terms of each convertible debt instrument.

Operating Facilities

Refer to Part IV, Item 15, Note 4, *Long-Term Obligations and Commitments*, in the Notes to our consolidated financial statements for further details on our operating facilities.

Operating Leases

Refer to Part IV, Item 15, Note 4, *Long-Term Obligations and Commitments*, in the Notes to our consolidated financial statements for further details on our operating leases.

Royalty Revenue Monetization

In January 2023, we entered into a royalty purchase agreement with Royalty Pharma to monetize a portion of our future SPINRAZA and pelacarsen royalties we are entitled to under our agreements with Biogen and Novartis, respectively. Refer to Part IV, Item 15, Note 4, *Long-Term Obligations and Commitments*, in the Notes to our consolidated financial statements for further details on this agreement.

Other Obligations

In addition to contractual obligations, we had outstanding purchase orders as of December 31, 2022 for the purchase of services, capital equipment and materials as part of our normal course of business.

We may enter into additional collaborations with partners that could provide for additional revenue to us and we may incur additional cash expenditures related to our obligations under any of the new agreements we may enter into. We currently intend to use our cash, cash equivalents and short-term investments to finance our activities. However, we may also pursue other financing alternatives, like issuing additional shares of our common stock, issuing debt instruments, refinancing our existing debt, or securing lines of credit. Whether we use our existing capital resources or choose to obtain financing will depend on various factors, including the future success of our business, the prevailing interest rate environment and the condition of financial markets generally.

Critical Accounting Estimates

We prepare our consolidated financial statements in conformity with accounting principles generally accepted in the U.S. As such, we make certain estimates, judgments and assumptions that we believe are reasonable, based upon the information available to us. These judgments involve making estimates about the effect of matters that are inherently uncertain and may significantly impact our quarterly or annual results of operations and financial condition. Each quarter, our senior management reviews the development, selection and disclosure of such estimates with the audit committee of our board of directors. In the following paragraphs, we describe the specific risks associated with these critical accounting estimates and we caution that future events rarely develop exactly as one may expect, and that best estimates may require adjustment. Our significant accounting policies are outlined in Note 1, *Organization and Significant Accounting Policies*, in the Notes to the Consolidated Financial Statements.

The following are our significant accounting estimates, which we believe are the most critical to aid in fully understanding and evaluating our reported financial results:

- Assessing the propriety of revenue recognition and associated deferred revenue; and
- Determining the appropriate cost estimates for unbilled preclinical studies and clinical development activities

The following are descriptions of our critical accounting estimates.

Revenue Recognition

We earn revenue from several sources. The judgements and estimates we make vary between each source of our revenue. At contract inception, we analyze our collaboration arrangements to assess whether such arrangements involve joint operating activities performed by parties that are both active participants in the activities and exposed to significant risks and rewards dependent on the commercial success of such activities and therefore within the scope of Accounting Standards Codification, or ASC, Topic 808, *Collaborative Arrangements*, or ASC 808. For collaboration arrangements within the scope of ASC 808 that contain multiple elements, we first determine which elements of the collaboration reflect a vendor-customer relationship and are therefore within the scope of ASC 606, *Revenue from Contracts with Customers*. When we determine elements of a collaboration do not reflect a vendor-customer relationship, we consistently apply the reasonable and rational policy election we made by analogizing to authoritative accounting literature.

The following is a summary of the critical accounting estimates we make with respect to our revenue.

Research and development revenue under collaborative agreements

We recognize R&D revenue from numerous collaboration agreements. Our collaboration agreements typically contain multiple elements, or performance obligations, including technology licenses or options to obtain technology licenses, R&D services, and manufacturing services. Upon entering into a collaboration agreement, we are required to make the following judgements:

- Identifying the performance obligations contained in the agreement

  Our assessment of what constitutes a separate performance obligation requires us to apply judgement. Specifically, we have to identify which goods and services we are required to provide under the contract are distinct.

- Determining the transaction price, including any variable consideration

  To determine the transaction price, we review the amount of consideration we are eligible to earn under the agreement. We do not typically include any payments we may receive in the future in our initial transaction price since the payments are typically not probable because they are contingent upon certain future events. We reassess the total transaction price at each reporting period to determine if we should include additional payments in the transaction price that have become probable.

- Allocating the transaction price to each of our performance obligations

  When we allocate the transaction price to more than one performance obligation, we make estimates of the relative stand-alone selling price of each performance obligation because we do not typically sell our goods or services on a stand-alone basis. The estimate of the relative stand-alone selling price requires us in some cases to make significant judgements. For example, when we deliver a license at the start of an agreement, we use valuation methodologies, such as the relief from royalty method, to value the license. Under this method we are required to make estimates including: future sales, royalties on future product sales, contractual milestones, expenses, income taxes and discount rates. Additionally, when we estimate the selling price for R&D services, we make estimates, including: the number of internal hours we will spend on the services, the cost of work we and third parties will perform and the cost of clinical trial material we will use.

The R&D revenue we recognize each period is comprised of several types of revenue, including amortization from upfront payments, milestone payments, license fees and other services that are recognized immediately or amortized over the period in which we satisfy our performance obligation. Each of these types of revenue require us to make various judgements and estimates.

R&D Services with Upfront Payments

We recognize revenue from the amortization of upfront payments as we perform R&D services. We use an input method to estimate the amount of revenue to recognize each period. This method requires us to make estimates of the total costs we expect to incur to complete our R&D services performance obligation or the total length of time it will take us to complete our R&D services performance obligation. If we change our estimates, we may have to adjust our revenue.

Milestone Payments

When recognizing revenue related to milestone payments we typically make the following judgements and estimates:

- Whether the milestone payment is probable (discussed in detail above under “Determining the transaction price, including any variable consideration”); and
- Whether the milestone payment relates to services we are performing or if our partner is performing the services:
- If we are performing services, we recognize revenue over our estimated period of performance in a similar manner to the amortization of upfront payments (discussed above under “R&D Services with Upfront Payments”).
- Conversely, we recognize in full those milestone payments that we earn based on our partners’ activities when our partner achieves the milestone event and we do not have a performance obligation.

License Fees

When we grant a license for a medicine in clinical development, we generally recognize as R&D revenue the total amount we determine to be the relative stand-alone selling price of a license when we deliver the license to our partner. Refer to Part IV, Item 15, Note 1, *Organization and Significant Accounting Policies*, for our revenue recognition policy. We discuss the estimates we make related to the relative stand-alone selling price of a license in detail above under “Allocating the transaction price to each of our performance obligations.”

Estimated Liability for Clinical Development Costs

We have numerous medicines in preclinical studies and/or clinical trials at clinical sites throughout the world. On at least a quarterly basis, we estimate our liability for preclinical and clinical development costs we have incurred and services that we have received but for which we have not yet been billed and maintain an accrual to cover these costs. These costs primarily relate to third-party clinical management costs, laboratory and analysis costs, toxicology studies and investigator grants. We estimate our liability using assumptions about study and patient activities and the related expected expenses for those activities determined based on the contracted fees with our service providers. The assumptions we use represent our best estimates of the activity and expenses at the time of our accrual and involve inherent uncertainties and the application of our judgment. Upon settlement, these costs may differ materially from the amounts accrued in our consolidated financial statements. Our historical accrual estimates have not been materially different from our actual amounts.

As of December 31, 2022, a hypothetical 10 percent increase in our liability for preclinical and clinical development costs would have resulted in an increase in our loss before income tax benefit and accrued liabilities of approximately $11.6 million.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to changes in interest rates primarily from our investments in certain short-term investments. We primarily invest our excess cash in highly liquid short-term investments of the U.S. Treasury and reputable financial institutions, corporations, and U.S. government agencies with strong credit ratings. We typically hold our investments for the duration of the term of the respective instrument. We do not utilize derivative financial instruments, derivative commodity instruments or other market risk sensitive instruments, positions or transactions to manage exposure to interest rate changes. Accordingly, we believe that, while the securities we hold are subject to changes in the financial standing of the issuer of such securities, we were not subject to any material risks arising from changes in interest rates, foreign currency exchange rates, commodity prices, equity prices or other market changes that affect market risk sensitive instruments as of December 31, 2022 and will not be subject to any material risks arising from these changes in the foreseeable future.

Item 8. Financial Statements and Supplementary Data

We filed our consolidated financial statements and supplementary data required by this item as exhibits hereto, and listed them under Item 15(a)(1) and (2), and incorporate them herein by reference.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

We maintain disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or Exchange Act) that are designed to ensure that information we are required to disclose in our Exchange Act reports is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. We designed and evaluated our disclosure controls and procedures recognizing that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance and not absolute assurance of achieving the desired control objectives.

As of the end of the period covered by this report on Form 10-K, we carried out an evaluation of our disclosure controls and procedures under the supervision of, and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer. Based on our evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of December 31, 2022.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Exchange Act Rules 13a-15(f). Our internal control over financial reporting is a process designed under the supervision of our Chief Executive Officer and Chief Financial Officer to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our financial statements for external purposes in accordance with U.S. generally accepted accounting principles.

As of December 31, 2022, we assessed the effectiveness of our internal control over financial reporting based on the criteria for effective internal control over financial reporting under the 2013 "Internal Control—Integrated Framework," issued by the Committee of Sponsoring Organizations, or COSO, of the Treadway Commission, under the supervision of, and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer. Based on that assessment, our management concluded that we maintained effective internal control over financial reporting as of December 31, 2022.

Ernst & Young LLP, an independent registered public accounting firm, audited the effectiveness of our internal control over financial reporting as of December 31, 2022, as stated in their attestation report, which is included elsewhere herein.

Changes in Internal Control over Financial Reporting

The above assessment did not identify any change in our internal control over financial reporting that occurred during our latest fiscal quarter and that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors of Ionis Pharmaceuticals, Inc.

Opinion on Internal Control over Financial Reporting

We have audited Ionis Pharmaceuticals, Inc.'s internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Ionis Pharmaceuticals, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive loss, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2022, and the related notes and our report dated February 22, 2023 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

San Diego, California
February 22, 2023

Item 9B. Other Information

Not applicable.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

We incorporate by reference the information required by this Item with respect to directors and the Audit Committee from the information under the caption "ELECTION OF DIRECTORS," including in particular the information under "Nominating, Governance and Review Committee" and "Audit Committee," contained in our definitive Proxy Statement, which we will file with the Securities and Exchange Commission within 120 days after the end of the fiscal year ended December 31, 2022, or the Proxy Statement.

We include information concerning our executive officers in the section titled, *Information about our Executive Officers*, in this report on the Form 10-K in Item 1 titled "Business."

We incorporate by reference the required information concerning our Code of Ethics from the information under the caption "Code of Ethics and Business Conduct" contained in the Proxy Statement. Our Code of Ethics and Business Conduct is posted on our website at www.ionispharma.com(1). We intend to disclose future amendments to, or waivers from, our Code of Ethics and Business Conduct on our website.

(1) Any information that is included on or linked to our website is not part of this Form 10-K.

Delinquent Section 16(a) Reports

Item 1, Part I of this Report contains information concerning our executive officers. We incorporate by reference the information required by this Item concerning compliance with Section 16(a) of the Exchange Act from the information under the caption "Delinquent Section 16(a) Reports" contained in the Proxy Statement.

Item 11. Executive Compensation

We incorporate by reference the information required by this item to the information under the caption "EXECUTIVE COMPENSATION," "Compensation Committee Interlocks and Insider Participation" and "COMPENSATION COMMITTEE REPORT" contained in the Proxy Statement.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

We incorporate by reference the information required by this item to the information under the captions "SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT" contained in the Proxy Statement.

Securities Authorized for Issuance under Equity Compensation Plans

The following table sets forth information regarding outstanding options and shares reserved for future issuance under our equity compensation plans as of December 31, 2022.

Plan Category	Number of Shares to be Issued Upon Exercise of Outstanding Options	Weighted Average Exercise Price of Outstanding Options	Number of Shares Remaining Available for Future Issuance
Equity compensation plans approved by stockholders (a)	14,970,226	$ 50.57	8,158,690(b)
Total	14,970,266	$ 50.57	8,158,690

(a) Consists of five Ionis plans: 1989 Stock Option Plan, Amended and Restated 2002 Non-Employee Directors' Stock Option Plan, 2011 Equity Incentive Plan, 2020 Equity Incentive Plan and Employee Stock Purchase Plan, or ESPP.
(b) Of these shares, 492,176 were available for purchase under the ESPP as of December 31, 2022.

For additional details about our equity compensation plans, including a description of each plan, refer to Part IV, Item 15, Note 5, *Stockholders' Equity*, in the Notes to the Consolidated Financial Statements.

Item 13. Certain Relationships and Related Transactions, and Director Independence

We incorporate by reference the information required by this item to the information under the captions "Independence of the Board of Directors" and "Certain Relationships and Related Transactions" contained in the Proxy Statement.

Item 14. Principal Accountant Fees and Services

We incorporate by reference the information required by this item to the information under the caption "Ratification of Selection of Independent Auditors" contained in the Proxy Statement.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a)(1) Index to Financial Statements

We submitted the consolidated financial statements required by this item in a separate section beginning on page F-1 of this Report.

(a)(2) Index to Financial Statement Schedules

We omitted these schedules because they are not required, or are not applicable, or the required information is shown in the consolidated financial statements or notes thereto.

(a)(3) Index to Exhibits

INDEX TO EXHIBITS

Exhibit Number	Description of Document
2.1	Agreement and Plan of Merger, dated as of August 30, 2020, among Akcea Therapeutics, Inc., Ionis Pharmaceuticals, Inc. and Avalanche Merger Sub, Inc., filed as an exhibit to the Registrant's Current Report on Form 8-K filed August 31, 2020 and incorporated herein by reference.
3.1	Amended and Restated Certificate of Incorporation filed June 19, 1991, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2017 and incorporated herein by reference.
3.2	Certificate of Amendment to Restated Certificate of Incorporation, filed as an exhibit to the Registrant's Notice of Annual Meeting and Proxy Statement, for the 2014 Annual Meeting of Stockholders, filed on April 25, 2014 and incorporated herein by reference.
3.3	Certificate of Amendment to Restated Certificate of Incorporation, filed as an exhibit to the Registrant's Current Report on Form 8-K filed December 18, 2015 and incorporated herein by reference.
3.4	Amended and Restated Bylaws, filed as an exhibit to the Registrant's Current Report on Form 8-K filed March 29, 2021 and incorporated herein by reference.
4.1	Description of the Registrant's Securities, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2021 and incorporated herein by reference.
4.2	Certificate of Designation of the Series C Junior Participating Preferred Stock, filed as an exhibit to Registrant's Current Report on Form 8-K filed December 13, 2000 and incorporated herein by reference.
4.3	Specimen Common Stock Certificate, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2017 and incorporated herein by reference.
4.4	Indenture, dated as of December 19, 2019, by and between the Registrant and U.S. Bank National Association, as trustee, including Form of 0.125 percent Convertible Senior Note due 2024, filed as an exhibit to the Registrant's Current Report on Form 8-K filed December 23, 2019 and incorporated herein by reference.
4.5	Indenture, dated as of April 12, 2021, by and between the Registrant and U.S. Bank National Association, as trustee, including Form of 0 percent Convertible Senior Note due 2026, filed as an exhibit to the Registrant's Current Report on Form 8-K filed April 13, 2021 and incorporated herein by reference.
4.6	Form of Exchange and/or Subscription Agreement for Convertible Senior Notes due 2024, filed as an exhibit to the Registrant's Current Report on Form 8-K filed December 12, 2019 and incorporated herein by reference.
4.7	Form of Convertible Note Hedge Transactions Confirmation for Convertible Senior Notes due 2024, filed as an exhibit to the Registrant's Current Report on Form 8-K filed December 12, 2019 and incorporated herein by reference.
4.8	Form of Convertible Note Hedge Confirmation for Convertible Senior Notes due 2026, filed as an exhibit to the Registrant's Current Report on Form 8-K filed April 13, 2021 and incorporated herein by reference.
4.9	Form of Warrant Transactions Confirmation for Convertible Senior Notes due 2024, filed as an exhibit to the Registrant's Current Report on Form 8-K filed December 12, 2019 and incorporated herein by reference.
4.10	Form of Warrant Confirmation for Convertible Senior Notes due 2026, filed as an exhibit to the Registrant's Current Report on Form 8-K filed April 13, 2021 and incorporated herein by reference.
10.1	Amended Non-Employee Director Compensation Policy, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2021 and incorporated herein by reference.
10.2*	Registrant's Amended and Restated Severance Benefit Plan dated March 17, 2022, filed as an exhibit to the Registrant's Quarterly Report on form 10-Q for the quarter ended March 31, 2022 and incorporated herein by reference.
10.3	Form of Indemnity Agreement entered into between the Registrant and its Directors and Officers with related schedule, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2012 and incorporated herein by reference.
10.4	Form of Employee Confidential Information and Inventions Agreement, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2017 and incorporated herein by reference.
10.5	Registrant's Amended and Restated 10b5-1 Trading Plan dated September 12, 2013, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2013 and incorporated herein by reference.
10.6*	Registrant's 1989 Stock Option Plan, as amended, filed as an exhibit to Registrant's Notice of Annual Meeting and Proxy Statement for the 2012 Annual Meeting of Stockholders, filed on April 16, 2012 and incorporated herein by reference.
10.7*	Form of Option Agreement under the 1989 Stock Option Plan, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2015 and incorporated herein by reference.
10.8*	Registrant's Amended and Restated 2000 Employee Stock Purchase Plan, filed as an exhibit to Registrant's Current Report on Form 8-K filed on March 26, 2019 and incorporated herein by reference.
10.9*	Registrant's Amended and Restated 2002 Non-Employee Directors' Stock Option Plan, as amended, filed as an exhibit to the Registrant's Notice of Annual Meeting and Proxy Statement for the 2020 Annual Meeting of Stockholders, filed on April 24, 2020 and incorporated herein by reference.

10.10*	Form of Option Agreement for Options granted under the Ionis Pharmaceuticals, Inc. Amended and Restated 2002 Non-Employee Directors' Stock Option Plan.
10.11*	Form of Restricted Stock Unit Agreement for Restricted Stock Units granted under the Ionis Pharmaceuticals, Inc. Amended and Restated 2002 Non-Employee Directors' Stock Option Plan, filed as an exhibit to the Registrant's Registration Statement on Form S-8 filed on August 7, 2020 and incorporated herein by reference.
10.12*	Amended and Restated Ionis Pharmaceuticals, Inc. 2011 Equity Incentive Plan, filed as an exhibit to the Registrant's Notice of 2021 Annual Meeting of Stockholders and Proxy Statement filed on April 23, 2021 and incorporated herein by reference.
10.13*	Form of Option Agreement under the 2011 Equity Incentive Plan.
10.14*	Form of Time-Vested Restricted Stock Unit Agreement for Restricted Stock Units granted under the 2011 Equity Incentive Plan.
10.15*	Forms of Performance Based Restricted Stock Unit Grant Notice and Performance Based Restricted Stock Unit Agreement for Performance Based Restricted Stock Units granted prior to January 1, 2023 under the 2011 Equity Incentive Plan, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2021 and incorporated herein by reference.
10.16*	Forms of Performance Based Restricted Stock Unit Grant Notice and Performance Based Restricted Stock Unit Agreement for Performance Based Restricted Stock Units granted beginning January 1, 2023 under the 2011 Equity Incentive Plan.
10.17*	Ionis Pharmaceuticals, Inc. 2020 Equity Incentive Plan, filed as an exhibit to the Registrant's Registration Statement on Form S-8 filed on December 31, 2020 and incorporated herein by reference.
10.18*	Form of Global Option Agreement for options granted under the Ionis Pharmaceuticals, Inc. 2020 Equity Incentive Plan, filed as an exhibit to the Registrant's Registration Statement on Form S-8 filed on December 31, 2020 and incorporated herein by reference.
10.19*	Form of Global Restricted Stock Unit Agreement for restricted stock units granted under the Ionis Pharmaceuticals, Inc. 2020 Equity Incentive Plan, filed as an exhibit to the Registrant's Registration Statement on Form S-8 filed on December 31, 2020 and incorporated herein by reference.
10.20*	Forms of Restricted Stock Unit Grant Notice, Stock Option Grant Notice and Stock Option Exercise Notice for options granted under the Ionis Pharmaceuticals, Inc. 2020 Equity Incentive Plan, filed as an exhibit to the Registrant's Registration Statement on Form S-8 filed on December 31, 2020 and incorporated herein by reference.
10.21	Loan Agreement between Ionis Faraday, LLC and UBS AG dated July 18, 2017, filed as an exhibit to the Registrant's Current Report on Form 8-K filed July 21, 2017 and incorporated herein by reference.
10.22	Guaranty between the Registrant and UBS AG dated July 18, 2017, filed as an exhibit to the Registrant's Current Report on Form 8-K filed July 21, 2017 and incorporated herein by reference.
10.23	Lease Agreement between the Registrant and Sudberry Development, Inc. dated October 6, 2022. Portions of this exhibit have been omitted because they are both (i) not material and (ii) is the type that the Registrant treats as private or confidential.
10.24	Purchase and Sale Agreement between Ionis Gazelle, LLC and 2850 2855 & 2859 Gazelle Owner (DE) LLC dated as of October 20, 2022. Portions of this exhibit have been omitted because they are both (i) not material and (ii) is the type that the Registrant treats as private or confidential.
10.25	Purchase and Sale Agreement between the Registrant and Oxford I Asset Management USA Inc. dated as of October 20, 2022. Portions of this exhibit have been omitted because they are both (i) not material and (ii) is the type that the Registrant treats as private or confidential.
10.26	Lease Agreement dated October 20, 2022 between the Registrant and 2850 2855 & 2859 Gazelle Owner (DE) LLC. Portions of this exhibit have been omitted because they are both (i) not material and (ii) is the type that the Registrant treats as private or confidential.
10.27	Defeasance Pledge and Security Agreement dated as of October 20, 2022 by and among Ionis Gazelle, LLC, Wells Fargo Bank, National Association, as Trustee for the Benefit of the Registered Holders of UBS Commercial Mortgage Trust 2017-C3, Commercial Mortgage Pass-Through Certificates, Series 2017-C3, and U.S. Bank Trust Company, National Association. Portions of this exhibit have been omitted because they are both (i) not material and (ii) the type that the Registrant treats as private or confidential.
10.28	Defeasance Assignment, Assumption and Release Agreement dated as of October 20, 2022 by and among Ionis Gazelle, LLC, DHC UBSCM 17 C3 Successor Borrower-R, LLC, Wells Fargo Bank, National Association, as Trustee for the Benefit of the Registered Holders of UBS Commercial Mortgage Trust 2017-C3, Commercial Mortgage Pass-Through Certificates, Series 2017-C3, Midland Loan Services, a division of PNC Bank, National Association, and U.S. Bank Trust Company, National Association.
10.29	Defeasance Account Agreement dated as of October 20, 2022 by and among Ionis Gazelle, LLC, U.S. Bank Trust Company, National Association, U.S. Bank National Association, as Trustee for the Benefit of the Registered Holders of UBS Commercial Mortgage Trust 2017-C3, Commercial Mortgage Pass-Through Certificates, Series 2017-C3, and Midland Loan Services, a division of PNC Bank, National Association. Portions of this exhibit have been omitted because they are both (i) not material and (ii) the type that the Registrant treats as private or confidential.

10.30	Strategic Advisory Services Agreement by and between the Registrant and Stanley T. Crooke, dated December 17, 2020, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2020 and incorporated herein by reference.
10.31	Exclusive License Agreement between the Registrant and the University of Massachusetts dated January 14, 2010, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2014 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.32	Research, Development and License Agreement between the Registrant and Glaxo Group Limited dated March 30, 2010, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2010 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.33	Amendment #1 to the Research, Development and License Agreement dated May 11, 2011 by and between the Registrant and Glaxo Group Limited, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2011 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.34	Amendment #2 to the Research, Development and License Agreement by and between the Registrant and Glaxo Group Limited dated October 30, 2012, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2012 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.35	Amendment No. 3 to the Research, Development and License Agreement by and between the Registrant and Glaxo Group Limited dated July 10, 2013, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2014 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.36	Amendment #4 to the Research, Development and License Agreement by and between the Registrant and Glaxo Group Limited dated April 10, 2014, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2014 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.37	Amendment #5 to the Research, Development and License Agreement by and between the Registrant, Glaxo Group Limited and GlaxoSmithKline Intellectual Property Development Limited dated June 27, 2014, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2014 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.38	Amendment #6 to Research, Development and License Agreement by and between the Registrant, Glaxo Group Limited and GlaxoSmithKline Intellectual Property Development Limited dated September 2, 2015, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2015 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.39	Amendment #7 to the Research, Development and License Agreement by and between the Registrant, Glaxo Group Limited and GlaxoSmithKline Intellectual Property Development Limited dated March 4, 2016, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.40	Amendment #8 to the Research, Development and License Agreement by and between the Registrant, Glaxo Group Limited and Glaxosmithkline Intellectual Property Development Limited, dated July 29, 2019, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2019 and incorporated herein by reference. Portions of this exhibit have been omitted because they are both (i) not material and (ii) the type that the Registrant treats as private or confidential.
10.41	Amended and Restated Collaboration and License Agreement between the Registrant and Cold Spring Harbor Laboratory dated October 26, 2011, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2014 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.42	Amendment to Amended and Restated Collaboration and License Agreement between the Registrant and Cold Spring Harbor Laboratory dated March 14, 2014, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2014 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.43	Development, Option and License Agreement between the Registrant and Biogen Idec International Holding Ltd. dated January 3, 2012, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2012 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.

10.44	Amendment #1 to the Development, Option and License Agreement between the Registrant and Biogen Idec International Holding Ltd. dated December 15, 2014, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.45	DMPK Research, Development, Option and License Agreement between the Registrant and Biogen Idec MA Inc. dated June 27, 2012, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2012 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.46	Collaboration, License and Development Agreement between the Registrant and AstraZeneca AB dated December 7, 2012, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2012 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.47	Amendment #1 to Collaboration, License and Development Agreement between the Registrant and AstraZeneca AB dated August 13, 2013, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2013 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.48	Amendment No.2 to the Collaboration, License and Development Agreement between the Registrant and AstraZeneca AB dated October 15, 2014, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2014 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.49	Amendment No.3 to the Collaboration, License and Development Agreement between the Registrant and AstraZeneca AB dated January 18, 2016, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.50	Amendment No. 4 to the Collaboration, License and Development Agreement by and between the Registrant and AstraZeneca AB, dated October 18, 2018, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2018 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.51	HTT Research, Development, Option and License Agreement among the Registrant, F. Hoffmann-La Roche Ltd and Hoffman-La Roche Inc. dated April 8, 2013, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2013 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.52	Amendment #1 to HTT Research, Development, Option and License Agreement between the Registrant, F. Hoffmann-La Roche Ltd and Hoffmann-La Roche Inc. dated January 9, 2015, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2015 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.53	Second Amended and Restated Strategic Collaboration and License Agreement between the Registrant and Alnylam Pharmaceuticals, Inc. dated January 8, 2015, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2015 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.54	Amendment Number One to the Second Amended and Restated Strategic Collaboration and License Agreement between the Registrant and Alnylam Pharmaceuticals, Inc. dated July 13, 2015, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2015 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.55	Strategic Collaboration Agreement between the Registrant and AstraZeneca AB dated July 31, 2015, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2015 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.56	Amendment No. 1 to the Strategic Collaboration Agreement by and between the Registrant and AstraZeneca AB, dated October 18, 2018, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2018 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.57	Amendment No. 2 dated April 30, 2020 to the Strategic Collaboration Agreement by and between the Registrant and AstraZeneca AB dated July 31, 2015, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2020 and incorporated herein by reference. Portions of this exhibit have been omitted because they are both (i) not material and (ii) is the type that the Registrant treats as private or confidential.

10.58	Amendment No. 3 dated December 17, 2020 to the Strategic Collaboration Agreement by and between the Registrant and AstraZeneca AB dated July 31, 2015, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2020 and incorporated herein by reference. Portions of this exhibit have been omitted because they are both (i) not material and (ii) the type that the Registrant treats as private or confidential.
10.59	Strategic Collaboration, Option and License Agreement by and among Akcea Therapeutics, Inc. and Novartis Pharma AG, dated January 5, 2017, filed as an exhibit to Akcea Therapeutics, Inc.'s Form S-1 filed March 27, 2017 and incorporated herein by reference.
10.60	Amendment No. 1 to the Strategic Collaboration, Option and License Agreement between Akcea Therapeutics, Inc. and Novartis Pharma AG dated February 22, 2019, filed as an exhibit to Akcea Therapeutics, Inc.'s Quarterly Report on Form 10-Q for the quarter ended March 30, 2019 and incorporated herein by reference.
10.61	Stock Purchase Agreement among the Registrant, Akcea Therapeutics, Inc. and Novartis Pharma AG dated January 5, 2017, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2017 and incorporated herein by reference.
10.62	Research Collaboration, Option and License Agreement between the Registrant and Biogen MA Inc. dated December 19, 2017, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2017 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.63	Development, Commercialization, Collaboration, and License Agreement by and between the Registrant and Akcea Therapeutics, Inc., dated March 14, 2018, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018 and incorporated herein by reference.
10.64	Amended and Restated Services Agreement by and between the Registrant and Akcea Therapeutics, Inc., dated March 14, 2018, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018 and incorporated herein by reference.
10.65	New Strategic Neurology Drug Discovery and Development Collaboration, Option and License Agreement by and between the Registrant and Biogen MA Inc., dated April 19, 2018, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.66	Amendment No. 1 to the New Strategic Neurology Drug Discovery and Development Collaboration, Option and License Agreement between the Registrant and Biogen MA Inc., dated August 16, 2019, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2019 and incorporated herein by reference. Portions of this exhibit have been omitted because they are both (i) not material and (ii) the type that the Registrant treats as private or confidential.
10.67	Side Letter dated December 31, 2020 to the New Strategic Neurology Drug Discovery and Development Collaboration, Option and License Agreement by and between the Registrant and Biogen MA Inc. dated April 19, 2018, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2020 and incorporated herein by reference. Portions of this exhibit have been omitted because they are both (i) not material and (ii) the type that the Registrant treats as private or confidential.
10.68	Stock Purchase Agreement by and between the Registrant and Biogen MA Inc., dated April 19, 2018, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018 and incorporated herein by reference.
10.69	Factor B Development Collaboration, Option and License Agreement by and between the Registrant, F. Hoffmann-La Roche Ltd and Hoffmann-La Roche Inc., dated October 9, 2018, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2018 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.70	First Amendment dated July 8, 2022 to Factor B Development, Collaboration, Option and License Agreement by and between the Registrant, F. Hoffmann-La Roche Ltd and Hoffmann-La Roche Inc., dated October 9, 2018, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2022. Portions of this exhibit have been omitted because they are both (i) not material and (ii) the type that the Registrant treats as private or confidential.
10.71	Second Amended and Restated Strategic Neurology Drug Discovery and Development Collaboration, Option and License Agreement by and between the Registrant and Biogen MA Inc., dated October 17, 2018, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2018 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.72	Letter Agreement between the Registrant and Biogen MA Inc. dated October 28, 2016, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2016 and incorporated herein by reference. Portions of this exhibit have been omitted and separately filed with the SEC with a request for confidential treatment.
10.73	Amendment No. 1 to Second Amended and Restated Strategic Neurology Drug Discovery and Development Collaboration, Option and License Agreement by and between the Registrant and Biogen MA Inc., dated May 2, 2019, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2019 and incorporated herein by reference.

10.74	Side Letter dated June 11, 2020 to the Second Amended and Restated Strategic Neurology Drug Discovery and Development Collaboration, Option and License Agreement by and between the Registrant and Biogen MA Inc. dated October 17, 2018, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2020 and incorporated herein by reference. Portions of this exhibit have been omitted because they are both (i) not material and (ii) the type that the Registrant treats as private or confidential.
10.75	Collaboration and License Agreement by and between the Registrant and BicycleTX Limited dated July 9, 2021, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2021 and incorporated herein by reference. Portions of this exhibit have been omitted because they are both (i) not material and (ii) the type that the Registrant treats as private or confidential.
10.76	Amendment No. 1 dated December 17, 2021 to the Collaboration and License Agreement by and between the Registrant and BicycleTX Limited dated July 9, 2021, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2021 and incorporated herein by reference. Portions of this exhibit have been omitted because they are both (i) not material and (ii) the type that the Registrant treats as private or confidential.
10.77	Amendment No. 2 dated July 28, 2022 to the Collaboration and License Agreement by and between the Registrant and BicycleTx Limited dated July 9, 2021, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2022 and incorporated herein by reference. Portions of this exhibit have been omitted because they are both (i) not material and (ii) the type that the Registrant treats as private or confidential.
10.78	Amended and Restated Neurology Drug Discovery and Development Collaboration, Option and License Agreement by and between the Registrant and Biogen MA Inc. dated July 12, 2021, filed as an exhibit to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2021 and incorporated herein by reference. Portions of this exhibit have been omitted because they are both (i) not material and (ii) the type that the Registrant treats as private or confidential.
10.79	Collaboration and License Agreement by and between Akcea Therapeutics, Inc. and AstraZeneca AB dated December 6, 2021, filed as an exhibit to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2021 and incorporated herein by reference. Portions of this exhibit have been omitted because they are both (i) not material and (ii) the type that the Registrant treats as private or confidential.
10.80	Collaboration and License Agreement between the Registrant and Metagenomi, Inc. dated November 10, 2022. Portions of this exhibit have been omitted because they are both (i) not material and (ii) the type that the Registrant treats as private or confidential.
10.81	Royalty Purchase Agreement by and between the Registrant, Akcea Therapeutics, Inc. and Royalty Pharma Investments 2019 ICAV dated as of January 9, 2023. Portions of this exhibit have been omitted because they are both (i) not material and (ii) the type that the Registrant treats as private or confidential.
14	Code of Ethics.
21.1	List of Subsidiaries for the Registrant.
23.1	Consent of Independent Registered Public Accounting Firm.
24.1	Power of Attorney – Included on the signature page of this Annual Report on Form 10-K.
31.1	Certification by Chief Executive Officer Pursuant to 18 U.S.C. Section 1350 as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification by Chief Financial Officer Pursuant to 18 U.S.C. Section 1350 as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1+	Certification Pursuant to 18 U.S.C. Section 1350 as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101	The following financial statements from the Ionis Pharmaceuticals, Inc. Annual Report on Form 10-K for the year ended December 31, 2022, formatted in Extensive Business Reporting Language (XBRL): (i) consolidated balance sheets, (ii) consolidated statements of operations, (iii) consolidated statements of comprehensive income (loss), (iv) consolidated statements of stockholders' equity (v) consolidated statements of cash flows, and (vi) notes to consolidated financial statements (detail tagged).
104	Cover Page Interactive Data File (formatted in iXBRL and included in exhibit 101).

* Indicates management compensatory plans and arrangements as required to be filed as exhibits to this Report pursuant to Item 14(c).

\+ This certification is deemed not filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liability of that section, nor shall it be deemed incorporated by reference into any filing under the Securities Act of 133, as amended, or the Securities Exchange Act of 1934, as amended.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized on the 22nd day of February, 2023.

IONIS PHARMACEUTICALS, INC.

By: /s/ BRETT P. MONIA
Brett P. Monia, Ph.D.
Chief Executive Officer (Principal executive officer)

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Brett P. Monia and Elizabeth L. Hougen, or any of them, his or her attorney-in-fact, each with the power of substitution, for him or her in any and all capacities, to sign any amendments to this Report, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his or her substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signatures	Title	Date
/s/ BRETT P. MONIA Brett P. Monia, Ph.D.	Director and Chief Executive Officer (Principal executive officer)	February 22, 2023
/s/ ELIZABETH L. HOUGEN Elizabeth L. Hougen	Executive Vice President, Finance and Chief Financial Officer (Principal financial and accounting officer)	February 22, 2023
/s/ JOSEPH LOSCALZO Joseph Loscalzo, M.D., Ph.D.	Chairman of the Board	February 22, 2023
/s/ SPENCER R. BERTHELSEN Spencer R. Berthelsen, M.D.	Director	February 22, 2023
/s/ ALLENE M. DIAZ Allene M. Diaz	Director	February 22, 2023
/s/ MICHAEL HAYDEN Michael Hayden, CM OBC MB ChB PhD FRCP(C) FRSC	Director	February 22, 2023
/s/ JOAN E. HERMAN Joan E. Herman	Director	February 22, 2023
/s/ JOSEPH KLEIN Joseph Klein, III	Director	February 22, 2023
/s/ B. LYNNE PARSHALL B. Lynne Parshall, J.D.	Director and Senior Strategic Advisor	February 22, 2023
/s/ JOSEPH H. WENDER Joseph H. Wender	Lead Independent Director	February 22, 2023

IONIS PHARMACEUTICALS, INC.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors of Ionis Pharmaceuticals, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Ionis Pharmaceuticals, Inc. (the Company) as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive loss, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2022, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 22, 2023 expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Estimated Liability for Clinical Development Costs

Description of the Matter

As of December 31, 2022, the Company accrued $116.5 million for accrued clinical development costs. As discussed in Note 1 to the consolidated financial statements, the Company estimates their liability for clinical development costs incurred and services received but not yet billed for, and maintains an accrual to cover these costs. These costs primarily relate to third-party clinical management costs, laboratory and analysis costs, and investigator grants. The Company estimates their liability using assumptions about study and patient activities and the related expected expenses for those activities determined based on the contracted fees with service providers.

Auditing the Company's accruals for clinical development costs is especially complex as the information necessary to estimate the accruals is accumulated from multiple sources. In addition, in certain circumstances, the determination of the nature and level of services that have been received during the reporting period requires judgment because the timing and pattern of vendor invoicing does not correspond to the level of services provided and there may be delays in invoicing from vendors.

How We Addressed the Matter in Our Audit	We obtained an understanding and evaluated the design and tested the operating effectiveness of controls over the accounting for accrued clinical development costs. This included controls over management's assessment of the assumptions and accuracy of data underlying the accrued clinical development costs estimate. To test the accuracy of the Company's accrued clinical development costs, we performed audit procedures that included, among other procedures, obtaining supporting evidence of the research and development activities performed for significant clinical trials. We corroborated the status of significant clinical development costs through meetings with accounting and clinical project managers. We compared the costs for a sample of transactions against the related invoices and contracts, and examined a sample of subsequent payments to evaluate the accuracy of the accrued clinical development costs and compared the results to the current year accrual.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1989.

San Diego, California
February 22, 2023

IONIS PHARMACEUTICALS, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except share data)

	December 31, 2022	December 31, 2021
ASSETS		
Current assets:		
Cash and cash equivalents	$ 276,472	$ 869,191
Short-term investments	1,710,397	1,245,782
Contracts receivable	25,538	61,896
Inventories	22,033	24,806
Other current assets	168,254	143,374
Total current assets	2,202,694	2,345,049
Property, plant and equipment, net	74,294	178,069
Right-of-use assets	181,544	17,974
Deposits and other assets	75,344	70,598
Total assets	$ 2,533,876	$ 2,611,690
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 17,921	$ 11,904
Accrued compensation	49,178	38,810
Accrued liabilities	140,101	88,560
Income taxes payable	6,249	36
Current portion of deferred contract revenue	90,577	97,714
Other current liabilities	7,535	3,526
Total current liabilities	311,561	240,550
Long-term deferred contract revenue	287,768	351,879
0 percent convertible senior notes, net	622,242	619,119
0.125 percent convertible senior notes, net	544,504	542,314
Long-term lease liabilities	178,941	19,432
Long-term mortgage debt	8,847	59,713
Long-term obligations	7,126	6,946
Total liabilities	1,960,989	1,839,953
Stockholders' equity:		
Common stock, $0.001 par value; 300,000,000 shares authorized, 142,057,736 and 141,210,015 shares issued and outstanding at December 31, 2022 and December 31, 2021, respectively	142	141
Additional paid-in capital	2,059,850	1,964,167
Accumulated other comprehensive loss	(57,480)	(32,668)
Accumulated deficit	(1,429,625)	(1,159,903)
Total stockholders' equity	572,887	771,737
Total liabilities and stockholders' equity	$ 2,533,876	$ 2,611,690

See accompanying notes.

IONIS PHARMACEUTICALS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except for per share amounts)

	Year Ended December 31,		
	2022	**2021**	**2020**
Revenue:			
Commercial revenue:			
SPINRAZA royalties	$ 242,314	$ 267,776	$ 286,583
TEGSEDI and WAYLIVRA revenue, net	30,051	55,500	69,999
Licensing and other royalty revenue	30,993	19,119	8,117
Total commercial revenue	303,358	342,395	364,699
Research and development revenue:			
Collaborative agreement revenue	207,222	468,061	364,565
Eplontersen joint development revenue	76,787	—	—
Total research and development revenue	284,009	468,061	364,565
Total revenue	587,367	810,456	729,264
Expenses:			
Cost of sales	14,116	10,842	11,947
Research, development and patent	833,147	643,453	535,077
Selling, general and administrative	150,295	186,347	354,322
Total operating expenses	997,558	840,642	901,346
Loss from operations	(410,191)	(30,186)	(172,082)
Other income (expense):			
Investment income	25,331	10,044	30,562
Interest expense	(8,122)	(9,349)	(9,510)
Gain (loss) on investments	(7,333)	10,103	16,540
Gain on sale of real estate assets	149,604	—	—
Other expenses	(7,274)	(9,760)	(62)
Loss before income tax benefit (expense)	(257,985)	(29,148)	(134,552)
Income tax benefit (expense)	(11,737)	551	(345,191)
Net loss	(269,722)	(28,597)	(479,743)
Net loss attributable to noncontrolling interest in Akcea Therapeutics, Inc.	—	—	35,480
Net loss attributable to Ionis Pharmaceuticals, Inc. common stockholders	$ (269,722)	$ (28,597)	$ (444,263)
Basic and diluted net loss per share	$ (1.90)	$ (0.20)	$ (3.18)
Shares used in computing basic and diluted net loss per share	141,848	141,021	139,612

See accompanying notes.

IONIS PHARMACEUTICALS, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(In thousands)

	Year Ended December 31,		
	2022	**2021**	**2020**
Net loss	$ (269,722)	$ (28,597)	$ (479,743)
Unrealized gains (losses) on investments, net of tax	(24,395)	(11,486)	3,729
Currency translation adjustment	(417)	(111)	617
Adjustments to other comprehensive loss from purchase of noncontrolling interest of Akcea Therapeutics, Inc.	—	—	(127)
Comprehensive loss	(294,534)	(40,194)	(475,524)
Comprehensive loss attributable to noncontrolling interest in Akcea Therapeutics, Inc.	—	—	(35,480)
Comprehensive loss attributable to Ionis Pharmaceuticals, Inc. common stockholders	$ (294,534)	$ (40,194)	$ (440,044)

See accompanying notes.

IONIS PHARMACEUTICALS, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands)

Description	Common Stock Shares	Common Stock Amount	Additional Paid in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Ionis Stockholders' Equity	Noncontrolling Interest in Akcea Therapeutics, Inc.	Total Stockholders' Equity
Balance at December 31, 2019	140,340	$ 140	$ 1,985,650	$ (25,290)	$ (596,495)	$ 1,364,005	$ 213,454	$ 1,577,459
Net loss	—	—	—	—	(444,263)	(444,263)	—	(444,263)
Change in unrealized gains, net of tax	—	—	—	3,729	—	3,729	—	3,729
Foreign currency translation	—	—	—	617	—	617	—	617
Issuance of common stock in connection with employee stock plans	1,721	1	52,033	—	—	52,034	—	52,034
Purchase of noncontrolling interest of Akcea Therapeutics, Inc., including cash payments for cancellation of Akcea Therapeutics, Inc. equity awards	—	—	(324,022)	301	—	(323,721)	(220,965)	(544,686)
Repurchases and retirements of common stock	(1,478)	(1)	—	—	(90,548)	(90,549)	—	(90,549)
Stock-based compensation expense	—	—	230,117	—	—	230,117	—	230,117
Payments of tax withholdings related to vesting of employee stock awards and exercise of employee stock options	(217)	—	(13,410)	—	—	(13,410)	—	(13,410)
Deferred tax liability adjustment due to purchase of noncontrolling interest of Akcea Therapeutics, Inc.	—	—	7,714	—	—	7,714	—	7,714
Noncontrolling interest in Akcea Therapeutics, Inc.	—	—	(42,563)	(428)	—	(42,991)	7,511	(35,480)
Balance at December 31, 2020	140,366	$ 140	$ 1,895,519	$ (21,071)	$ (1,131,306)	$ 743,282	$ —	$ 743,282
Net loss	—	—	—	—	(28,597)	(28,597)	—	(28,597)
Change in unrealized losses, net of tax	—	—	—	(11,486)	—	(11,486)	—	(11,486)
Foreign currency translation	—	—	—	(111)	—	(111)	—	(111)
Issuance of common stock in connection with employee stock plans	1,132	1	11,563	—	—	11,564	—	11,564
Issuance of warrants	—	—	89,752	—	—	89,752	—	89,752
Purchase of note hedges	—	—	(136,620)	—	—	(136,620)	—	(136,620)
Stock-based compensation expense	—	—	120,678	—	—	120,678	—	120,678
Payments of tax withholdings related to vesting of employee stock awards and exercise of employee stock options	(288)	—	(16,725)	—	—	(16,725)	—	(16,725)
Balance at December 31, 2021	141,210	$ 141	$ 1,964,167	$ (32,668)	$ (1,159,903)	$ 771,737	$ —	$ 771,737
Net loss	—	—	—	—	(269,722)	(269,722)	—	(269,722)
Change in unrealized losses, net of tax	—	—	—	(24,395)	—	(24,395)	—	(24,395)
Foreign currency translation	—	—	—	(417)	—	(417)	—	(417)
Issuance of common stock in connection with employee stock plans	1,194	1	6,372	—	—	6,373	—	6,373
Stock-based compensation expense	—	—	100,264	—	—	100,264	—	100,264
Payments of tax withholdings related to vesting of employee stock awards and exercise of employee stock options	(346)	—	(10,953)	—	—	(10,953)	—	(10,953)
Balance at December 31, 2022	142,058	$ 142	$ 2,059,850	$ (57,480)	$ (1,429,625)	$ 572,887	$ —	$ 572,887

See accompanying notes.

IONIS PHARMACEUTICALS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended December 31,		
	2022	**2021**	**2020**
Operating activities:			
Net loss	$ (269,722)	$ (28,597)	$ (479,743)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:			
Depreciation	14,328	15,487	13,365
Amortization of right-of-use operating lease assets	5,362	1,721	1,731
Amortization of other assets	2,415	2,352	2,064
Amortization of premium on investments, net	7,389	17,776	11,521
Amortization of debt issuance costs	5,373	4,958	3,255
Stock-based compensation expense	100,264	120,678	230,117
Loss on early retirement of debt	—	8,627	—
Non-cash losses related to disposal of property, plant and equipment	531	—	—
Gain on sale of real estate assets	(150,135)	—	—
Gain on investments	224	(1,092)	(16,540)
Deferred income taxes, including changes in valuation allowance	—	—	341,729
Non-cash losses related to other assets	2,030	2,707	1,948
Changes in operating assets and liabilities:			
Contracts receivable	36,358	14,308	(13,170)
Inventories	2,773	(2,841)	(1,261)
Other current and long-term assets	(24,682)	(877)	(9,975)
Long-term income taxes receivable (payable)	—	1,008	(89)
Accounts payable	1,094	(6,000)	(2,755)
Income taxes	6,213	(1,288)	(31,190)
Accrued compensation	10,368	(26,918)	28,371
Accrued liabilities and other current liabilities	46,695	(8,381)	32,424
Deferred contract revenue	(71,248)	(82,829)	(75,910)
Net cash provided by (used in) operating activities	(274,370)	30,799	35,892
Investing activities:			
Purchases of short-term investments	(1,485,772)	(1,124,193)	(1,570,410)
Proceeds from sale of short-term investments	989,152	1,344,185	1,885,935
Purchases of property, plant and equipment	(15,721)	(11,955)	(35,120)
Proceeds from sale of real estate assets	254,083	—	—
Acquisition of licenses and other assets, net	(4,378)	(5,946)	(5,928)
Purchases of strategic investments	—	(7,185)	—
Net cash provided by (used in) investing activities	(262,636)	194,906	274,477
Financing activities:			
Proceeds from equity, net	6,373	11,565	52,036
Payments of tax withholdings related to vesting of employee stock awards and exercise of employee stock options	(10,953)	(16,725)	(13,411)
Proceeds from the issuance of 0 percent convertible senior notes	—	632,500	—
Royalty monetization issuance costs	(29)	—	—
0 percent convertible senior notes issuance costs	—	(15,609)	—
Repurchase of $247.9 million principal amount of 1 percent convertible senior notes	—	(256,963)	—
Repayment of remaining principal amount of 1 percent convertible senior notes at maturity	—	(61,967)	—
Proceeds from issuance of warrants	—	89,752	—
Purchase of note hedges	—	(136,620)	—
Repurchases and retirements of common stock	—	—	(90,548)
Principal payments on debt	(50,686)	—	—
Purchase of noncontrolling interest of Akcea Therapeutics, Inc., including cash payments for cancellation of Akcea Therapeutics, Inc. equity awards	—	—	(544,686)
Net cash provided by (used in) financing activities	(55,295)	245,933	(596,609)
Effects of exchange rates on cash	(418)	(111)	617
Net increase (decrease) in cash and cash equivalents	(592,719)	471,527	(285,623)
Cash and cash equivalents at beginning of year	869,191	397,664	683,287
Cash and cash equivalents at end of year	$ 276,472	$ 869,191	$ 397,664
Supplemental disclosures of cash flow information:			
Interest paid	$ 2,898	$ 4,778	$ 6,247
Income taxes paid	$ 5,010	$ 38	$ 25,855
Supplemental disclosures of non-cash investing and financing activities:			
Right-of-use assets obtained in exchange for lease liabilities	$ 168,931	$ 6,641	$ 2,149
Amounts accrued for capital and patent expenditures	$ 4,767	$ 705	$ 4,059

See accompanying notes.

1. Organization and Significant Accounting Policies

Basis of Presentation

In our consolidated financial statements we included the accounts of Ionis Pharmaceuticals, Inc. and the consolidated results of our subsidiary, Akcea Therapeutics, Inc. and its wholly owned subsidiaries ("we", "us" or "our"). We formed Akcea in December 2014. In July 2017, Akcea completed an initial public offering, or IPO, which reduced our ownership of Akcea's common stock below 100 percent. In October 2020, we completed a merger transaction with Akcea such that following the completion of the merger, Akcea became our wholly owned subsidiary. We will refer to this transaction as the Akcea Merger throughout the remainder of this document. We reflected changes in our ownership percentage in our financial statements as an adjustment to noncontrolling interest in the period the changes occurred.

Organization and Business Activity

We incorporated in California on January 10, 1989. In conjunction with our IPO, we reorganized as a Delaware corporation in April 1991. We were organized principally to develop human therapeutic medicines using antisense technology. In December 2015, we changed our name from Isis Pharmaceuticals, Inc. to Ionis Pharmaceuticals, Inc.

Use of Estimates

We prepare our consolidated financial statements in conformity with accounting principles generally accepted in the U.S. that require us to make estimates and assumptions that affect the amounts reported in our consolidated financial statements and accompanying notes. Actual results could differ from our estimates.

Revenue Recognition

We generally recognize revenue when we have satisfied all contractual obligations and are reasonably assured of collecting the resulting receivable. We are often entitled to bill our customers and receive payment from our customers in advance of recognizing the revenue. In the instances in which we have received payment from our customers in advance of recognizing revenue, we include the amounts within deferred revenue in our consolidated balance sheets.

At contract inception, we analyze our collaboration arrangements to assess whether such arrangements involve joint operating activities performed by parties that are both active participants in the activities and exposed to significant risks and rewards dependent on the commercial success of such activities and therefore within the scope of ASC Topic 808, *Collaborative Arrangements*, or ASC 808. ASC 808 does not address the recognition and measurement of collaborative arrangements and instead refers companies to use other authoritative accounting literature. For collaboration arrangements within the scope of ASC 808 that contain multiple elements, we first determine which elements of the collaboration reflect a vendor-customer relationship and therefore are within the scope of ASC 606, *Revenue from Contracts with Customers*. When we determine elements of a collaboration do not reflect a vendor-customer relationship, we consistently apply the reasonable and rational policy election we made by analogizing to authoritative accounting literature.

We evaluate the income statement classification for presentation of amounts due from or owed to other participants associated with multiple activities in a collaboration arrangement based on the nature of each separate activity. For example, in our eplontersen collaboration with AstraZeneca, we recognize funding received from AstraZeneca for co-development activities as revenue; while we recognize cost sharing payments to and from AstraZeneca associated with co-commercialization activities and co-medical affairs activities as SG&A expense and research and development expense, respectively.

Steps to Recognize Revenue

For elements of our contractual relationships that we account for under ASC 606, we use a five-step process to determine the amount of revenue we should recognize and when we should recognize it. The five-step process is as follows:

1. Identify the contract

Accounting rules require us to first determine if we have a contract with our partner, including confirming that we have met each of the following criteria:

- We and our partner approved the contract and we are both committed to perform our obligations;
- We have identified our rights, our partner's rights and the payment terms;
- We have concluded that the contract has commercial substance, meaning that the risk, timing, or amount of our future cash flows is expected to change as a result of the contract; and
- We believe collectability of the consideration is probable.

2. Identify the performance obligations

We next identify our performance obligations, which represent the distinct goods and services we are required to provide under the contract.

We frequently enter into a collaboration agreement in which we provide our partner with an option to license a medicine in the future. We may also provide our partner with an option to request that we provide additional goods or services in the future, such as active pharmaceutical ingredient, or API. We evaluate whether these options are material rights at the inception of the agreement. If we determine an option is a material right, we will consider the option a separate performance obligation. Historically, we have concluded that the options we grant to license a medicine in the future or to provide additional goods and services as requested by our partner are not material rights because these items are contingent upon future events that may not occur and are not priced at a significant discount. When a partner exercises its option to license a medicine or requests additional goods or services, then we identify a new performance obligation for that item.

In some cases, we deliver a license at the start of an agreement. If we determine that our partner has full use of the license and we do not have any additional material performance obligations related to the license after delivery, then we consider the license to be a separate performance obligation. Refer to the section titled, *Eplontersen Collaboration with AstraZeneca*, below for further discussion of a collaboration that included an upfront license payment.

3. Determine the transaction price

We then determine the transaction price by reviewing the amount of consideration we are eligible to earn under the collaboration agreement, including any variable consideration. Under our collaboration agreements, consideration typically includes fixed consideration in the form of an upfront payment and variable consideration in the form of potential milestone payments, license fees and royalties. At the start of an agreement, our transaction price usually consists of only the upfront payment. We do not typically include any payments we may receive in the future in our initial transaction price because the payments are not probable and are contingent on certain future events. We reassess the total transaction price at each reporting period to determine if we should include additional payments in the transaction price.

Milestone payments are our most common type of variable consideration. We recognize milestone payments using the most likely amount method because we will either receive the milestone payment or we will not, which makes the potential milestone payment a binary event. The most likely amount method requires us to determine the likelihood of earning the milestone payment. We include a milestone payment in the transaction price once it is probable we will achieve the milestone event. Most often, we do not consider our milestone payments probable until we or our partner achieve the milestone event because the majority of our milestone payments are contingent upon events that are not within our control and/ or are usually based on scientific progress which is inherently uncertain.

4. Allocate the transaction price

Next, we allocate the transaction price to each of our performance obligations. When we have to allocate the transaction price to more than one performance obligation, we make estimates of the relative stand-alone selling price of each performance obligation because we do not typically sell our goods or services on a stand-alone basis. We then allocate the transaction price to each performance obligation based on the relative stand-alone selling price. We do not reallocate the transaction price after the start of an agreement to reflect subsequent changes in stand-alone selling prices.

We may engage a third party, independent valuation specialist to assist us with determining a stand-alone selling price for collaborations in which we deliver a license at the start of an agreement. We estimate the stand-alone selling price of these licenses using valuation methodologies, such as the relief from royalty method. Under this method, we estimate the amount of income, net of taxes, for the license. We then discount the projected income to present value. The significant inputs we use to determine the projected income of a license could include:

- Estimated future product sales;
- Estimated royalties we may receive from future product sales;
- Estimated contractual milestone payments we may receive;
- Estimated expenses we may incur;
- Estimated income taxes; and
- A discount rate.

We typically estimate the selling price of research and development, or R&D, services by using our internal estimates of the cost to perform the specific services. The significant inputs we use to determine the selling price of our R&D services include:

- The estimated number of internal hours we will spend performing these services;
- The estimated cost of work we will perform;
- The estimated cost of work that we will contract with third parties to perform; and
- The estimated cost of API we will use.

For purposes of determining the stand-alone selling price of the R&D services we perform and the API we will deliver, accounting guidance requires us to include a markup for a reasonable profit margin.

5. Recognize revenue

We recognize revenue in one of two ways, over time or at a point in time. We recognize revenue over time when we are executing on our performance obligation over time and our partner receives benefit over time. For example, we recognize revenue over time when we provide R&D services. We recognize revenue at a point in time when our partner receives full use of an item at a specific point in time. For example, we recognize revenue at a point in time when we deliver a license or API to a partner.

For R&D services that we recognize over time, we measure our progress using an input method. The input methods we use are based on the effort we expend or costs we incur toward the satisfaction of our performance obligation. We estimate the amount of effort we expend, including the time we estimate it will take us to complete the activities, or costs we incur in a given period, relative to the estimated total effort or costs to satisfy the performance obligation. This results in a percentage that we multiply by the transaction price to determine the amount of revenue we recognize each period. This approach requires us to make numerous estimates and use significant judgement. If our estimates or judgements change over the course of the collaboration, they may affect the timing and amount of revenue that we recognize in the current and future periods.

Amendments to Agreements

From time to time we amend our collaboration agreements. When this occurs, we are required to assess the following items to determine the accounting for the amendment:

1) If the additional goods and/or services are distinct from the other performance obligations in the original agreement; and
2) If the goods and/or services are sold at a stand-alone selling price.

If we conclude the goods and/or services in the amendment are distinct from the performance obligations in the original agreement and at a stand-alone selling price, we account for the amendment as a separate agreement. If we conclude the goods and/or services are not distinct and are sold at a stand-alone selling price, we then assess whether the remaining goods or services are distinct from those already provided. If the goods and/or services are distinct from what we have already provided, then we allocate the remaining transaction price from the original agreement and the additional transaction price from the amendment to the remaining goods and/or services. If the goods and/or services are not distinct from what we have already provided, we update the transaction price for our single performance obligation and recognize any change in our estimated revenue as a cumulative-effect adjustment.

Multiple agreements

From time to time, we may enter into separate agreements at or near the same time with the same partner. We evaluate such agreements to determine whether we should account for them individually as distinct arrangements or whether the separate agreements should be combined and accounted for together. We evaluate the following to determine the accounting for the agreements:

- Whether the agreements were negotiated together with a single objective;
- Whether the amount of consideration in one contract depends on the price or performance of the other agreement; or
- Whether the goods and/or services promised under the agreements are a single performance obligation.

Our evaluation involves significant judgment to determine whether a group of agreements might be so closely related that accounting guidance requires us to account for them as a combined arrangement.

Refer to Part IV, Item 15, Note 7, *Collaborative Arrangements and Licensing Agreements*, for further discussion of our 2018 Strategic Neurology collaboration with Biogen that included multiple agreements which we negotiated concurrently and in contemplation of one another.

Our Revenue Sources

The following are sources of revenue and when we typically recognize revenue.

Commercial Revenue: SPINRAZA royalties and Licensing and other royalty revenue

We earn commercial revenue primarily in the form of royalty payments on net sales of SPINRAZA.

We recognize royalty revenue, including royalties from SPINRAZA sales, in the period in which the counterparty sells the related product and recognizes the related revenue, which in certain cases may require us to estimate our royalty revenue.

Commercial Revenue: TEGSEDI and WAYLIVRA revenue, net

In January 2021 and April 2021, we entered into distribution agreements with Swedish Orphan Biovitrum AB, or Sobi, in which Sobi began commercializing TEGSEDI and WAYLIVRA in Europe and TEGSEDI in North America, respectively. Under our agreements, we are responsible for supplying finished goods inventory to Sobi and Sobi is responsible for selling each medicine to the end customer. As a result of these agreements, we earn a distribution fee on net sales from Sobi for each medicine.

Under our collaboration agreement with PTC Therapeutics International Limited, or PTC, PTC is responsible for commercializing TEGSEDI and WAYLIVRA in Latin America and Caribbean countries. Under our agreement, we started receiving royalties from PTC for TEGSEDI sales in December 2021.

Prior to the second quarter of 2021 in North America, we sold TEGSEDI through exclusive distribution agreements with third-party logistics companies, or 3PLs, that took title to TEGSEDI. The 3PLs then distributed TEGSEDI to a specialty pharmacy and a specialty distributor, which we collectively refer to as wholesalers, who then distributed TEGSEDI to health care providers and patients. In the United States, or U.S., we had a single 3PL as our sole customer and in Canada we also had a single 3PL as our sole customer. Prior to 2021 in Europe, we sold TEGSEDI and WAYLIVRA to hospitals and pharmacies, which were our customers, using 3PLs as distributors.

Under our distribution agreements with Sobi we concluded that our performance obligation is to provide services to Sobi over the term of the agreement, which includes supplying finished goods inventory to Sobi. We are also responsible for maintaining the marketing authorization for TEGSEDI and WAYLIVRA in major markets and for leading the global commercial strategy for each medicine. We view this performance obligation as a series of distinct activities that are substantially the same. Therefore, we recognize as revenue the price Sobi pays us for the inventory when we deliver the finished goods inventory to Sobi. We also recognize distribution fee revenue based on Sobi's net sales of TEGSEDI and WAYLIVRA. Under our agreements with Sobi, Sobi does not generally have a right of return.

Prior to our distribution agreements with Sobi, we recognized TEGSEDI and WAYLIVRA commercial revenue in the period when our customer obtained control of our products, which occurred at a point in time upon transfer of title to the customer. We classified payments to customers or other parties in the distribution channel for services that were distinct and priced at fair value as selling, general and administrative, or SG&A, expenses in our consolidated statements of operations. We classified payments to customers or other parties in the distribution channel that did not meet those criteria as a reduction of revenue, as discussed further below. We excluded from revenues taxes collected from customers relating to TEGSEDI and WAYLIVRA commercial revenue and remitted these amounts to governmental authorities.

Research and development revenue under collaboration agreements

We enter into collaboration agreements to license and sell our technology on an exclusive or non-exclusive basis. Our collaboration agreements typically contain multiple elements, or performance obligations, including technology licenses or options to obtain technology licenses, R&D services and manufacturing services.

We provide details about our collaboration agreements in Note 7, *Collaborative Arrangements and Licensing Agreements*. For each collaboration, we discuss our specific revenue recognition conclusions, including our significant performance obligations under each collaboration.

Upfront payments: When we enter into a collaboration agreement and receive an upfront payment, we typically record the entire upfront payment as deferred revenue if our only performance obligation is for R&D services we will provide in the future. We amortize the upfront payment into revenue as we perform the R&D services.

Milestone payments: We include additional consideration in the transaction price when it is probable. We typically include milestone payments for R&D services in the transaction price when they are achieved. We include these milestone payments when they are achieved because typically there is considerable uncertainty in the research and development processes that trigger these payments. Similarly, we include approval milestone payments in the transaction price once the medicine is approved by the applicable regulatory agency. We will recognize sales-based milestone payments in the period in which we achieve the milestone under the sales-based royalty exception allowed under accounting rules.

We recognize milestone payments that relate to an ongoing performance obligation over our period of performance. For example, when we achieve a milestone payment from a partner for advancing a clinical study under a collaboration agreement, we add the milestone payment to the transaction price if the milestone relates to an ongoing R&D services performance obligation and recognize revenue related to the milestone payment over our estimated period of performance. If we have partially completed our performance obligation, then we record a cumulative-effect adjustment in the period we add the milestone to the transaction price.

Conversely, we recognize in full those milestone payments that we earn based on our partners' activities when our partner achieves the milestone event and we do not have a performance obligation.

License fees: We generally recognize as revenue the total amount we determine to be the relative stand-alone selling price of a license when we deliver the license to our partner. This is because our partner has full use of the license and we do not have any additional performance obligations related to the license after delivery.

Sublicense fees: We recognize sublicense fee revenue in the period in which a party, who has already licensed our technology, further licenses the technology to another party because we do not have any performance obligations related to the sublicense.

Eplontersen Collaboration with AstraZeneca

In December 2021, we entered into a joint development and commercialization agreement with AstraZeneca to develop and commercialize eplontersen for the treatment of transthyretin amyloidosis, or ATTR. We are jointly developing and preparing to commercialize eplontersen with AstraZeneca in the U.S. We granted AstraZeneca exclusive rights to commercialize eplontersen outside the U.S., except certain countries in Latin America. Under the terms of the agreement, we received a $200 million upfront payment in 2021.

We evaluated our eplontersen collaboration under ASC 808 and identified four material components: (i) the license we granted to AstraZeneca in 2021, (ii) the co-development activities that we and AstraZeneca are performing, (iii) the co-commercialization activities that we and AstraZeneca are performing and (iv) the co-medical affairs activities that we and AstraZeneca are performing.

We determined that we had a vendor-customer relationship within the scope of ASC 606 for the license we granted to AstraZeneca and as a result we had one performance obligation. For our sole performance obligation, we determined the transaction price was the $200 million upfront payment we received. We recognized the upfront payment in full in 2021 because we did not have any remaining performance obligations after we delivered the license to AstraZeneca.

We also concluded that the co-development activities, the co-commercialization activities and the co-medical affairs activities are within the scope of ASC 808 because we and AstraZeneca are active participants exposed to the risks and benefits of the activities under the collaboration and therefore do not have a vendor-customer relationship. AstraZeneca is currently responsible for 55 percent of the costs associated with the ongoing global Phase 3 development program. Because we are leading the Phase 3 development program, we made an accounting policy election to recognize as non-customer revenue the cost-share funding from AstraZeneca, net of our share of AstraZeneca's development expenses, in the same period we incur the related development expenses. As AstraZeneca is responsible for the majority of the commercial and medical affairs costs in the U.S. and all costs associated with bringing eplontersen to market outside the U.S., we made an accounting policy election to recognize cost-share funding we receive from AstraZeneca related to commercial and medical affairs activities as reductions of our SG&A expense and R&D expense, respectively.

Contracts Receivable

Our contracts receivable balance represents the amounts we have billed our partners or customers and that are due to us unconditionally for goods we have delivered or services we have performed. When we bill our partners or customers with payment terms based on the passage of time, we consider the contracts receivable to be unconditional. We typically receive payment within one quarter of billing our partner or customer.

As of December 31, 2022, approximately 82.5 percent of our contracts receivables were from one significant customer. As of December 31, 2021, approximately 93.8 percent of our contracts receivables were from two significant customers.

Unbilled SPINRAZA Royalties

Our unbilled SPINRAZA royalties represent our right to receive consideration from Biogen in advance of when we are eligible to bill Biogen for SPINRAZA royalties. We include these unbilled amounts in other current assets in our consolidated balance sheets.

Deferred Revenue

We are often entitled to bill our customers and receive payment from our customers in advance of our obligation to provide services or transfer goods to our partners. In these instances, we include the amounts in deferred revenue in our consolidated balance sheets. During the years ended December 31, 2022 and 2021, we recognized $73.5 million and $98.1 million of revenue from amounts that were in our beginning deferred revenue balance for each respective period. For further discussion, refer to our revenue recognition policy above.

Cost of Sales

Our cost of sales is comprised of costs related to our commercial revenue, including manufacturing costs, transportation and freight costs and indirect overhead costs associated with the manufacturing and distribution of our products. We also may include certain period costs related to manufacturing services and inventory adjustments in cost of sales.

Research, Development and Patent Expenses

Our research, development and patent expenses include wages, benefits, facilities, supplies, external services, clinical trial and manufacturing costs, patents and other expenses that are directly related to our research and development operations. We expense research and development costs as we incur them. When we make payments for research and development services prior to the services being rendered, we record those amounts as prepaid assets in our consolidated balance sheets and we expense them as the services are provided. A portion of the costs included in research and development expenses are costs associated with our partner agreements. In 2022, 2021 and 2020, patent expenses were $4.7 million, $5.3 million and $4.1 million, respectively.

Income Taxes

We account for income taxes using the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in our financial statements or tax returns. In addition, deferred tax assets are recorded for the future benefit of utilizing net operating losses and research and development credit carryforwards. We record a valuation allowance when necessary to reduce our net deferred tax assets to the amount expected to be realized.

We apply the authoritative accounting guidance prescribing a threshold and measurement attribute for the financial recognition and measurement of a tax position taken or expected to be taken in a tax return. We recognize liabilities for uncertain tax positions based on a two-step process. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. The second step requires us to estimate and measure the tax benefit as the largest amount that is more than 50 percent likely to be realized upon ultimate settlement.

We are required to use significant judgment in evaluating our uncertain tax positions and determining our provision for income taxes. Although we believe our reserves are reasonable, we can provide no assurance that the final tax outcome of these matters will not be different from that which we have reflected in our historical income tax provisions and accruals. We adjust these reserves for changing facts and circumstances, such as the closing of a tax audit or the refinement of an estimate. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences may impact the provision for income taxes in the period in which we make such determination.

We are also required to use significant judgment in determining any valuation allowance recorded against our deferred tax assets. In assessing the need for a valuation allowance, we consider all available evidence, including scheduled reversal of deferred tax liabilities, past operating results, the feasibility of tax planning strategies and estimates of future taxable income. We base our estimates of future taxable income on assumptions that are consistent with our plans. The assumptions we use represent our best estimates and involve inherent uncertainties and the application of our judgment. Should actual amounts differ from our estimates, the amount of our tax expense and liabilities we recognize could be materially impacted. We record a valuation allowance to reduce the balance of our net deferred tax assets to the amount we believe is more-likely-than-not to be realized.

We do not provide for a U.S. income tax liability and foreign withholding taxes on undistributed foreign earnings of our foreign subsidiaries.

Basic and Diluted Net Loss per Share

Basic net loss per share

We compute basic net loss per share by dividing the total net loss attributable to our common stockholders by our weighted-average number of common shares outstanding during the period. For the years ended December 31, 2022 and 2021, we did not have to consider Akcea results separately in our calculation because we owned 100 percent of Akcea for the entire period. Our basic net loss per share for the years ended December 31, 2022 and 2021 was $1.90 and $0.20, respectively.

For the year ended December 31, 2020, we calculated total net loss attributable to our common stockholders using our net loss for Ionis on a stand-alone basis plus our share of Akcea's net loss for the period. To calculate the portion of Akcea's net loss attributable to our ownership, we multiplied Akcea's net loss per share by the weighted average shares we owned in Akcea. As a result of this calculation, our total net loss available to Ionis common stockholders for the calculation of net loss per share was different than net loss attributable to Ionis Pharmaceuticals, Inc. common stockholders in our consolidated statements of operations.

We calculated our basic net loss per share for the year ended December 31, 2020 as follows (in thousands, except per share amounts):

Year Ended December 31, 2020	Weighted Average Shares Owned in Akcea	Akcea's Net Loss Per Share	Basic Net Loss Per Share Calculation
Akcea's net loss in the pre-merger period attributable to our ownership	77,095	$ (1.45)	$ (111,775)
Akcea's net loss in the post-merger period attributable to our ownership			(85,987)
Akcea's total net loss attributable to our ownership			$ (197,762)
Ionis' stand-alone net loss			(246,702)
Net loss available to Ionis common stockholders			$ (444,464)
Weighted average shares outstanding			139,612
Basic net loss per share			$ (3.18)

Diluted net loss per share

For the years ended December 31, 2022, 2021 and 2020, we incurred a net loss; therefore, we did not include dilutive common equivalent shares in the computation of diluted net loss per share because the effect would have been anti-dilutive. Common stock underlying the following would have had an anti-dilutive effect on net loss per share:

- 0.125 percent convertible senior notes, or 0.125% Notes;
- Note hedges related to the 0.125% Notes;
- 1 percent convertible senior notes, or 1% Notes;
- Dilutive stock options;
- Unvested restricted stock units, or RSUs;
- Unvested performance restricted stock units, or PRSUs; and
- Employee Stock Purchase Plan, or ESPP.

For the years ended December 31, 2022 and 2021, common stock underlying the following would also have had an anti-dilutive effect on net loss per share:

- 0 percent convertible senior notes, or 0% Notes; and
- Note hedges related to the 0% Notes.

Additionally as of December 31, 2022 and 2021, we had warrants related to our 0 percent and 0.125 percent Notes outstanding. We will include the shares issuable under these warrants in our calculation of diluted earnings per share when the average market price per share of our common stock for the reporting period exceeds the strike price of the warrants.

Stock-Based Compensation Expense

We measure stock-based compensation expense for equity-classified awards, principally related to stock options, RSUs, PRSUs and stock purchase rights under our ESPP based on the estimated fair value of the award on the date of grant. We recognize the value of the portion of the award that we ultimately expect to vest as stock-based compensation expense over the requisite service period in our consolidated statements of operations. We reduce stock-based compensation expense for estimated forfeitures at the time of grant and revise in subsequent periods if actual forfeitures differ from those estimates.

We recognize compensation expense for stock options granted, RSUs, PRSUs and stock purchase rights under the ESPP using the accelerated multiple-option approach. Under the accelerated multiple-option approach (also known as the graded-vesting method), we recognize compensation expense over the requisite service period for each separately vesting tranche of the award as though the award were in substance multiple awards, which results in the expense being front-loaded over the vesting period.

Stock Options and Stock Purchase Rights:

We use the Black-Scholes model to estimate the fair value of stock options granted and stock purchase rights under our ESPP. On the grant date, we use our stock price and assumptions regarding a number of variables to determine the estimated fair value of stock-based payment awards. These variables include, but are not limited to, our expected stock price volatility over the term of the awards, and actual and projected employee stock option exercise behaviors. The expected term of stock options granted represents the period of time that we expect them to be outstanding. Historically, we estimated the expected term of options granted based on historical exercise patterns. In 2021, our Compensation Committee approved an amendment to the 2011 Equity Incentive Plan, or 2011 Plan, and the 2020 Equity Incentive Plan, or 2020 Plan, that increased the contractual term of stock options granted under these plans from seven years to ten years for stock options granted on January 1, 2022 and thereafter. We determined that we are unable to rely on our historical exercise data as a basis for estimating the expected life of stock options granted to employees following this change because the contractual term changed and we have no other means to reasonably estimate future exercise behavior. We therefore used the simplified method for determining the expected life of stock options granted to employees in the year ended December 31, 2022. Under the simplified method, we calculate the expected term as the average of the time-to-vesting and the contractual life of the options. As we gain additional historical information, we will transition to calculating our expected term based on our historical exercise patterns.

RSU's:

The fair value of RSUs is based on the market price of our common stock on the date of grant. The RSUs we have granted to employees vest annually over a four-year period. The RSUs we granted to our board of directors prior to June 2020 vest annually over a four-year period. RSUs granted to our board of directors after June 2020 fully vest after one year.

PRSU's:

Beginning in 2020, we added PRSU awards to the compensation for our Chief Executive Officer, Dr. Brett Monia. Beginning in 2022, we added PRSU awards to the compensation for our other Section 16 officers. Under the terms of the grants, one third of the PRSUs may vest at the end of three separate performance periods spread over the three years following the date of grant (i.e., the one-year period commencing on the date of grant and ending on the first anniversary of the date of grant; the two-year period commencing on the date of grant and ending on the second anniversary of the date of grant; and the three-year period commencing on the date of grant and ending on the third anniversary of the date of grant) based on our relative total shareholder return, or TSR, as compared to a peer group of companies, and as measured, in each case, at the end of the applicable performance period. Under the terms of the grants no number of PRSUs is guaranteed to vest and the actual number of PRSUs that will vest at the end of each performance period may be anywhere from zero to 150 percent of the target number depending on our relative TSR.

We determined the fair value of the PRSUs using a Monte Carlo model because the performance target is based on our relative TSR, which represents a market condition. We are recognizing the grant date fair value of these awards as stock-based compensation expense using the accelerated multiple-option approach over the vesting period.

Refer to Part IV, Item 15, Note 5, *Stockholders' Equity,* for additional information regarding our stock-based compensation plans.

Noncontrolling Interest in Akcea Therapeutics, Inc.

Since Akcea's IPO in July 2017 and prior to the Akcea Merger in October 2020, the shares of Akcea's common stock third parties owned represented an interest in Akcea's equity that we did not control. During this period our ownership ranged from 68 percent to 77 percent. However, as we maintained overall control of Akcea through our voting interest, we reflected the assets, liabilities and results of operations of Akcea in our consolidated financial statements. Since Akcea's IPO in July 2017 and through the closing of the Akcea Merger, we reflected the noncontrolling interest attributable to other owners of Akcea's common stock on a separate line in our statements of operations and a separate line within stockholders' equity in our consolidated balance sheets. In addition, through the closing of the Akcea Merger, we recorded a noncontrolling interest adjustment to account for the stock options Akcea granted, which if exercised, would have diluted our ownership in Akcea. This adjustment was a reclassification within stockholders' equity from additional paid-in capital to noncontrolling interest in Akcea equal to the amount of stock-based compensation expense Akcea had recognized. Additionally, we reflected changes in our ownership percentage in our financial statements as an adjustment to noncontrolling interest in the period the change occurred.

Accumulated Other Comprehensive Loss

Accumulated other comprehensive loss is comprised of unrealized gains and losses on investments, net of taxes and currency translation adjustments. The following table summarizes changes in accumulated other comprehensive loss for the years ended December 31, 2022, 2021 and 2020 (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Beginning balance accumulated other comprehensive loss	$ (32,668)	$ (21,071)	$ (25,290)
Unrealized gains (losses) on securities, net of tax (1)	(24,395)	(11,486)	3,729
Currency translation adjustment	(417)	(111)	617
Adjustments to other comprehensive loss from purchase of noncontrolling interest of Akcea Therapeutics, Inc.	—	—	(127)
Net other comprehensive income (losses) for the year	(24,812)	(11,597)	4,219
Ending balance accumulated other comprehensive loss	$ (57,480)	$ (32,668)	$ (21,071)

(1) We did not have tax expense included in our other comprehensive loss for the years ended December 31, 2022, 2021 and 2020.

Concentration of Credit Risk

Financial instruments that potentially subject us to concentrations of credit risk consist primarily of cash equivalents, short-term investments and receivables. We place our cash equivalents and short-term investments with reputable financial institutions. We primarily invest our excess cash in commercial paper and debt instruments of the U.S. Treasury, financial institutions, corporations, and U.S. government agencies with strong credit ratings and an investment grade rating at or above A-1, P-1 or F-1 by Moody's, Standard & Poor's, or S&P, or Fitch, respectively. We have established guidelines relative to diversification and maturities that maintain safety and liquidity. We periodically review and modify these guidelines to maximize trends in yields and interest rates without compromising safety and liquidity.

Fair Value Measurements

We have estimated the fair value of our financial instruments. The amounts reported for cash, accounts receivable, accounts payable and accrued expenses approximate the fair value because of their short maturities. We report our investment securities at their estimated fair value based on quoted market prices for identical or similar instruments.

Cash, Cash Equivalents and Investments

We consider all liquid investments with maturities of three months or less when we purchase them to be cash equivalents. Our short-term investments have initial maturities of greater than three months from date of purchase. We classify our short-term debt investments as "available-for-sale" and carry them at fair market value based upon prices on the last day of the fiscal period for identical or similar items. We record unrealized gains and losses on debt securities as a separate component of comprehensive income (loss) and include net realized gains and losses in gain (loss) on investments in our consolidated statements of operations. We use the specific identification method to determine the cost of securities sold.

We also have equity investments of less than 20 percent ownership in publicly and privately held biotechnology companies that we received as part of a technology license or partner agreement. At December 31, 2022, we held equity investments in three publicly traded companies and eight privately held companies.

We are required to measure and record our equity investments at fair value and to recognize the changes in fair value in our consolidated statements of operations. We account for our equity investments in privately held companies at their cost minus impairments, plus or minus changes resulting from observable price changes in orderly transactions for the identical or similar investment of the same issuer.

Inventories

We reflect our inventory in our consolidated balance sheets at the lower of cost or net realizable value under the first-in, first-out method, or FIFO. We capitalize the costs of raw materials that we purchase for use in producing our medicines because until we use these raw materials, they have alternative future uses, which we refer to as clinical raw materials. We include in inventory raw material costs for medicines that we manufacture for our partners under contractual terms and that we use primarily in our clinical development activities and drug products. We can use each of our raw materials in multiple products and, as a result, each raw material has future economic value independent of the development status of any single medicine. For example, if one of our medicines failed, we could use the raw materials for that medicine to manufacture our other medicines. We expense these costs as R&D expenses when we begin to manufacture API for a particular medicine if the medicine has not been approved for marketing by a regulatory agency. Our raw materials- commercial inventory includes API for our commercial medicines. We capitalize material, labor and overhead costs as part of our raw materials- commercial inventory.

We review our inventory periodically and reduce the carrying value of items we consider to be slow moving or obsolete to their estimated net realizable value based on forecasted demand compared to quantities on hand. We consider several factors in estimating the net realizable value, including shelf life of our inventory, alternative uses for our medicines in development and historical write-offs.

Our inventory consisted of the following (in thousands):

	December 31,	
	2022	2021
Raw materials:		
Raw materials- clinical	$ 17,061	$ 14,507
Raw materials- commercial	2,699	4,139
Total raw materials	19,760	18,646
Work in process	2,109	5,770
Finished goods	164	390
Total inventory	$ 22,033	$ 24,806

Property, Plant and Equipment

We carry our property, plant and equipment at cost and depreciate it on the straight-line method over its estimated useful life, which consists of the following (in thousands):

	Estimated Useful Lives (in years)	December 31,	
		2022	2021
Computer software, laboratory, manufacturing and other equipment	3 to 10	$ 74,351	$ 72,802
Building, building improvements and building systems	15 to 40	41,158	144,046
Land improvements	20	-	10,077
Leasehold improvements	5 to 15	28,357	20,144
Furniture and fixtures	5 to 10	9,575	10,591
		153,441	257,660
Less accumulated depreciation		(87,716)	(102,653)
		65,725	155,007
Land		8,569	23,062
Total		$ 74,294	$ 178,069

In October 2022, we sold the facilities and related land at our headquarters for net proceeds of $202.6 million in connection with a sale and leaseback transaction. In connection with the sale of these real estate assets, we de-recognized the related land and improvements, building and building improvements, which resulted in a net gain of $150.1 million that we reported in other income (expense) in our consolidated statements of operations.

We depreciate our leasehold improvements using the shorter of the estimated useful life or remaining lease term. We evaluate long-lived assets, which include property, plant and equipment, for impairment on at least a quarterly basis and whenever events or changes in circumstances indicate that we may not be able to recover the carrying amount of such assets.

Accrued Liabilities

Our accrued liabilities consisted of the following (in thousands):

	December 31,	
	2022	2021
Clinical expenses	$ 116,460	$ 65,730
In-licensing expenses	7,945	8,044
Commercial expenses	3,498	2,471
Other miscellaneous expenses	12,198	12,315
Total accrued liabilities	$ 140,101	$ 88,560

Estimated Liability for Clinical Development Costs

We have numerous medicines in preclinical studies and/or clinical trials at clinical sites throughout the world. On at least a quarterly basis, we estimate our liability for preclinical and clinical development costs we have incurred and services that we have received but for which we have not yet been billed and maintain an accrual to cover these costs. These costs primarily relate to third-party clinical management costs, laboratory and analysis costs, toxicology studies and investigator grants. We estimate our liability using assumptions about study and patient activities and the related expected expenses for those activities determined based on the contracted fees with our service providers. The assumptions we use represent our best estimates of the activity and expenses at the time of our accrual and involve inherent uncertainties and the application of our judgment. Upon settlement, these costs may differ materially from the amounts accrued in our consolidated financial statements. Our historical accrual estimates have not been materially different from our actual amounts.

Convertible Debt

We account for each of our convertible debt instruments as a single unit of accounting, a liability, because we concluded that the conversion features do not require bifurcation as a derivative under ASC 815-15 and we did not issue our convertible debt instruments at a substantial premium. We record debt issuance costs as contra-liabilities in our consolidated balance sheets at issuance and amortize them over the contractual term of the convertible debt instrument using the effective interest rate. The balances of our convertible senior notes presented in our consolidated balance sheets represent the principal balance of each convertible debt instrument less debt issuance costs.

As of December 31, 2022, we had two outstanding convertible senior notes, our 0% Notes, which mature in April 2026, and our 0.125% Notes, which mature in December 2024. Refer to Part IV, Item 15, Note 4, *Long-Term Obligations and Commitments*, for further details on our convertible senior notes.

Call Spread

In conjunction with the issuance of our 0% Notes and 0.125% Notes in April 2021 and December 2019, respectively, we entered into call spread transactions, which were comprised of purchasing note hedges and selling warrants. We account for the note hedges and warrants as separate freestanding financial instruments and treat each instrument as a separate unit of accounting. We determined that the note hedges and warrants do not meet the definition of a liability using the guidance contained in ASC Topic 480; therefore, we account for the note hedges and warrants using the *Derivatives and Hedging – Contracts in Entity's Own Equity* accounting guidance contained in ASC Topic 815. We determined that the note hedges and warrants meet the definition of a derivative, are indexed to our stock and meet the criteria to be classified in shareholders' equity. We recorded the aggregate amount paid for the note hedges and the aggregate amount received for the warrants as additional paid-in capital in our consolidated balance sheets. We reassess our ability to continue to classify the note hedges and warrants in shareholders' equity at each reporting period.

Leases

We determine if an arrangement contains a lease at inception. We currently only have operating leases. We recognize a right-of-use operating lease asset and associated short- and long-term operating lease liability in our consolidated balance sheets for operating leases greater than one year. Our right-of-use assets represent our right to use an underlying asset for the lease term and our lease liabilities represent our obligation to make lease payments arising from the lease arrangement. We recognize our right-of-use operating lease assets and lease liabilities based on the present value of the future minimum lease payments we will pay over the lease term. We determine the lease term at the inception of each lease, and in certain cases our lease term could include renewal options if we conclude we are reasonably certain to exercise the renewal option. When we exercise a lease option that was not previously included in the initial lease term, we reassess our right-of-use asset and lease liabilities for the new lease term.

As our leases do not provide an interest rate implicit in the lease, we use our incremental borrowing rate, based on the information available as of the lease inception date or at the lease option extension date in determining the present value of future payments. We recognize rent expense for our minimum lease payments on a straight-line basis over the expected term of our lease. Our leases do not include material variable or contingent lease payments. We recognize period expenses, such as common area maintenance expenses, in the period we incur the expense.

Segment Information

In 2021, we began operating as a single segment, Ionis operations, because our chief decision maker reviews operating results on an aggregate basis and manages our operations as a single operating segment. Previously, we had operated as two operating segments, Ionis Core and Akcea Therapeutics. We completed the Akcea Merger in October 2020 and fully integrated Akcea's operations into ours as of January 1, 2021.

Recently Adopted Accounting Standards

In June 2022, the Financial Accounting Standards Board, or FASB, issued clarifying guidance on fair value measurement of equity securities subject to contractual trading restrictions. The guidance clarifies that contractual trading restrictions are not considered part of the unit of account of equity securities and therefore, are not considered when measuring the fair value of equity securities. This update is effective for interim and annual periods beginning January 1, 2024 on a prospective basis. Early adoption of this guidance is permitted at an interim or annual period. We early adopted this new guidance in the third quarter of 2022. This guidance did not have a material impact on our consolidated financial statements.

We do not expect any other recently issued accounting standards to have a material impact to our financial results.

2. Investments

The following table summarizes the contract maturity of the available-for-sale securities we held as of December 31, 2022:

One year or less	70%
After one year but within two years	28%
After two years but within three and a half years	2%
Total	100%

As illustrated above, at December 31, 2022, 98 percent of our available-for-sale securities had a maturity of less than two years.

All of our available-for-sale securities are available to us for use in our current operations. As a result, we categorize all of these securities as current assets even though the stated maturity of some individual securities may be one year or more beyond the balance sheet date.

At December 31, 2022, we had an ownership interest of less than 20 percent in eight privately held companies and three publicly held companies with which we conduct business.

The following is a summary of our investments (in thousands):

December 31, 2022	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Available-for-sale securities:				
Corporate debt securities (1)	$ 513,790	$ 23	$ (4,365)	$ 509,448
Debt securities issued by U.S. government agencies	133,585	—	(1,829)	131,756
Debt securities issued by the U.S. Treasury (1)	512,655	23	(5,124)	507,554
Debt securities issued by states of the U.S. and political subdivisions of the states	57,484	18	(686)	56,816
Other municipal debt securities	6,008	—	(14)	5,994
Total securities with a maturity of one year or less	1,223,522	64	(12,018)	1,211,568
Corporate debt securities	227,631	14	(10,143)	217,502
Debt securities issued by U.S. government agencies	34,339	—	(1,040)	33,299
Debt securities issued by the U.S. Treasury	245,030	—	(4,109)	240,921
Debt securities issued by states of the U.S. and political subdivisions of the states	18,314	116	(329)	18,101
Total securities with a maturity of more than one year	525,314	130	(15,621)	509,823
Total available-for-sale securities	$ 1,748,836	$ 194	$ (27,639)	$ 1,721,391
Equity securities:				
Total equity securities included in other current assets (2)	$ 11,897	$ —	$ (1,358)	$ 10,539
Total equity securities included in deposits and other assets (3)	23,115	17,257	—	40,372
Total equity securities	$ 35,012	$ 17,257	$ (1,358)	$ 50,911
Total available-for-sale and equity securities	$ 1,783,848	$ 17,451	$ (28,997)	$ 1,772,302

December 31, 2021	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Available-for-sale securities:				
Corporate debt securities (1)	$ 383,870	$ 728	$ (226)	$ 384,372
Debt securities issued by U.S. government agencies	48,493	19	(18)	48,494
Debt securities issued by the U.S. Treasury (1)	45,424	—	(64)	45,360
Debt securities issued by states of the U.S. and political subdivisions of the states	134,770	45	(37)	134,778
Total securities with a maturity of one year or less	612,557	792	(345)	613,004
Corporate debt securities	382,000	331	(2,644)	379,687
Debt securities issued by U.S. government agencies	72,935	—	(561)	72,374
Debt securities issued by the U.S. Treasury	137,635	139	(500)	137,274
Debt securities issued by states of the U.S. and political subdivisions of the states	39,909	1	(224)	39,686
Other municipal debt securities	6,136	—	(37)	6,099
Total securities with a maturity of more than one year	638,615	471	(3,966)	635,120
Total available-for-sale securities	$ 1,251,172	$ 1,263	$ (4,311)	$ 1,248,124
Equity securities:				
Total equity securities included in other current assets (2)	$ 11,897	$ 7,145	$ (837)	$ 18,205
Total equity securities included in deposits and other assets (3)	15,615	16,707	—	32,322
Total equity securities	$ 27,512	$ 23,852	$ (837)	$ 50,527
Total available-for-sale and equity securities	$ 1,278,684	$ 25,115	$ (5,148)	$ 1,298,651

(1) Includes investments classified as cash equivalents in our consolidated balance sheets.

(2) Our equity securities included in other current assets consisted of our investments in publicly traded companies. We recognize publicly traded equity securities at fair value. In the year ended December 31, 2022, we recognized a $7.7 million unrealized non-cash loss in our consolidated statements of operations related to a decrease in the fair value of our investments in publicly traded companies.

(3) Our equity securities included in deposits and other assets consisted of our investments in privately held companies. We recognize our private company equity securities at cost minus impairments, plus or minus changes resulting from observable price changes in orderly transactions for the identical or similar investment of the same issuer in our consolidated balance sheets.

The following is a summary of our investments we considered to be temporarily impaired at December 31, 2022 (in thousands). All of these investments have less than 12 months of temporary impairment. We believe that the decline in value of these securities is temporary and is primarily related to the change in market interest rates since purchase. We believe it is more likely than not that we will be able to hold our debt securities to maturity. Therefore, we anticipate full recovery of our debt securities' amortized cost basis at maturity.

		Less than 12 Months of Temporary Impairment		More than 12 Months of Temporary Impairment		Total Temporary Impairment	
	Number of Investments	Estimated Fair Value	Unrealized Losses	Estimated Fair Value	Unrealized Losses	Estimated Fair Value	Unrealized Losses
Corporate debt securities	384	$ 384,136	$ (2,629)	$ 305,367	$ (11,879)	$ 689,503	$ (14,508)
Debt securities issued by U.S. government agencies	48	93,862	(538)	70,233	(2,331)	164,095	(2,869)
Debt securities issued by the U.S. Treasury	75	616,826	(6,082)	86,325	(3,151)	703,151	(9,233)
Debt securities issued by states of the U.S. and political subdivisions of the states	110	18,117	(225)	31,465	(790)	49,582	(1,015)
Other municipal debt securities	2	—	—	5,993	(14)	5,993	(14)
Total temporarily impaired securities	619	$1,112,941	$ (9,474)	$ 499,383	$ (18,165)	$1,612,324	$ (27,639)

3. Fair Value Measurements

We use a three-tier fair value hierarchy to prioritize the inputs used in our fair value measurements. These tiers include: Level 1, defined as observable inputs such as quoted prices in active markets for identical assets, which includes our money market funds and treasury securities classified as available-for-sale securities and our investment in equity securities in publicly traded biotechnology companies; Level 2, defined as inputs other than quoted prices in active markets that are either directly or indirectly observable, which includes our fixed income securities and commercial paper classified as available-for-sale securities; and Level 3, defined as unobservable inputs in which little or no market data exists, therefore requiring us to develop our own assumptions. We classify most of our securities as Level 2. We obtain the fair value of our Level 2 investments from our custodian bank or from a professional pricing service. We validate the fair value of our Level 2 investments by understanding the pricing model used by the custodian banks or professional pricing service provider and comparing that fair value to the fair value based on observable market prices.

The following tables present the major security types we held at December 31, 2022 and 2021 that we regularly measure and carry at fair value. As of December 31, 2022, we did not have any investments that we valued using Level 3 inputs. The following tables segregate each security type by the level within the fair value hierarchy of the valuation techniques we utilized to determine the respective securities' fair value (in thousands):

	At December 31, 2022	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)
Cash equivalents (1)	$ 211,655	$ 211,655	$ —
Corporate debt securities (3)	726,950	—	726,950
Debt securities issued by U.S. government agencies (2)	165,055	—	165,055
Debt securities issued by the U.S. Treasury (2)	748,475	748,475	—
Debt securities issued by states of the U.S. and political subdivisions of the states (2)	74,917	—	74,917
Other municipal debt securities (2)	5,994	—	5,994
Publicly traded equity securities included in other current assets (4)	10,539	10,539	—
Total	$ 1,943,585	$ 970,669	$ 972,916

	At December 31, 2021	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash equivalents (1)	$ 541,199	$ 541,199	$ —	$ —
Corporate debt securities (2)	764,059	—	764,059	—
Debt securities issued by U.S. government agencies (2)	120,868	—	120,868	—
Debt securities issued by the U.S. Treasury (2)	182,634	182,634	—	—
Debt securities issued by states of the U.S. and political subdivisions of the states (5)	174,464	—	174,464	—
Other municipal debt securities (2)	6,099	—	6,099	—
Publicly traded equity securities included in other current assets (4)	18,205	3,875	—	14,330
Total	$ 1,807,528	$ 727,708	$ 1,065,490	$ 14,330

(1) Included in cash and cash equivalents in our consolidated balance sheets.

(2) Included in short-term investments.

(3) $11.0 million included in cash and cash equivalents in our consolidated balance sheets, with the difference included in short-term investments in our consolidated balance sheets.

(4) Included in other current assets in our consolidated balance sheets.

(5) $2.3 million included in cash and cash equivalents in our consolidated balance sheets, with the difference included in short-term investments in our consolidated balance sheets.

Convertible Notes

Our 0.125% Notes and 0% Notes had a fair value of $498.9 million and $587.3 million at December 31, 2022, respectively. We determine the fair value of our notes based on quoted market prices for these notes, which are Level 2 measurements because the notes do not trade regularly.

4. Long-Term Obligations and Commitments

The carrying value of our long-term obligations was as follows (in thousands):

	December 31, 2022	December 31, 2021
0 percent convertible senior notes	$ 622,242	$ 619,119
0.125 percent convertible senior notes	544,504	542,314
Lease liabilities	186,156	22,058
Mortgage debt	8,998	60,054
Other obligations	7,295	7,505
Total	$ 1,369,195	$ 1,251,050
Less: current portion	(7,535)	(3,526)
Total Long-Term Obligations	$ 1,361,660	$ 1,247,524

Convertible Debt and Call Spread

0 Percent Convertible Senior Notes and Call Spread

In April 2021, we completed a $632.5 million offering of convertible senior notes. We used a portion of the net proceeds from the issuance of the 0% Notes to repurchase $247.9 million in principal of our 1% Notes for $257.0 million.

At December 31, 2022, we had the following 0% Notes outstanding (in millions except interest rate and price per share data):

	0% Notes
Outstanding principal balance	$ 632.5
Unamortized debt issuance costs	$ 10.3
Maturity date	April 2026
Interest rate	0 percent
Effective interest rate	0.5 percent
Conversion price per share	$ 57.84
Effective conversion price per share with call spread	$ 76.39
Total shares of common stock subject to conversion	10.9

In conjunction with the April 2021 offering, we entered into a call spread transaction, which was comprised of purchasing note hedges and selling warrants, to minimize the impact of potential economic dilution upon conversion of our 0% Notes by increasing the effective conversion price on our 0% Notes. We increased our effective conversion price to $76.39 with the same number of underlying shares as our 0% Notes. The call spread cost us $46.9 million, of which $136.7 million was for the note hedge purchase, offset by $89.8 million we received for selling the warrants. Similar to our 0% Notes, our note hedges are subject to adjustment. Additionally, our note hedges are exercisable upon conversion of the 0% Notes. The note hedges will expire upon maturity of the 0% Notes, or April 2026. The note hedges and warrants are separate transactions and are not part of the terms of our 0% Notes. The holders of the 0% Notes do not have any rights with respect to the note hedges and warrants.

We recorded the amount we paid for the note hedges and the amount we received for the warrants in additional paid-in capital in our consolidated balance sheets. Refer to Part IV, Item 15, Note 1, *Organization and Significant Accounting Policies*, for our Call Spread accounting policy. We reassess our ability to continue to classify the note hedges and warrants in shareholders' equity at each reporting period.

0.125 Percent Convertible Senior Notes and Call Spread

In December 2019, we entered into privately negotiated exchange and/or subscription agreements with certain new investors and certain holders of our existing 1% Notes to exchange $375.6 million of our 1% Notes for $439.3 million of our 0.125% Notes, and to issue $109.5 million of our 0.125% Notes.

At December 31, 2022, we had the following 0.125% Notes outstanding with interest payable semi-annually (in millions except interest rate and price per share data):

	0.125% Notes
Outstanding principal balance	$ 548.8
Unamortized debt issuance costs	$ 4.3
Maturity date	December 2024
Interest rate	0.125 percent
Effective interest rate	0.5 percent
Conversion price per share	$ 83.28
Effective conversion price per share with call spread	$ 123.38
Total shares of common stock subject to conversion	6.6

In conjunction with the issuance of our 0.125% Notes in December 2019, we entered into a call spread transaction, which was comprised of purchasing note hedges and selling warrants, to minimize the impact of potential economic dilution upon conversion of our 0.125% Notes by increasing the effective conversion price on our 0.125% Notes. We increased our effective conversion price to $123.38 with the same number of underlying shares as our 0.125% Notes. The call spread cost us $52.6 million, of which $108.7 million was for the note hedge purchase, offset by $56.1 million we received for selling the warrants. Similar to our 0.125% Notes, our note hedges are subject to adjustment. Additionally, our note hedges are exercisable upon conversion of the 0.125% Notes. The note hedges will expire upon maturity of the 0.125% Notes, or December 2024. The note hedges and warrants are separate transactions and are not part of the terms of our 0.125% Notes. The holders of the 0.125% Notes do not have any rights with respect to the note hedges and warrants.

We recorded the amount we paid for the note hedges and the amount we received for the warrants in additional paid-in capital in our consolidated balance sheets. Refer to Part IV, Item 15, Note 1, *Organization and Significant Accounting Policies*, for our Call Spread accounting policy. We reassess our ability to continue to classify the note hedges and warrants in shareholders' equity at each reporting period.

1 Percent Convertible Senior Notes

In April 2021, we repurchased $247.9 million in aggregate principal amount of our 1% Notes in privately negotiated transactions. As a result of the repurchase, we recognized an $8.6 million loss on early retirement of debt in the second quarter of 2021, reflecting the early retirement of a significant portion of our 1% Notes. The loss on the early retirement of our debt is the difference between the amount paid to retire our 1% Notes and the net carrying balance of the liability at the time that we retired the debt. We paid the remaining principal balance of our 1% Notes with $62.0 million of cash at maturity in November 2021.

Other Terms of Convertible Senior Notes

The 0% and 0.125% Notes are convertible under certain conditions, at the option of the note holders. We can settle conversions of the notes, at our election, in cash, shares of our common stock or a combination of both. We may not redeem the notes prior to maturity, and we do not have to provide a sinking fund for them. Holders of the notes may require us to purchase some or all of their notes upon the occurrence of certain fundamental changes, as set forth in the indentures governing the notes, at a purchase price equal to 100 percent of the principal amount of the notes to be purchased, plus any accrued and unpaid interest. The 1% Notes were subject to similar terms.

Our total interest expense for our outstanding senior convertible notes for the years ended December 31, 2022, 2021 and 2020 included $5.3 million, $4.9 million and $3.2 million, respectively, of non-cash interest expense related to the amortization of debt issuance costs for our convertible notes.

Financing Arrangements

Operating Facilities

In July 2017, we purchased the building that houses our primary R&D facility for $79.4 million and our manufacturing facility for $14.0 million. We financed the purchase of these two facilities with mortgage debt of $60.4 million in total. Our primary R&D facility mortgage had an interest rate of 3.88 percent. Our manufacturing facility mortgage has an interest rate of 4.20 percent. During the first five years of both mortgages, we were only required to make interest payments. We began making principal payments in 2022. Our manufacturing facility mortgage matures in August 2027. We repaid our primary R&D facility mortgage in October 2022 in conjunction with a sale and leaseback transaction.

In October 2022, we concurrently entered into two purchase and sale agreements with a real estate investor. Under the agreements, we sold and leased back the facilities at our headquarters location in Carlsbad, California and will sell, subject to meeting certain closing conditions, two lots of undeveloped land adjacent to our headquarters. We sold the facilities at our headquarters, which includes our primary R&D facility, for a total purchase price of $263.4 million and we expect to receive total proceeds of $33.0 million upon the close of the sale of the two lots. We used a portion of the sale proceeds to extinguish our outstanding mortgage debt on our primary R&D facility of $51.3 million.

Debt Maturity Schedules

Annual convertible and mortgage debt maturities, including fixed and determinable interest, at December 31, 2022 are as follows (in thousands):

2023	$ 1,281
2024	550,107
2025	595
2026	633,095
2027	447
Thereafter	8,708
Total debt and mortgage maturities	$ 1,194,233
Less: Current portion included in other current liabilities	(151)
Less: Fixed and determinable interest	(3,526)
Less: Debt issuance costs	(14,831)
Total long-term debt	$ 1,175,725

Operating Leases

Carlsbad Leases

We lease a facility adjacent to our manufacturing facility that has laboratory and office space that we use to support our manufacturing facility. We lease this space under a non-cancelable operating lease. In May 2020, we exercised our option to extend our lease, extending our lease term from June 2021 to August 2026. We have one remaining option to extend the lease for an additional five-year period.

We also lease additional office spaces in Carlsbad. We lease these spaces under non-cancelable operating leases. In September 2022, we exercised our option to extend one of these leases, extending our term from January 2023 to May 2027. We have no remaining options to extend this lease. Our other office space lease in Carlsbad has an initial term ending in 2023.

As discussed above in the section titled, *Financing Arrangements*, we lease our headquarters, which includes our primary R&D facility, as part of a sale and leaseback transaction that closed in October 2022. The initial lease term for our headquarters facilities is 15 years with options to extend the lease for 2 additional terms of five years each. We determined at lease inception that it was not reasonably certain that we would exercise any of the options to extend the lease. We expect our lease payments over the initial term to total approximately $280 million. In connection with the sale of our two undeveloped lots, we will enter into a build-to-suit lease agreement with the same real estate investor who will build a new R&D facility for us on those lots. Once this new facility is completed, our lease will commence.

Oceanside Lease

In October 2022, we entered into a build-to-suit lease agreement to lease a development chemistry and manufacturing facility in Oceanside, California. The lessor will develop and construct a building composed of manufacturing space, office space, research and development space and warehouse space. We will design and construct tenant improvements to customize the facility's interior space. We will lease the facility for an initial term of 20 years and 3 months with options to extend the lease for two additional terms of 10 years each. The lease will commence when the lessor's construction is complete and we are able to begin constructing tenant improvements.

Boston Leases

We entered into an operating lease agreement for office space located in Boston, Massachusetts which commenced in August 2018. We are leasing this space under a non-cancelable operating lease with an initial term ending after 123 months and an option to extend the lease for an additional five-year term. Under the lease agreement, we received a three-month free rent period.

In January 2022, we entered into a sublease agreement for our office space located in Boston, Massachusetts. The sublease commencement date was in January 2022 when the office space was ready for our tenant's occupancy. We are subleasing this space under a non-cancelable operating sublease with a sublease term ending 83 months following the sublease commencement date with no option to extend the sublease. Under the sublease agreement we provided a seven-month free rent period, which commenced on January 6, 2022. We will receive lease payments over the sublease term totaling $9.6 million.

We entered into an operating lease agreement for another office space located in Boston, Massachusetts which commenced in November 2021. We are leasing this space under a non-cancelable operating lease with an initial term ending 91 months following the lease commencement date and an option to extend the lease for an additional five-year term. Under the lease agreement, we received a seven-month free rent period, which commenced on November 1, 2021. Our lease payments over the initial term total $6.8 million.

When we determined our lease term for our operating lease right-of-use assets and lease liabilities for these leases, we did not include the extension options for these leases in the original lease term because it was not reasonably certain we would exercise those extension options.

Amounts related to our operating leases were as follows (dollar amounts in millions):

	At December 31, 2022
Right-of-use operating lease assets	$ 181.5
Operating lease liabilities	$ 186.2
Weighted average remaining lease term	13.8 years
Weighted average discount rate	6.9%

During the years ended December 31, 2022, 2021, and 2020 we paid $4.0 million, $3.3 million and $3.8 million of lease payments, which were included in operating activities in our consolidated statements of cash flows.

As of December 31, 2022, the future payments for our operating lease liabilities are as follows (in thousands):

	Operating Leases
Year ending December 31,	
2023	$ 20,071
2024	20,391
2025	20,640
2026	20,781
2027	20,800
Thereafter	196,911
Total minimum lease payments	299,594
Less: Imputed interest	(113,438)
Less: Current portion (included in other current liabilities)	(7,215)
Total long-term lease liabilities	$ 178,941

Rent expense was $8.3 million, $3.4 million and $3.7 million for the years ended December 31, 2022, 2021 and 2020, respectively.

Royalty Revenue Monetization

In January 2023, we entered into a royalty purchase agreement with Royalty Pharma Investments, or Royalty Pharma, to monetize a portion of our future SPINRAZA and pelacarsen royalties we are entitled to under our agreements with Biogen and Novartis, respectively. As a result, we received an upfront payment of $500 million and we are eligible to receive up to $625 million in additional milestone payments. Under the terms of the agreement, Royalty Pharma will receive 25 percent of our SPINRAZA royalty payments from 2023 through 2027, increasing to 45 percent of royalty payments in 2028, on up to $1.5 billion in annual sales. In addition, Royalty Pharma will receive 25 percent of any future royalty payments on pelacarsen, our medicine in development for lipoprotein(a), or Lp(a), driven cardiovascular disease. Royalty Pharma's royalty interest in SPINRAZA will revert to us after total SPINRAZA royalty payments to Royalty Pharma reach either $475 million or $550 million, depending on the timing and occurrence of FDA approval of pelacarsen. We will begin accounting for the royalty monetization agreement in the first quarter of 2023.

5. Stockholders' Equity

Preferred Stock

We are authorized to issue up to 15 million shares of "blank check" Preferred Stock. As of December 31, 2022, there were no shares of Preferred Stock outstanding. We have designated Series C Junior Participating Preferred Stock but have no issued or outstanding shares as of December 31, 2022.

Common Stock

At December 31, 2022 and 2021, we had 300 million shares of common stock authorized, of which 142.1 million and 141.2 million were issued and outstanding, respectively. As of December 31, 2022, total common shares reserved for future issuance were 43.2 million.

During the years ended December 31, 2022, 2021 and 2020, we issued 1.2 million, 1.1 million and 1.7 million shares of common stock, respectively, for stock option exercises, vesting of restricted stock units, and ESPP purchases. We received net proceeds from these transactions of $6.4 million, $11.6 million and $52.0 million in 2022, 2021 and 2020, respectively.

Share Repurchase Program

In September 2019, our board of directors approved a share repurchase program of up to $125 million of our common stock. In 2019, we repurchased 535,000 shares for $34.4 million. In the first quarter of 2020, we repurchased an additional 1.5 million shares for $90.5 million.

Stock Plans

1989 Stock Option Plan

In June 1989, our Board of Directors adopted, and the stockholders subsequently approved, a stock option plan that, as amended, provides for the issuance of non-qualified and incentive stock options for the purchase of up to 20.0 million shares of common stock to our employees, directors, and consultants. The plan expires in January 2024. The 1989 Plan does not allow us to grant stock bonuses or restricted stock awards and prohibits us from repricing any options outstanding under the plan unless our stockholders approve the repricing. Options vest over a four-year period, with 25percent exercisable at the end of one year from the date of the grant and the balance vesting ratably, on a monthly basis, thereafter and have a term of seven years. At December 31, 2022, a total of 12 thousand options were outstanding, of which options to purchase 12 thousand shares were exercisable, and 65 thousand shares were available for future grant under the 1989 Plan.

2011 Equity Incentive Plan

In March 2011, our Board of Directors adopted, and the stockholders subsequently approved, a stock option plan that provides for the issuance of stock options, stock appreciation rights, restricted stock awards, restricted stock unit awards, and performance cash awards to our employees, directors, and consultants. In June 2015, May 2017 and June 2019, after receiving approval from our stockholders, we amended our 2011 Equity Incentive Plan, or 2011 Plan, to increase the total number of shares reserved for issuance. We increased the shares available under our 2011 Equity Incentive Plan from 5.5 million to 11.0 million in June 2015, from 11.0 million to 16.0 million in May 2017 and from 16.0 million to 23.0 million in June 2019. In the second quarter of 2021, after receiving approval from our stockholders, we amended our 2011 Plan. The amendment increased the total number of shares of common stock authorized for issuance under the 2011 Plan from 23.0 million to 29.7 million and added a fungible share counting ratio whereby the share reserve will be reduced by 1.7 shares for each share of common stock issued pursuant to a full value award (i.e., RSU or PRSU) and increased by 1.7 shares for each share of common stock returning from a full value award. The plan expires in June 2031. The 2011 Plan does not allow us to reduce the exercise price of any outstanding stock options or stock appreciation rights or cancel any outstanding stock options or stock appreciation rights that have an exercise price or strike price greater than the current fair market value of the common stock in exchange for cash or other stock awards unless our stockholders approve such action. Currently we anticipate awarding only stock options, RSU and PRSU awards to our employees, directors and consultants. Options vest over a four-year period, with 25 percent exercisable at the end of one year from the date of the grant and the balance vesting ratably, on a monthly basis, thereafter and have a term of seven years. Options granted after December 31, 2021 have a term of ten years. We have granted restricted stock unit awards to our employees under the 2011 Plan which vest annually over a four-year period. At December 31, 2022, a total of 13.7 million options were outstanding, of which 9.4 million were exercisable, 2.7 million restricted stock unit awards were outstanding, and 5.8 million shares were available for future grant under the 2011 Plan.

Under the 2011 Plan, we may issue a stock award with additional acceleration of vesting and exercisability upon or after a change in control. In the absence of such provisions, no such acceleration will occur. In addition, we implemented a change of control and severance benefit plan that provides for change of control and severance benefits to our executive officers, including our chief executive officer and chief financial officer, and vice presidents. If one of our executive officers or vice presidents is terminated or resigns for good reason during the period that begins three months before and ends twelve months following a change in control of the company, the impacted employee's stock options and RSUs vesting will accelerate for options and RSUs outstanding as of the termination date.

2020 Equity Incentive Plan

In connection with the Akcea Merger in October 2020, we assumed the unallocated portion of the available share reserve under the Akcea 2015 Equity Incentive Plan. In December 2020, we amended and restated the Akcea 2015 equity plan, including renaming the plan as the Ionis Pharmaceuticals, Inc. 2020 Equity Incentive Plan, or 2020 Plan. The 2020 Plan provided for the issuance of up to 2.6 million shares of our Common Stock to our employees, directors and consultants who were employees of Akcea prior to the Akcea Merger. In the second quarter of 2021, our Compensation Committee approved an amendment to the 2020 Plan. The amendment decreased the total number of shares of common stock authorized for issuance under the 2020 Plan from approximately 2.6 million to 1.6 million. We assumed the 2020 Plan in connection with Ionis' reacquisition of all of the outstanding shares of Akcea Therapeutics, Inc. as part of the Akcea Merger.

The plan expires in December 2025. The 2020 Plan does not allow us to reduce the exercise price of any outstanding stock options or stock appreciation rights or cancel any outstanding stock options or stock appreciation rights that have an exercise price or strike price greater than the current fair market value of the common stock in exchange for cash or other stock awards unless our stockholders approve such action. Currently we anticipate awarding only stock options and RSU awards to our eligible employees, directors and consultants. Options vest over a four-year period, with 25 percent exercisable at the end of one year from the date of the grant and the balance vesting ratably, on a monthly basis, thereafter and have a term of seven years. Options granted after December 31, 2021 have a term of ten years. We have granted restricted stock unit awards to our employees under the 2020 Plan which vest annually over a four-year period. At December 31, 2022, a total of 0.3 million options were outstanding, of which 61 thousand were exercisable, 0.1 million restricted stock unit awards were outstanding, and 1.2 million shares were available for future grant under the 2020 Plan.

Under the 2020 Plan, we may issue a stock award with additional acceleration of vesting and exercisability upon or after a change in control. In the absence of such provisions, no such acceleration will occur.

Corporate Transactions and Change in Control under 2011 and 2020 Plans

In the event of certain significant corporate transactions, our Board of Directors has the discretion to take one or more of the following actions with respect to outstanding stock awards under the 2011 and 2020 Plans:

- arrange for assumption, continuation, or substitution of a stock award by a surviving or acquiring entity (or its parent company);
- arrange for the assignment of any reacquisition or repurchase rights applicable to any shares of our common stock issued pursuant to a stock award to the surviving or acquiring corporation (or its parent company);
- accelerate the vesting and exercisability of a stock award followed by the termination of the stock award;
- arrange for the lapse of any reacquisition or repurchase rights applicable to any shares of our common stock issued pursuant to a stock award;
- cancel or arrange for the cancellation of a stock award, to the extent not vested or not exercised prior to the effective date of the corporate transaction, in exchange for cash consideration, if any, as the Board, in its sole discretion, may consider appropriate; and
- arrange for the surrender of a stock award in exchange for a payment equal to the excess of (a) the value of the property the holder of the stock award would have received upon the exercise of the stock award, over (b) any exercise price payable by such holder in connection with such exercise.

2002 Non-Employee Directors' Stock Option Plan

In September 2001, our Board of Directors adopted, and the stockholders subsequently approved, an amendment and restatement of the 1992 Non-Employee Directors' Stock Option Plan, which provides for the issuance of non-qualified stock options and restricted stock units to our non-employee directors. The name of the resulting plan is the 2002 Non-Employee Directors' Stock Option Plan, or the 2002 Plan. In June 2015, after receiving approval from our stockholders, we amended our 2002 Plan to increase the total number of shares reserved for issuance from 1.2 million to 2.0 million. In June 2020, after receiving approval from our stockholders, we further amended our 2002 Plan. The amendments included:

- An increase to the total number of shares reserved for issuance under the plan from 2.0 million to 2.8 million shares;
- A reduction to the amount of the automatic awards under the plan;
- A revision to the vesting schedule of new awards granted; and
- An extension of the term of the plan.

Options under this plan expire 10 years from the date of grant. At December 31, 2022, a total of 0.9 million options were outstanding, of which 0.8 million were exercisable, 0.1 million restricted stock unit awards were outstanding, and 0.6 million shares were available for future grant under the 2002 Plan.

Employee Stock Purchase Plan

In June 2009, our Board of Directors adopted, and the stockholders subsequently approved, the amendment and restatement of the ESPP and we reserved an additional 150,000 shares of common stock for issuance thereunder. In each of the subsequent years until 2019, we reserved an additional 150,000 shares of common stock for the ESPP resulting in a total of 3.2 million shares authorized under the plan as of December 31, 2022. The ESPP permits full-time employees to purchase common stock through payroll deductions (which cannot exceed 10percent of each employee's compensation) at the lower of 85percent of fair market value at the beginning of the purchase period or the end of each purchase period. Under the amended and restated ESPP, employees must hold the stock they purchase for a minimum of six months from the date of purchase. During 2022, employees purchased and we issued to employees 0.1 million shares under the ESPP at a weighted average price of $28.57 per share. At December 31, 2022, there were 0.5 million shares available for purchase under the ESPP.

Stock Option Activity

The following table summarizes the stock option activity under our stock plans for the year ended December 31, 2022 (in thousands, except per share and contractual life data):

	Number of Shares	Weighted Average Exercise Price Per Share	Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value
Outstanding at December 31, 2021	14,089	$ 54.04		
Granted	2,864	$ 34.78		
Exercised	(123)	$ 29.35		
Cancelled/forfeited/expired	(1,860)	$ 53.96		
Outstanding at December 31, 2022	14,970	$ 50.57	4.01	$ 12,243
Exercisable at December 31, 2022	10,285	$ 53.74	2.56	$ 1,651

The weighted-average estimated fair values of options granted were $18.66, $24.35 and $29.43 for the years ended December 31, 2022, 2021 and 2020, respectively. The total intrinsic value of options exercised during the years ended December 31, 2022, 2021 and 2020 were $1.4 million, $2.5 million and $15.5 million, respectively, which we determined as of the date of exercise. The amount of cash received from the exercise of stock options was $3.6 million, $8.5 million and $43.7 million for the years ended December 31, 2022, 2021 and 2020, respectively. For the year ended December 31, 2022, the weighted-average fair value of options exercised was $40.71. As of December 31, 2022, total unrecognized compensation cost related to non-vested stock options was $41.1 million. We expect to recognize this cost over a weighted average period of 1.1 years. We will adjust the total unrecognized compensation cost for future changes in estimated forfeitures.

Restricted Stock Unit Activity

The following table summarizes the RSU activity for the year ended December 31, 2022 (in thousands, except per share data):

	Number of Shares	Weighted Average Grant Date Fair Value Per Share
Non-vested at December 31, 2021	2,618	$ 58.05
Granted	1,401	$ 36.14
Vested	(958)	$ 57.05
Cancelled/forfeited	(295)	$ 48.61
Non-vested at December 31, 2022	2,766	$ 48.30

For the years ended December 31, 2022, 2021 and 2020, the weighted-average grant date fair value of RSUs granted was $36.14, $57.02 and $60.57 per RSU, respectively. As of December 31, 2022, total unrecognized compensation cost related to RSUs was $45.8 million. We expect to recognize this cost over a weighted average period of 1.2 years. We will adjust the total unrecognized compensation cost for future changes in estimated forfeitures.

Performance Restricted Stock Unit Activity

The following table summarizes the PRSU activity for the year ended December 31, 2022 (in thousands, except per share data):

	Number of Shares	Weighted Average Grant Date Fair Value Per Share
Non-vested at December 31, 2021	59	$ 79.20
Granted	105	$ 42.28
Vested	(16)	$ 75.03
Cancelled/forfeited	(5)	$ 79.11
Non-vested at December 31, 2022	143	$ 52.59

For the years ended December 31, 2022, 2021 and 2020, the weighted-average grant date fair value of PRSUs granted was $42.28, $77.17 and $93.09 per PRSU, respectively. As of December 31, 2022, total unrecognized compensation cost related to PRSUs was $2.4 million. We expect to recognize this cost over a weighted average period of 0.9 years. We will adjust the total unrecognized compensation cost for future changes in estimated forfeitures.

Stock-based Compensation Expense and Valuation Information

The following table summarizes stock-based compensation expense for the years ended December 31, 2022, 2021 and 2020 (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Cost of sales	$ 533	$ 456	$ 1,991
Research, development and patent	73,704	87,522	115,584
Selling, general and administrative	26,027	32,700	112,542
Total	$ 100,264	$ 120,678	$ 230,117

In October 2020, as part of the Akcea Merger, Akcea's outstanding equity awards vested under Akcea's Plan. As a result, in 2020, we recognized all unrecognized stock-based compensation, which totaled $59.3 million, under Akcea's Plan.

Refer to Part IV, Item 15, Note 1, *Organization and Significant Accounting Policies*, for further details on how we determine the fair value of stock options granted, RSUs, PRSUs and stock purchase rights under the ESPP.

For the years ended December 31, 2022, 2021 and 2020, we used the following weighted-average assumptions in our Black-Scholes calculations:

Ionis Employee Stock Options:

	Year Ended December 31,		
	2022	2021	2020
Risk-free interest rate	2.1%	0.6%	1.5%
Dividend yield	0.0%	0.0%	0.0%
Volatility	54.5%	54.0%	58.6%
Expected life	6.3 years	4.9 years	4.7 years

Ionis Board of Director Stock Options:

	Year Ended December 31,		
	2022	2021	2020
Risk-free interest rate	2.9%	1.2%	0.5%
Dividend yield	0.0%	0.0%	0.0%
Volatility	56.2%	55.9%	57.6%
Expected life	7.4 years	7.3 years	6.7 years

Ionis ESPP:

	Year Ended December 31,		
	2022	2021	2020
Risk-free interest rate	1.2%	0.1%	0.8%
Dividend yield	0.0%	0.0%	0.0%
Volatility	50.1%	42.4%	47.9%
Expected life	6 months	6 months	6 months

Risk-Free Interest Rate. We base the risk-free interest rate assumption on observed interest rates appropriate for the term of our stock option plans or ESPP.

Dividend Yield. We base the dividend yield assumption on our history and expectation of dividend payouts. We have not paid dividends in the past and do not expect to in the future.

Volatility. We use an average of the historical stock price volatility of our stock for the Black-Scholes model. We computed the historical stock volatility based on the expected term of the awards.

Expected Life. The expected term of stock options we have granted represents the period of time that we expect them to be outstanding. Historically, we estimated the expected term of options we have granted based on actual and projected exercise patterns. In 2021, our Compensation Committee approved an amendment to the 2011 Equity Incentive Plan, or 2011 Plan, and the 2020 Equity Incentive Plan, or 2020 Plan, that increased the contractual term of stock options granted under these plans from seven to ten years for stock options granted on January 1, 2022 and thereafter. We determined that we are unable to rely on our historical exercise data as a basis for estimating the expected life of stock options granted to employees following this change because the contractual term changed and we have no other means to reasonably estimate future exercise behavior. We therefore used the simplified method for determining the expected life of stock options granted to employees in the year ended December 31, 2022. Under the simplified method, we calculate the expected term as the average of the time-to-vesting and the contractual life of the options. As we gain additional historical information, we will transition to calculating our expected term based on our historical exercise patterns.

Forfeitures. We reduce stock-based compensation expense for estimated forfeitures. We estimate forfeitures at the time of grant and revise, if necessary, in subsequent periods if actual forfeitures differ from those estimates. We estimate forfeitures based on historical experience.

6. Income Taxes

Income (loss) before income taxes is comprised of (in thousands):

	Year Ended December 31,		
	2022	2021	2020
United States	$ (258,493)	$ (29,966)	$ (137,222)
Foreign	508	818	2,670
Income (loss) before income taxes	$ (257,985)	$ (29,148)	$ (134,552)

Our income tax expense (benefit) was as follows (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Current:			
Federal	$ 10,522	$ (200)	$ (837)
State	1,129	(690)	3,782
Foreign	86	339	518
Total current income tax expense (benefit)	11,737	(551)	3,463
Deferred:			
Federal	—	—	341,728
State	—	—	—
Total deferred income tax benefit	—	—	341,728
Total income tax expense (benefit)	$ 11,737	$ (551)	$ 345,191

Our expense (benefit) for income taxes differs from the amount computed by applying the U.S. federal statutory rate to income (loss) before taxes. The sources and tax effects of the differences are as follows (in thousands):

	Year Ended December 31,					
	2022		2021		2020	
Pre-tax income (loss)	$ (257,985)		$ (29,148)		$ (134,552)	
Statutory rate	(54,177)	21.0%	(6,121)	21.0%	(28,256)	21.0%
State income tax net of federal benefit	(13,622)	5.3%	4,278	(14.7)%	(37,705)	28.0%
Foreign	(49)	0.0%	143	(0.5)%	49	0.0%
Net change in valuation allowance	104,951	(40.7)%	2,885	(9.9)%	460,898	(342.5)%
Loss on debt transactions	—	—	262	(0.9)%	—	—
Tax credits	(39,729)	15.4%	(23,198)	79.6%	(18,774)	14.0%
Deferred tax true-up	(20)	0.0%	(24)	0.1%	(206)	0.2%
Tax rate change	(3,091)	1.2%	12,838	(44.0)%	(32,951)	24.5%
Non-deductible compensation	3,023	(1.2)%	5,085	(17.4)%	7,931	(5.9)%
Other non-deductible items	57	0.0%	84	(0.3)%	193	(0.1)%
Stock-based compensation	14,030	(5.4)%	4,720	(16.2)%	17,435	(13.0)%
Impacts from Akcea Merger	—	—	—	—	(22,032)	16.4%
Other	364	(0.1)%	(1,503)	5.1%	(1,391)	0.9%
Effective rate	$ 11,737	(4.5)%	$ (551)	1.9%	$ 345,191	(256.5)%

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes.

Significant components of our deferred tax assets and liabilities as of December 31, 2022 and 2021 are as follows (in thousands):

	Year Ended December 31,	
	2022	2021
Deferred Tax Assets:		
Net operating loss carryovers	$ 87,802	$ 85,600
Tax credits	277,436	269,538
Deferred revenue	85,700	104,330
Stock-based compensation	86,983	86,611
Intangible and capital assets	104,649	92,542
Convertible debt	34,384	45,681
Interest expense limitation	—	6,996
Capitalized research and development expenses	119,635	—
Long-term lease liabilities	45,612	5,119
Other	15,813	9,929
Total deferred tax assets	$ 858,014	$ 706,346
Deferred Tax Liabilities:		
Fixed assets	(4,475)	(3,303)
Right-of-use assets	(44,504)	(4,159)
Other	(313)	(1,111)
Net deferred tax asset	$ 808,722	$ 697,773
Valuation allowance	(808,722)	(697,773)
Total net deferred tax assets and liabilities	$ —	$ —

We evaluate our deferred tax assets regularly to determine whether adjustments to the valuation allowance are appropriate due to changes in facts or circumstances, such as changes in expected future pre-tax earnings, tax law, interactions with taxing authorities and developments in case law. In making this evaluation, we rely on our recent history of pre-tax earnings. Our material assumptions are our forecasts of future pre-tax earnings and the nature and timing of future deductions and income represented by the deferred tax assets and liabilities, all of which involve the exercise of significant judgment. Although we believe our estimates are reasonable, we are required to use significant judgment in determining the appropriate amount of valuation allowance recorded against our deferred tax assets.

Our valuation allowance increased by $111 million from December 31, 2021 to December 31, 2022. The increase was primarily related to increases in our deferred tax asset for capitalized research and development expenses.

At December 31, 2022, we had federal and state, primarily California, tax net operating loss carryforwards of $242.8 million and $461.3 million, respectively. Our federal tax loss carryforwards are available indefinitely. Our California tax loss carryforwards will begin to expire in 2031. At December 31, 2022, we also had federal and California research and development tax credit carryforwards of $224.9 million and $110.7 million, respectively. Our federal research and development tax credit carryforwards will begin to expire in 2035. Our California research and development tax credit carryforwards are available indefinitely.

Utilization of the net operating loss and tax credit carryforwards may be subject to an annual limitation due to the ownership change limitations provided by the Internal Revenue Code of 1986, as amended, and similar state provisions. The annual limitation may result in the expiration of net operating losses and credits before utilization.

We analyze filing positions in all U.S. federal, state and foreign jurisdictions where we file income tax returns, and all open tax years in these jurisdictions to determine if we have any uncertain tax positions on any of our income tax returns. We recognize the impact of an uncertain tax position on an income tax return at the largest amount that the relevant taxing authority is more-likely-than not to sustain upon audit. We do not recognize uncertain income tax positions if they have less than 50 percent likelihood of the applicable tax authority sustaining our position.

The following table summarizes our gross unrecognized tax benefits (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Beginning balance of unrecognized tax benefits	$ 55,085	$ 54,163	$ 69,784
Decrease for prior period tax positions	(267)	(695)	(24,154)
Increase for prior period tax positions	259	263	7,023
Increase for current period tax positions	1,490	1,354	1,510
Ending balance of unrecognized tax benefits	$ 56,567	$ 55,085	$ 54,163

Included in the balance of unrecognized tax benefits at December 31, 2022, 2021 and 2020 was $6.2 million, $6.2 million and $6.4 million respectively, that if we recognized, could impact our effective tax rate, subject to our remaining valuation allowance.

We estimate that it is reasonably possible that the balance of our gross unrecognized tax benefits may decrease by approximately $15.0 million within the next 12 months due to the lapse of statute of limitations on underlying tax positions primarily related to tax credits.

We recognize interest and/or penalties related to income tax matters in income tax expense. During the years ended December 31, 2022, 2021 and 2020, we recognized $0.8 million, $0.5 million and $0.3 million, respectively, of accrued interest and penalties related to gross unrecognized tax benefits.

We are subject to taxation in the U.S. and various state and foreign jurisdictions. The tax years 2018 through 2021 remain open to examination by major taxing jurisdictions, primarily federal and California, although net operating loss and credit carryforwards generated prior to 2018 may still be adjusted upon examination by the Internal Revenue Service or state tax authorities if they have been used in an open period or are used in a future period.

We do not provide for a U.S. income tax liability and foreign withholding taxes on undistributed foreign earnings of our foreign subsidiaries as we consider those earnings to be permanently reinvested. It is not practicable for us to calculate the amount of unrecognized deferred tax liabilities associated with these earnings.

7. Collaborative Arrangements and Licensing Agreements

Strategic Partnership

Biogen

We have several strategic collaborations with Biogen focused on using antisense technology to advance the treatment of neurological disorders. These collaborations combine our expertise in creating antisense medicines with Biogen's expertise in developing therapies for neurological disorders. We developed and licensed to Biogen SPINRAZA, our approved medicine to treat people with spinal muscular atrophy, or SMA. We and Biogen are currently developing numerous investigational medicines to treat neurodegenerative diseases under these collaborations, including medicines in development to treat people with ALS, SMA, AS, AD and Parkinson's disease. In addition to these medicines, our collaborations with Biogen include a substantial research pipeline that addresses a broad range of neurological diseases. From inception through December 31, 2022, we have received more than $3.4 billion from our Biogen collaborations.

Spinal Muscular Atrophy Collaborations

SPINRAZA

In January 2012, we entered into a collaboration agreement with Biogen to develop and commercialize SPINRAZA. From inception through December 31, 2022, we earned more than $1.8 billion in total revenue under our SPINRAZA collaboration, including more than $1.4 billion in revenue from SPINRAZA royalties and more than $425 million in R&D revenue. We are receiving tiered royalties ranging from 11 percent to 15 percent on net sales of SPINRAZA. We have exclusively in-licensed patents related to SPINRAZA from Cold Spring Harbor Laboratory and the University of Massachusetts. We pay Cold Spring Harbor Laboratory and the University of Massachusetts a low single digit royalty on net sales of SPINRAZA. Biogen is responsible for all global development, regulatory and commercialization activities and costs for SPINRAZA. We completed our performance obligations under our collaboration in 2016.

In January 2023, we entered into a royalty purchase agreement with Royalty Pharma in which Royalty Pharma will receive 25 percent of our SPINRAZA royalty payments from 2023 through 2027, increasing to 45 percent of royalty payments in 2028, on up to $1.5 billion in annual sales. Royalty Pharma's royalty interest in SPINRAZA will revert to us after total SPINRAZA royalty payments to Royalty Pharma reach either $475 million or $550 million, depending on the timing and occurrence of FDA approval of pelacarsen, which Novartis is developing. Refer to Part IV, Item 15, Note 4, *Long-Term Obligations and Commitments*, for further discussion of this agreement.

New antisense medicines for the treatment of SMA

In December 2017, we entered into a collaboration agreement with Biogen to identify new antisense medicines for the treatment of SMA. Biogen has the option to license therapies arising out of this collaboration following the completion of preclinical studies. Upon licensing, Biogen will be responsible for global development, regulatory and commercialization activities and costs for such therapies. Under the collaboration agreement, we received a $25 million upfront payment in the fourth quarter of 2017. In December 2021, we earned a $60 million license fee payment when Biogen exercised its option to license ION306. We will receive development and regulatory milestone payments from Biogen if new medicines, including ION306, advance towards marketing approval.

Over the term of the collaboration, we are eligible to receive up to $1.2 billion, which is comprised of a $25 million upfront payment, up to $110 million in license fees, up to $80 million in development milestone payments, up to $180 million in regulatory milestone payments, up to $800 million in sales milestone payments and other payments, including up to $555 million if Biogen advances ION306, which includes up to $45 million in development milestone payments, up to $110 million in regulatory milestone payments and up to $400 million in sales milestone payments. In addition, we are eligible to receive tiered royalties from the mid-teens to mid-20 percent range on net sales. From inception through December 31, 2022, we received $85 million in payments under this collaboration. We will achieve the next payment of up to $45 millionfor the initiation of a Phase 3 trial under this collaboration.

At the commencement of this collaboration, we identified one performance obligation, which was to perform R&D services for Biogen. We determined the transaction price to be the $25 million upfront payment we received when we entered into the collaboration. We allocated the transaction price to our single performance obligation. In the fourth quarter of 2019, we completed our R&D services performance obligation under this collaboration.

In the fourth quarter of 2021, we identified another performance obligation upon Biogen's license of ION306 because the license we granted to Biogen is distinct from our other performance obligations. We recognized the $60 million license fee for ION306 as revenue at that time because Biogen had full use of the license without any continuing involvement from us. Additionally, we did not have any further performance obligations related to the license after we delivered it to Biogen. Biogen is solely responsible for the costs and expenses related to the development, manufacturing and potential future commercialization of ION306 following the option exercise. We do not have any remaining performance obligations under this collaboration.

Neurology Collaborations

2018 Strategic Neurology

In April 2018, we and Biogen entered into a strategic collaboration to develop novel antisense medicines for a broad range of neurological diseases and entered into a Stock Purchase Agreement, or SPA. As part of the collaboration, Biogen gained exclusive rights to the use of our antisense technology to develop therapies for these diseases for 10 years. We are responsible for the identification of antisense drug candidates based on selected medicines. Biogen is responsible for conducting IND-enabling toxicology studies for the selected medicine. Biogen will have the option to license the selected medicine after it completes the IND-enabling toxicology study. If Biogen exercises its option to license a medicine, it will assume global development, regulatory and commercialization responsibilities and costs for that medicine.

In the second quarter of 2018, we received $1 billion from Biogen, comprised of $625 million to purchase our stock at an approximately 25 percent cash premium and $375 million in an upfront payment.

Over the term of our collaboration, we are eligible to receive up to $270 million, which is comprised of a $15 million license fee, up to $105 million in development milestone payments and up to $150 million in regulatory milestone payments for each medicine that achieves marketing approval. In addition, we are eligible to receive tiered royalties up to the 20 percent range on net sales. We are currently advancing multiple programs under this collaboration and from inception through December 31, 2022, we have received nearly $1.1 billion in payments under this collaboration. We will achieve the next payment of $7.5 million if Biogen designates or advances another programunder this collaboration.

At the commencement of this collaboration, we considered that the collaboration agreement and SPA were negotiated concurrently and in contemplation of one another. Based on these facts and circumstances, we concluded that we should evaluate the provisions of the agreements on a combined basis. We identified one performance obligation, which was to perform R&D services for Biogen. We determined our transaction price to be $552 million, comprised of $375 million from the upfront payment and $177 million for the premium paid by Biogen for its purchase of our common stock. We determined the fair value of the premium we received by using the stated premium in the SPA and applying a lack of marketability discount. We included a lack of marketability discount in our valuation of the premium because Biogen received restricted shares of our common stock. We allocated the transaction price to our single performance obligation.

From inception through December 31, 2022, we have included $616 million in payments in the transaction price for our R&D services performance obligation under this collaboration, including $23 million of milestone payments we achieved in 2021 and $11 million of milestone payments we achieved in 2020. These milestone payments did not create new performance obligations because they are part of our original R&D services performance obligation. Therefore, we included these amounts in our transaction price for our R&D services performance obligation in the period we achieved the milestone payment. We are recognizing revenue for our R&D services performance obligation as we perform services based on our effort to satisfy our performance obligation relative to our total effort expected to satisfy our performance obligation. We currently estimate we will satisfy our performance obligation at the end of the contractual term in June 2028.

2013 Strategic Neurology

In September 2013, we and Biogen entered into a long-term strategic relationship focused on applying antisense technology to advance the treatment of neurodegenerative diseases. As part of the collaboration, Biogen gained exclusive rights to the use of our antisense technology to develop therapies for neurological diseases and has the option to license medicines resulting from this collaboration. We will usually be responsible for drug discovery and early development of antisense medicines and Biogen has the option to license antisense medicines after Phase 2 proof-of-concept. In October 2016, we expanded our collaboration to include additional research activities we will perform. If Biogen exercises its option to license a medicine, it will assume global development, regulatory and commercialization responsibilities and costs for that medicine. We are currently advancing five investigational medicines in development under this collaboration, including a medicine for Parkinson's disease (ION859), two medicines for ALS (tofersen and ION541), a medicine for multiple system atrophy (ION464) and a medicine for an undisclosed target. In the fourth quarter of 2018, Biogen exercised its option to license our most advanced ALS medicine, tofersen, our medicine in registration for SOD1 ALS. As a result, Biogen is responsible for global development, regulatory and commercialization activities and costs for tofersen.

Under the terms of the agreement, we received an upfront payment of $100 million and are eligible to receive milestone payments, license fees and royalty payments for all medicines developed under this collaboration, with the specific amounts dependent upon the modality of the molecule advanced by Biogen. Under this collaboration, we received a $35 million license fee payment when Biogen licensed tofersen from us in 2018.

Over the term of the collaboration for tofersen, we are eligible to receive nearly $110 million, which is comprised of the $35 million license fee received in 2018, up to $18 million in development milestone payments and up to $55 million in regulatory milestone payments. For each of the other antisense molecules that are chosen for drug discovery and development under this collaboration, we are eligible to receive up to approximately $260 million, which is comprised of a $70 million license fee, up to $60 million in development milestone payments, including amounts related to the cost of clinical trials, and up to $130 million in regulatory milestone payments. In addition, we are eligible to receive tiered royalties up to the mid-teens on net sales from any antisense medicines developed under this collaboration. From inception through December 31, 2022, we have received more than $300 million in payments under this collaboration. We will achieve the next payment of $16 million if the FDA approves Biogen's NDA filing of tofersen.

At the commencement of our 2013 strategic neurology collaboration, we identified one performance obligation, which was to perform R&D services for Biogen. At inception, we determined the transaction price to be the $100 million upfront payment we received and allocated it to our single performance obligation. As we achieve milestone payments for our R&D services, we include these amounts in our transaction price for our R&D services performance obligation. We recognized revenue for our R&D services performance obligation based on our effort to satisfy our performance obligation relative to our total effort expected to satisfy our performance obligation. During 2020, we completed our remaining research and development services and recognized the remaining revenue related to this performance obligation. From inception through the completion of our R&D services performance obligation in 2020, we included $145 million in total payments in the transaction price for our R&D services performance obligation.

Under this collaboration, we have also generated additional payments that we concluded were not part of our R&D services performance obligation. We recognized each of these payments in full in the respective quarter we generated the payment because we did not have any performance obligations for the respective payment. For example, in the third quarter of 2022, we earned a $9 million milestone payment when the FDA accepted Biogen's NDA filing of tofersen, which we recognized in full because we did not have any performance obligations related to this milestone payment.

2012 Neurology

In December 2012, we and Biogen entered into a collaboration agreement to develop and commercialize novel antisense medicines to treat neurodegenerative diseases. We are responsible for the development of each of the medicines through the completion of the initial Phase 2 clinical study for such medicine. Biogen has the option to license a medicine from each of the programs through the completion of the first Phase 2 study for each program. Under this collaboration, Biogen is conducting the IONIS-MAPT$_{Rx}$ study for AD and we are currently advancing ION582 for AS. If Biogen exercises its option to license a medicine, it will assume global development, regulatory and commercialization responsibilities and costs for that medicine.

Under the terms of the agreement, we received an upfront payment of $30 million. Over the term of the collaboration, we are eligible to receive up to $210 million, which is comprised of a $70 million license fee, up to $10 million in development milestone payments per program and up to $130 million in regulatory milestone payments per program, plus a mark-up on the cost estimate of the Phase 1 and 2 studies. In addition, we are eligible to receive tiered royalties up to the mid-teens on net sales of any medicines resulting from each of the two programs. From inception through December 31, 2022, we have received nearly $170 million in payments under this collaboration, including nearly $20 million in milestone payments we received from Biogen for advancing ION582 and a $10 million milestone payment we received from Biogen when Biogen advanced IONIS-MAPT$_{Rx}$ during 2022. We will achieve the next payment of up to $25 million if Biogen advances a medicine under this collaboration.

Under our collaboration, we determined we had a performance obligation to perform R&D services. We allocated $40 million in total payments to the transaction price for our R&D services performance obligation. In the third quarter of 2019, we completed our R&D services performance obligation when we designated a development candidate and Biogen accepted the development candidate. We recognized revenue as we performed services based on our effort to satisfy our performance obligation relative to the total effort expected to satisfy our performance obligation.

When we commenced development for IONIS-MAPT$_{Rx}$ we identified our development work as a separate performance obligation. In the fourth quarter of 2022, we completed our R&D services performance obligation for IONIS-MAPT$_{Rx}$. We recognized revenue as we performed services based on our effort to satisfy our performance obligation relative to the total effort expected to satisfy our performance obligation. From inception through December 31, 2022, we have included $57 million in the transaction price for our IONIS-MAPT$_{Rx}$ development performance obligation, including $19.5 million of milestone payments we earned from Biogen in 2020 when we advanced IONIS-MAPT$_{Rx}$.

In the fourth quarter of 2019, we identified another performance obligation upon Biogen's license of IONIS-MAPT$_{Rx}$ because the license we granted to Biogen is distinct from our other performance obligations. We recognized the $45 million license fee for IONIS-MAPT$_{Rx}$ as revenue at that time because Biogen had full use of the license without any continuing involvement from us. Additionally, we did not have any further performance obligations related to the license after we delivered it to Biogen. Biogen is responsible for global development, regulatory and commercialization activities and costs for IONIS-MAPT$_{Rx}$.

In the fourth quarter of 2022, we achieved $14.5 million in milestone payments when Biogen advanced ION582. We will recognize revenue as we perform services based on our effort to satisfy our R&D services performance obligation relative to the total effort expected to satisfy our performance obligation for ION582.

During the years ended December 31, 2022, 2021 and 2020, we earned the following revenue from our relationship with Biogen (in millions, except percentage amounts):

	Year Ended December 31,		
	2022	2021	2020
SPINRAZA royalties (commercial revenue)	$ 242.3	$ 267.8	$ 286.6
R&D revenue	124.4	161.0	122.0
Total revenue from our relationship with Biogen	$ 366.7	$ 428.8	$ 408.6
Percentage of total revenue	62%	53%	56%

Our consolidated balance sheets at December 31, 2022 and 2021 included deferred revenue of $351.2 million and $407.5 million, respectively, related to our relationship with Biogen.

Joint Development and Commercialization Arrangement

AstraZeneca

Eplontersen Collaboration

In December 2021, we entered into a joint development and commercialization agreement with AstraZeneca to develop and commercialize eplontersen for the treatment of ATTR. We are jointly developing and preparing to commercialize eplontersen with AstraZeneca in the U.S. We granted AstraZeneca exclusive rights to commercialize eplontersen outside the U.S., except certain countries in Latin America.

Over the term of the collaboration, we are eligible to receive up to $3.6 billion, which is comprised of a $200 million upfront payment, up to $485 million in development and approval milestone payments and up to $2.9 billion in sales milestone payments. The agreement also includes territory-specific development, commercial and medical affairs cost-sharing provisions. In addition, we are eligible to receive up to mid-20 percent royalties for sales in the U.S. and tiered royalties up to the high teens for sales outside the U.S.

We evaluated our eplontersen collaboration under ASC 808 and identified four material components: (i) the license we granted to AstraZeneca in 2021, (ii) the co-development activities that we and AstraZeneca will perform, (iii) the co-commercialization activities that we and AstraZeneca will perform and (iv) the co-medical affairs activities that we and AstraZeneca will perform.

We determined that we had a vendor-customer relationship within the scope of ASC 606 for the license we granted to AstraZeneca and as a result we had one performance obligation. For our sole performance obligation, we determined the transaction price was the $200 million upfront payment we received. We recognized the upfront payment in full in 2021 because we did not have any remaining performance obligations after we delivered the license to AstraZeneca.

We also concluded that the co-development activities, the co-commercialization activities and the co-medical affairs activities are within the scope of ASC 808 because we and AstraZeneca are active participants exposed to the risks and benefits of the activities under the collaboration. AstraZeneca is currently responsible for 55 percent of the costs associated with the ongoing global Phase 3 development program. Because we are leading the Phase 3 development program, we recognize as revenue the 55 percent of cost-share funding AstraZeneca is responsible for in the same period we incur the related development expenses. As AstraZeneca is responsible for the majority of the commercial and medical affairs costs in the U.S. and all costs associated with bringing eplontersen to market outside the U.S., we recognize cost-share funding we receive from AstraZeneca related to these activities as a reduction of our commercial and medical affairs expenses.

We will achieve the next payment of up to $50 million upon the first regulatory approval under this collaboration. From inception through December 31, 2022, we have received nearly $260 million in payments under this collaboration.

Research and Development Partners

AstraZeneca

In addition to our collaboration for eplontersen, we have a collaboration with AstraZeneca focused on the treatment of cardiovascular, renal and metabolic diseases. In July 2015, we and AstraZeneca formed a collaboration to discover and develop antisense therapies for treating cardiovascular, renal and metabolic diseases. Under our collaboration, AstraZeneca has licensed multiple medicines from us, including medicines in development to treat people with ATTR amyloidosis, a genetically associated form of kidney disease and NASH. AstraZeneca is responsible for global development, regulatory and commercialization activities and costs for each of the medicines it has licensed from us.

Over the term of the collaboration, we are eligible to receive up to $5.8 billion, which is comprised of a $65 million upfront payment, up to $290 million in license fees, up to $1.1 billion in development milestone payments, up to $2.9 billion in regulatory milestone payments and up to $1.5 billion in sales milestone payments. In addition, we are eligible to receive tiered royalties up to the low teens on net sales from any product that AstraZeneca successfully commercializes under this collaboration agreement. We will achieve the next payment of $10 million under this collaboration if AstraZeneca advances a medicine under this collaboration. From inception through December 31, 2022, we have received more than $280 million in payments under this collaboration.

At the commencement of this collaboration, we identified one performance obligation, which was to perform R&D services for AstraZeneca. We determined the transaction price to be the $65 million upfront payment we received and we allocated it to our single performance obligation. We recognized revenue for our R&D services performance obligation as we performed services based on our effort to satisfy this performance obligation relative to our total effort expected to satisfy our performance obligation. We completed our performance obligation in the fourth quarter of 2021. As we achieved milestone payments for our R&D services, we included these amounts in our transaction price for our R&D services performance obligation. From inception through the completion of our performance obligation, we have included $90 million in payments in the transaction price for our R&D services performance obligation.

Under this collaboration, we have also generated additional payments that we concluded were not part of our R&D services performance obligation. We recognized each of these payments in full in the respective quarter we generated the payment because the payments were distinct and we did not have any performance obligations for the respective payment. For example, in the fourth quarter of 2021, we earned a $30 million license fee when AstraZeneca licensed a target for a metabolic disease. We recognized the license fee as revenue at that time because AstraZeneca had full use of the license without any continuing involvement from us. Additionally, we did not have any further performance obligations related to the license after we delivered it to AstraZeneca.

During the years ended December 31, 2022, 2021 and 2020, we earned the following revenue from our relationship with AstraZeneca (in millions, except percentage amounts):

	Year Ended December 31,		
	2022	2021	2020
R&D revenue	$ 79.2	$ 254.6	$ 88.0
Percentage of total revenue	13%	31%	12%

We did not have any deferred revenue from our relationship with AstraZeneca at December 31, 2022 and 2021.

GSK

In March 2010, we entered into a collaboration with GSK using our antisense drug discovery platform to discover and develop new medicines against targets for serious and rare diseases, including infectious diseases and some conditions causing blindness. Our collaboration with GSK currently includes two medicines targeting hepatitis B virus, or HBV: bepirovirsen and IONIS-HBV-L_{Rx}. We designed these medicines to reduce the production of viral proteins associated with HBV infection. In the third quarter of 2019, following positive Phase 2 results, GSK licensed our HBV program. GSK is responsible for all global development, regulatory and commercialization activities and costs for the HBV program.

Over the term of the collaboration, we are eligible to receive nearly $260 million, which is comprised of a $25 million license fee, up to $42.5 million in development milestone payments, up to $120 million in regulatory milestone payments and up to $70 million in sales milestone payments if GSK successfully develops bepirovirsen. In addition, we are eligible to receive tiered royalties up to the low-teens on net sales of bepirovirsen. From inception through December 31, 2022, we have received more than $50 million in payments under the HBV program collaboration.

We completed our R&D services performance obligations under our collaboration in the first quarter of 2015. We identified a new performance obligation when we granted GSK the license of the HBV program and assigned related intellectual property rights in the third quarter of 2019 because the license was distinct from our other performance obligations. We recognized the $25 million license fee for the HBV program as revenue at that time because GSK had full use of the license without any continuing involvement from us. Additionally, we did not have any further performance obligations related to the license after we delivered it to GSK.

We do not have any remaining performance obligations under our collaboration with GSK; however, we can still earn additional payments and royalties as GSK advances the HBV program. In January 2023, we earned a $15 million milestone when GSK initiated a Phase 3 study of bepirovirsen. We will achieve the next payment of $15 million if the FDA accepts an NDA filing of bepirovirsen for review.

During the years ended December 31, 2022, 2021 and 2020, we earned the following revenue from our relationship with GSK (in millions, except percentage amounts):

	Year Ended December 31,		
	2022	2021	2020
R&D revenue	$ —	$ —	$ 0.2
Percentage of total revenue	—	—	—

We did not have any deferred revenue from our relationship with GSK at December 31, 2022 and 2021.

Novartis

In January 2017, we initiated a collaboration with Novartis to develop and commercialize pelacarsen and olezarsen. Novartis is responsible for conducting and funding development and regulatory activities for pelacarsen, including a global Phase 3 cardiovascular outcomes study that Novartis initiated in the fourth quarter 2019. In connection with Novartis' license of pelacarsen, we and Novartis established a more definitive framework under which the companies would negotiate the co-commercialization of pelacarsen in selected markets. Included in this framework is an option by which Novartis could solely commercialize pelacarsen in exchange for Novartis paying us increased sales milestone payments based on sales of pelacarsen. When Novartis decided to not exercise its option for olezarsen, we retained rights to develop and commercialize olezarsen.

Over the term of the collaboration, we are eligible to receive up to $900 million, which is comprised of a $75 million upfront payment, a $150 million license fee, a $25 million development milestone payment, up to $290 million in regulatory milestone payments and up to $360 million in sales milestone payments. From inception through December 31, 2022, we have received nearly $275 million in payments under this collaboration. We are also eligible to receive tiered royalties in the mid-teens to low 20 percent range on net sales of pelacarsen. In August 2021, we earned a $25 million milestone payment from Novartis when Novartis achieved 50 percent enrollment in the Lp(a) HORIZON Phase 3 cardiovascular outcome study of pelacarsen. We recognized the milestone payment in full in the third quarter of 2021 because we did not have any remaining performance obligations related to the milestone payment. We will achieve the next payment of up to $75 million if Novartis advances regulatory activities for pelacarsen.

In conjunction with this collaboration, we entered into a SPA with Novartis. As part of the SPA, Novartis purchased 1.6 million shares of our common stock for $100 million in the first quarter of 2017.

At the commencement of this collaboration, we identified four separate performance obligations:

- R&D services for pelacarsen;
- R&D services for olezarsen;
- API for pelacarsen; and
- API for olezarsen.

We determined that the R&D services for each medicine and the API for each medicine were distinct performance obligations.

We determined our transaction price to be $108.4 million, comprised of the following:

- $75 million from the upfront payment;
- $28.4 million for the premium paid by Novartis for its purchase of our common stock at a premium in the first quarter of 2017; and
- $5.0 million for the potential premium Novartis would have paid if they purchased our common stock in the future.

We allocated the transaction price based on the estimated stand-alone selling price of each performance obligation as follows:

- $64.0 million for the R&D services for pelacarsen;
- $40.1 million for the R&D services for olezarsen;
- $1.5 million for the delivery of pelacarsen API; and
- $2.8 million for the delivery of olezarsen API.

We completed our R&D services performance obligations for olezarsen and pelacarsen in 2019. As such, we recognized all revenue we allocated to the olezarsen and pelacarsen R&D services as of the end of 2019.

We recognized revenue related to the R&D services for pelacarsen and olezarsen performance obligations as we performed services based on our effort to satisfy our performance obligations relative to our total effort expected to satisfy our performance obligations.

During the years ended December 31, 2022, 2021 and 2020, we earned the following revenue from our relationship with Novartis (in millions, except percentage amounts):

	Year Ended December 31,		
	2022	2021	2020
R&D revenue	$ 0.2	$ 25.5	$ 1.0
Percentage of total revenue	—	3%	—

We did not have any deferred revenue from our relationship with Novartis at December 31, 2022 and 2021.

As described in the *Biogen SPINRAZA* section above, in January 2023, we entered into a royalty purchase agreement with Royalty Pharma. Under the agreement, in addition to a minority interest in SPINRAZA royalties, Royalty Pharma will receive 25 percent of any future royalty payments on pelacarsen. Refer to Part IV, Item 15, Note 4, *Long-Term Obligations and Commitments*, for further discussion of this agreement.

Roche

Huntington's Disease

In April 2013, we formed an alliance with Hoffmann-La Roche Inc and F. Hoffmann-La Roche Ltd, collectively Roche, to develop treatments for HD based on our antisense technology. Under the agreement, we discovered and developed tominersen, an investigational medicine targeting HTT protein. We developed tominersen through completion of our Phase 1/2 clinical study in people with early-stage HD. In the fourth quarter of 2017, upon completion of the Phase 1/2 study, Roche exercised its option to license tominersen. Roche is responsible for all global development, regulatory and commercialization activities and costs for tominersen.

Over the term of the collaboration, we are eligible to receive up to $395 million, which is comprised of a $30 million upfront payment, a $45 million license fee, up to $70 million in development milestone payments, up to $170 million in regulatory milestone payments and up to $80 million in sales milestone payments as tominersen advances. In addition, we are eligible to receive up to $136.5 million in milestone payments for each additional medicine successfully developed. We are also eligible to receive tiered royalties up to the mid-teens on net sales of any product resulting from this alliance. From inception through December 31, 2022, we have received more than $150 million in payments under this collaboration. We will achieve the next payment of $17.5 million if Roche advances a medicine under this collaboration.

At the commencement of this collaboration, we identified one performance obligation, which was to perform R&D services for Roche. We determined the transaction price to be the $30 million upfront payment we received and allocated it to our single performance obligation. As we achieved milestone payments for our R&D services, we included these amounts in our transaction price for our R&D services performance obligation. We recognized revenue for our R&D services performance obligation over our period of performance, which ended in the third quarter of 2017.

Under this collaboration, we have also generated additional payments that we concluded were not part of our R&D services performance obligation. We recognized each of these payments in full in the respective quarter in which we generated the payment because the payments were distinct and we did not have any performance obligations for the respective payment. In 2019, we earned $35 million in milestone payments when Roche advanced tominersen under this collaboration. In March 2021, Roche decided to discontinue dosing in the Phase 3 GENERATION HD1 study of tominersen in patients with manifest HD based on the results of a pre-planned review of data from the Phase 3 study conducted by an unblinded iDMC.

In January 2023, Roche initiated the Phase 2, GENERATION HD2, study of tominersen in patients with prodromal or early manifest HD. Roche is focusing on early-stage and younger patients based on the post-hoc analyses from the GENERATION HD1 study that suggested tominersen may benefit these patient groups. We do not have any remaining performance obligations related to tominersen under this collaboration with Roche; however, we can still earn additional payments and royalties as Roche advances tominersen.

IONIS-FB-L_{Rx} for Complement-Mediated Diseases

In October 2018, we entered into a collaboration agreement with Roche to develop IONIS-FB-L_{Rx} for the treatment of complement-mediated diseases. We are currently conducting Phase 2 studies in two disease indications for IONIS-FB-L_{Rx}, one for the treatment of patients with GA, the advanced stage of dry AMD, and a second for the treatment of patients with IgA nephropathy.

After positive data from a Phase 2 clinical study, Roche licensed IONIS-FB-L_{Rx} in July 2022 for $35 million. As a result, Roche is responsible for global development, regulatory and commercialization activities, and costs for IONIS-FB-L_{Rx}, except for the open label Phase 2 study in patients with IgAN and the Phase 2 study in patients with GA, both of which we are conducting and funding. In July 2022, we amended our IONIS-FB-L_{Rx} collaboration agreement with Roche. The amendment changed future potential milestone payments we could receive under the collaboration. We determined there were no changes that would require adjustments to revenue we previously recognized.

Over the term of the collaboration, we are eligible to receive more than $810 million, which is comprised of a $75 million upfront payment, a $35 million license fee, up to $145 million in development milestones, up to $279 million in regulatory milestones and up to $280 million in sales milestone payments. In addition, we are also eligible to receive tiered royalties from the high teens to 20 percent on net sales. From inception through December 31, 2022, we have received more than $130 million in payments under this collaboration. We will achieve the next payment of up to $90 million if Roche advances IONIS-FB-L_{Rx} under this collaboration.

At the commencement of this collaboration, we identified one performance obligation, which was to perform R&D services for Roche. We determined the transaction price to be the $75 million upfront payment we received and allocated it to our single performance obligation. We are recognizing revenue for our R&D services performance obligation as we perform services based on our effort to satisfy our performance obligation relative to our total effort expected to satisfy our performance obligation. We currently estimate we will satisfy our performance obligation in the third quarter of 2024.

During the years ended December 31, 2022, 2021 and 2020, we earned the following revenue from our relationship with Roche (in millions, except percentage amounts):

	Year Ended December 31,		
	2022	**2021**	**2020**
R&D revenue	$ 67.2	$ 17.2	$ 5.9
Percentage of total revenue	11%	2%	1%

Our consolidated balance sheets at December 31, 2022 and 2021 included deferred revenue of $22.4 million and $31.6 million related to our relationship with Roche, respectively.

Commercialization Partnerships

Swedish Orphan Biovitrum AB (Sobi)

We began commercializing TEGSEDI and WAYLIVRA in Europe in January 2021 and TEGSEDI in North America in April 2021 through distribution agreements with Sobi. Under our agreements, we are responsible for supplying finished goods inventory to Sobi and Sobi is responsible for selling each medicine to the end customer. In exchange, we earn a distribution fee on net sales from Sobi for each medicine.

PTC Therapeutics

In August 2018, we entered into an exclusive license agreement with PTC Therapeutics to commercialize TEGSEDI and WAYLIVRA in Latin America and certain Caribbean countries. Under the license agreement, we are eligible to receive royalties from PTC in the mid-20 percent range on net sales for each medicine. In December 2021, we started receiving royalties from PTC for TEGSEDI sales.

Technology Enhancement Collaborations

Bicycle License Agreement

In December 2020, we entered into a collaboration agreement with Bicycle and obtained an option to license its peptide technology to potentially increase the delivery capabilities of our LICA medicines. In July 2021, we paid $42 million when we exercised our option to license Bicycle's technology, which included an equity investment in Bicycle. As part of our stock purchase, we entered into a lockup agreement with Bicycle that restricted our ability to trade our Bicycle shares for one year. In 2021, we recorded a $7.2 million equity investment for the shares we received in Bicycle. We recognized the remaining $34.8 million as R&D expense in 2021. From inception through December 31, 2022, we have paid Bicycle $46.6 million under this collaboration agreement.

Metagenomi License Agreement

In November 2022, we entered into a collaboration and license agreement with Metagenomi to research, develop and commercialize investigational medicines for up to four initial genetic targets, and, upon the achievement of certain development milestones, four additional genetic targets using gene editing technologies. As a result, we paid $80 million to license Metagenomi's technologies. We recorded the $80 million payment as R&D expense in 2022 upon receiving a license from Metagenomi for intellectual property that is in research with no current alternate use. We will also pay Metagenomi certain fees for the selection of genetic targets, and contingent on the achievement of certain development, regulatory and sales events, milestone payments and royalties. In addition, we will reimburse Metagenomi for certain of its costs in conducting its research and drug discovery activities under the collaboration.

Other Agreements

Alnylam Pharmaceuticals, Inc.

Under the terms of our agreement with Alnylam, we co-exclusively (with ourselves) licensed to Alnylam our patent estate relating to antisense motifs and mechanisms and oligonucleotide chemistry for double-stranded RNAi therapeutics, with Alnylam having the exclusive right to grant platform sublicenses for double-stranded RNAi. In exchange for such rights, Alnylam gave us a technology access fee, participation in fees from Alnylam's partnering programs, as well as future milestone and royalty payments from Alnylam. We retained exclusive rights to our patents for single-stranded antisense therapeutics and for a limited number of double-stranded RNAi therapeutic targets and all rights to single-stranded RNAi, or ssRNAi, therapeutics. In turn, Alnylam nonexclusively licensed to us its patent estate relating to antisense motifs and mechanisms and oligonucleotide chemistry to research, develop and commercialize single-stranded antisense therapeutics, ssRNAi therapeutics, and to research double-stranded RNAi compounds. We also received a license to develop and commercialize double-stranded RNAi therapeutics targeting a limited number of therapeutic targets on a nonexclusive basis. Additionally, in 2015, we and Alnylam entered into an alliance in which we cross-licensed intellectual property. Under this alliance, we and Alnylam each obtained exclusive license rights to 4 therapeutic programs. Alnylam granted us an exclusive, royalty-bearing license to its chemistry, RNA targeting mechanism and target-specific intellectual property for oligonucleotides against four targets, including FXI and Apo(a) and two other targets. In exchange, we granted Alnylam an exclusive, royalty-bearing license to our chemistry, RNA targeting mechanism and target-specific intellectual property for oligonucleotides against four other targets. Alnylam also granted us a royalty-bearing, non-exclusive license to new platform technology arising from May 2014 through April 2019 for single-stranded antisense therapeutics. In turn, we granted Alnylam a royalty-bearing, non-exclusive license to new platform technology arising from May 2014 through April 2019 for double-stranded RNAi therapeutics.

In the fourth quarter 2020, we completed an arbitration process with Alnylam. The arbitration panel awarded us $41.2 million for payments owed to us by Alnylam related to Alnylam's agreement with Sanofi Genzyme. We recognized the $41.2 million payment from Alnylam as revenue in the fourth quarter of 2020 because we did not have any performance obligations for the respective payment.

During the years ended December 31, 2022, 2021 and 2020, we earned the following revenue from our relationship with Alnylam (in millions, except percentage amounts):

	Year Ended December 31,		
	2022	2021	2020
R&D revenue	$ 21.4	$ —	$ 47.9
Percentage of total revenue	4%	—	7%

We did not have any deferred revenue from our relationship with Alnylam at December 31, 2022 and 2021.

8. Employment Benefits

We have employee 401(k) salary deferral plans covering all employees. Employees could make contributions by withholding a percentage of their salary up to the IRS annual limits of $20,500 and $27,000 in 2022 for employees under 50 years old and employees 50 years old or over, respectively. We made approximately $5.6 million, $5.5 million and $5.7 million in matching contributions for the years ended December 31, 2022, 2021 and 2020, respectively.

9. Legal Proceedings

From time to time, we are involved in legal proceedings arising in the ordinary course of our business. Periodically, we evaluate the status of each legal matter and assess our potential financial exposure. If we consider the potential loss from any legal proceeding to be probable and we can reasonably estimate the amount, we accrue a liability for the estimated loss. The outcome of any proceeding is not determinable in advance. Therefore, we are required to use significant judgment to determine the probability of a loss and whether the amount of the loss is reasonably estimable. Our assessment of a potential liability and the amount of accruals we recorded are based only on the information available to us at the time. As additional information becomes available, we reassess the potential liability related to the legal proceeding and may revise our estimates.

On August 5, 2021, four purported former stockholders of Akcea filed an action in the Delaware Court of Chancery captioned John Makris, et al. v. Ionis Pharmaceuticals, Inc., et al., C.A. No. 2021-0681, or the Delaware Action. The plaintiffs in the Delaware Action asserted claims against (i) former members of Akcea's board of directors; and (ii) Ionis, or collectively, the Defendants. The plaintiffs asserted putatively direct claims on behalf of a purported class of former Akcea stockholders. The plaintiffs in the Delaware Action asserted that the Defendants breached their fiduciary duties in connection with the October 2020 take-private transaction that Ionis and Akcea entered into, in which Akcea became a wholly-owned subsidiary of Ionis. We believe this lawsuit is without merit. However, the outcome of this lawsuit or any other lawsuit that may be filed challenging the October 2020 take-private transaction is uncertain. Accordingly, on June 3, 2022, the parties reached an agreement in principle to settle the Delaware Action for $12.5 million. A Stipulation and Agreement of Compromise, Settlement and Release, or the Stipulation and Settlement Agreement reflecting the terms of the proposed settlement was executed and filed with the Delaware Court of Chancery on July 5, 2022. On October 11, 2022, the Delaware Court of Chancery entered an Order and Final Judgment, or the Order, approving the Stipulation and Settlement Agreement in full after determining that the Stipulation and Settlement Agreement was fair, reasonable, and adequate. The Order provides for the full settlement, satisfaction, compromise and release of all claims that were asserted in the Delaware Action. The Order contains no admission of wrongdoing on the part of any of the Defendants. We recorded a net settlement expense of $7.7 million within other expense in the accompanying consolidated statements of operations in 2022.

On January 19, 2022, a purported stockholder of Ionis filed a stockholder derivative complaint in the Delaware Court of Chancery captioned Leo Shumacher, et al. v. Joseph Loscalzo, et al., C.A. No. 2022-0059, or the Shumacher Action. The complaint names Ionis' board of directors, or the Board, as defendants and names Ionis as a nominal defendant. The Shumacher Action Plaintiff asserts a breach of fiduciary duty claim against the Board for awarding and receiving allegedly excessive compensation. The Shumacher Action Plaintiff also asserts an unjust enrichment claim against the non-executive directors as a result of the compensation they received. The complaint seeks, among other things, damages, restitution, attorneys' fees and costs, and such other relief as deemed just and proper by the court. On March 18, 2022, Ionis and the Board moved to dismiss the complaint. On May 24, 2022, the parties entered into a Stipulation and Agreement of Compromise, Settlement and Release.

On May 25, 2022, another purported stockholder of Ionis filed a stockholder derivative complaint also in the Delaware Court of Chancery captioned Robert S. Cohen, et al. v. Joseph Loscalzo, et al., C.A. No. 2022-0453, or the Cohen Action. The complaint names the Board as defendants and names Ionis as a nominal defendant. The Cohen Action Plaintiff asserts claims for breach of fiduciary duty, unjust enrichment, aiding and abetting breaches of fiduciary duty, and waste against the Board for awarding and receiving allegedly excessive non-executive director compensation for the years 2018, 2019, and 2020. On June 2, 2022, the Cohen Action Plaintiff filed a motion to consolidate the related Cohen Action and Shumacher Action. On July 5, 2022, the Court denied the motion to consolidate in favor of the settlement pending in the Shumacher Action.

On July 18, 2022, Ionis filed a Form 8-K disclosing the pending settlement and attaching the Notice of Pendency of Settlement of Action. On September 21, 2022, the Court held a hearing to consider whether the terms of the settlement should be approved, at which hearing the Cohen Action plaintiff objected to the settlement. At the conclusion of the hearing, the Court declined to approve the settlement and directed the parties to meet and confer on the issue of the scope of the release. On February 7, 2023, the parties entered into an Amended Stipulation and Agreement of Compromise, Settlement and Release. We and our Board have denied, and continue to deny, any and all allegations of wrongdoing or liability asserted in the Shumacher and Cohen Actions.

10. Fourth Quarter Financial Data (Unaudited)

The following financial information reflects all normal recurring adjustments, which are, in the opinion of management, necessary for a fair statement of the results of the interim periods. Summarized fourth quarter data for 2022 and 2021 are as follows (in thousands, except per share data).

Three Months Ended December 31,	2022	2021
Revenue (1)	$ 151,890	$ 440,006
Operating expenses (2)	$ 359,909	$ 219,403
Income (loss) from operations	$ (208,019)	$ 220,603
Net income (loss) (3)	$ (52,430)	$ 224,613
Basic net income (loss) per share (4) (5)	$ (0.37)	$ 1.59
Diluted net income (loss) per share (4) (6)	$ (0.37)	$ 1.41

(1) Revenue was lower in the three months ended December 31, 2022 compared to the same period in 2021 due to the $200 million we earned in the fourth quarter of 2021 from AstraZeneca to jointly develop and commercialize eplontersen.

(2) Operating expenses were higher in the three months ended December 31, 2022 compared to the same period in 2021 primarily due to the $80 million upfront payment we made for our collaboration with Metagenomi in the fourth quarter of 2022.

(3) Our net loss for the three months ended December 31, 2022 includes the $150.1 million gain we recognized from the sale and leaseback transaction for our headquarters in Carlsbad, California.

(4) We compute net income (loss) per share independently for each quarter during the year.

(5) As discussed in Note 1, *Organization and Significant Accounting Policies,* we compute basic net income (loss) per share by dividing the total net income (loss) by our weighted-average number of common shares outstanding during the period.

(6) We had net income for the fourth quarter of 2021. As a result, we computed diluted net income per share using the weighted-average number of common shares and dilutive common equivalent shares outstanding during the period as follows (in thousands except per share amounts):

Three Months Ended December 31, 2021	Income (Numerator)	Shares (Denominator)	Per-Share Amount
Net income available to Ionis common stockholders	$ 224,612	141,205	$ 1.59
Effect of dilutive securities:			
Shares issuable upon exercise of stock options	—	46	
Shares issuable upon restricted stock award issuance	—	1,065	
Shares issuable related to our ESPP	—	34	
Shares issuable related to our 0 percent convertible notes	777	10,936	
Shares issuable related to our 0.125 percent convertible notes	716	6,590	
Shares issuable related to our 1 percent convertible notes	105	464	
Income available to Ionis common stockholders, plus assumed conversions	$ 226,210	160,340	$ 1.41

AMENDED AND RESTATED
2002 NON-EMPLOYEE DIRECTORS' STOCK OPTION PLAN

GRANT NOTICE

Optionee: ***«Name»*** Date of Grant: ***«Date»***

Ionis Pharmaceuticals, Inc.
Non-Statutory Stock Option Agreement

IONIS PHARMACEUTICALS, INC. (the "Company"), pursuant to its Amended and Restated 2002 Non-Employee Directors' Stock Option Plan (the "Plan"), hereby grants to Optionholder an option to purchase the number of shares of the Company's Common Stock set forth below. This option is subject to all of the terms and conditions as set forth herein and in the Stock Option Agreement (Attachment I hereto), the Plan and the Notice of Exercise, all of which are attached hereto and incorporated herein in their entirety.

Number of Shares Subject to Option: ***12,000***

Vesting Schedule:

Number of Shares	Date of Earliest Exercise (vesting)
12,000	***Either (1) the annual anniversary of the Date of Grant, or (2) the next regularly scheduled annual meeting of stockholders of the Company, whichever occurs earlier***

Exercise Price Per Share: ***$ «Price»*** [1] Expiration Date: ***«Date»*** [2]

Ionis Pharmaceuticals, Inc.

By: _____ Optionee: _____
Duly authorized on behalf of the Board of Directors Address: ***«Address_1»***
«Address_2»

Optionee:

Additional Terms/Acknowledgements: The undersigned Optionholder acknowledges receipt of, and understands and agrees to, this Grant Notice, the Stock Option Agreement and the Plan. Optionholder further acknowledges that as of the Date of Grant, this Grant Notice, the Stock Option Agreement and the Plan set forth the entire understanding between Optionholder and the Company regarding the acquisition of stock in the Company and supersede all prior oral and written agreements on that subject with the exception of (i) options previously granted and delivered to Optionholder under the Plan, and (ii) the following agreements only:

OTHER AGREEMENTS: _____
_____

[1] *Not less than 100% of the fair market value of the Common Stock on the Date of Grant of this option.*
[2] *Less than 10 years from the Date of Grant of this option.*

IONIS PHARMACEUTICALS, INC.
AMENDED AND RESTATED 2002 NON-EMPLOYEE DIRECTORS' STOCK OPTION PLAN
STOCK OPTION AGREEMENT
(NONSTATUTORY STOCK OPTION)

Pursuant to your Stock Option Grant Notice ("Grant Notice") and this Stock Option Agreement, Ionis Pharmaceuticals, Inc. (the "Company") has granted you an option under its Amended and Restated 2002 Non-Employee Directors' Stock Option Plan (the "Plan") to purchase the number of shares of the Company's Common Stock indicated in your Grant Notice at the exercise price indicated in your Grant Notice. Defined terms not explicitly defined in this Stock Option Agreement but defined in the Plan shall have the same definitions as in the Plan.

The details of your option are as follows:

1. **VESTING.** Subject to the limitations contained herein, your option will vest as provided in your Grant Notice, provided that vesting will cease upon the termination of your Continuous Service.

2. **NUMBER OF SHARES AND EXERCISE PRICE.** The number of shares of Common Stock subject to your option and your exercise price per share referenced in your Grant Notice may be adjusted from time to time for Capitalization Adjustments, as provided in the Plan.

3. **METHOD OF PAYMENT.** Payment of the exercise price is due in full upon exercise of all or any part of your option. You may make payment of the exercise price in cash or by check or pursuant to a "same-day-sale" under Regulation T.

4. **WHOLE SHARES.** You may exercise your option only for whole shares of Common Stock.

5. **SECURITIES LAW COMPLIANCE.** Notwithstanding anything to the contrary contained herein, you may not exercise your option unless the shares of Common Stock issuable upon such exercise are then registered under the Securities Act or, if such shares of Common Stock are not then so registered, the Company has determined that such exercise and issuance would be exempt from the registration requirements of the Securities Act. The exercise of your option must also comply with other applicable laws and regulations governing your option, and you may not exercise your option if the Company determines that such exercise would not be in material compliance with such laws and regulations.

6. **TERM.** You may not exercise your option before the commencement of its term or after its term expires. Unless otherwise provided in Section 11(d) of the Plan, the term of your option commences on the Date of Grant and expires upon the ***earliest*** of the following:

(a) 3 months after the termination of your Continuous Service for any reason other than your Qualified Retirement (as defined in section 6(d) below), Disability or death, provided that if during any part of such 3 month period your option is not exercisable solely because of the condition set forth in the preceding paragraph relating to "Securities Law Compliance," your option shall not expire until the earlier of the Expiration Date or until it shall have been exercisable for an aggregate period of 3 months after the termination of your Continuous Service;

(b) 12 months after the termination of your Continuous Service due to your Disability;

(c) 18 months after your death if you die either during your Continuous Service or within 3 months after your Continuous Service terminates;

(d) 18 months after the termination of your Continuous Service due to your retirement, where (i) you were over the age of 55 at the time of such retirement; and (ii) you had been an employee, director or consultant (or any combination thereof) of the Company for a continuous and uninterrupted period of at least 5 years prior to such retirement (having satisfied all of the conditions set forth in clauses (i) and (ii) above, "Qualified Retirement"); or

(e) the day before the 10th anniversary of the Date of Grant.

7. Exercise.

(a) You may exercise the vested portion of your option during its term by delivering a Notice of Exercise (in a form designated by the Company) together with the exercise price to the Secretary of the Company, or to such other person as the Company may designate, during regular business hours, together with such additional documents as the Company may then require.

(b) The minimum number of shares with respect to which this option may be exercised at any one time is 1,000, unless the number of shares available for exercise (that is, the remaining vested shares) equals less than 1,000 shares, in which case the minimum number of shares exercised must equal the number of shares then vested.

(c) By exercising your option you agree that, as a condition to any exercise of your option, the Company may require you to enter into an arrangement providing for the payment by you to the Company of any tax withholding obligation of the Company arising by reason of (1) the exercise of your option, (2) the lapse of any substantial risk of forfeiture to which the shares of Common Stock are subject at the time of exercise, or (3) the disposition of shares of Common Stock acquired upon such exercise.

8. Transferability. This option is not transferable except by will or by the laws of descent and distribution, and is exercisable during your lifetime only by you; notwithstanding the foregoing, you may transfer part or all of this option to any of the following:

(i) your spouse, children (by birth or adoption), stepchildren, grandchildren, or parents;

(ii) a trust or other entity established solely for your benefit or the benefit of your spouse, children (by birth or adoption), stepchildren, grandchildren, or parents for estate planning purposes; or,

(iii) an organization which is exempt from taxation under Section 501(c)(3) of the Code or to which tax-deductible charitable contributions may be made under Section 170 of the Code.

Furthermore, you may, by delivering written notice to the Company, in a form satisfactory to the Company, designate a third party who, in the event of your death, will thereafter be entitled to exercise the option.

9. Right of Repurchase. To the extent provided in the Company's bylaws as amended from time to time, the Company shall have the right to repurchase all or any part of the shares of Common Stock you acquire pursuant to the exercise of your option.

10. Option not a Service Contract. Your option is not an employment or service contract, and nothing in your option shall be deemed to create in any way whatsoever any obligation on your part to continue in the employ of the Company or an Affiliate, or of the Company or an Affiliate to continue your employment. In addition, nothing in your option shall obligate the Company or an Affiliate, their respective stockholders, Boards of Directors, Officers or Employees to continue any relationship that you might have as a Director or Consultant for the Company or an Affiliate.

11. Withholding Obligations. You may not exercise your option unless the tax withholding obligations of the Company and/or any Affiliate are satisfied. Accordingly, you may not be able to exercise your option when desired even though your option is vested, and the Company shall have no obligation to issue a certificate for such shares of Common Stock or release such shares of Common Stock from any escrow provided for herein.

12. Notices. Any notices provided for in your option or the Plan shall be given in writing and shall be deemed effectively given upon receipt or, in the case of notices delivered by mail by the Company to you, 5 days after deposit in the United States mail, postage prepaid, addressed to you at the last address you provided to the Company.

13. Governing Plan Document. Your option is subject to all the provisions of the Plan, the provisions of which are hereby made a part of your option, and is further subject to all interpretations, amendments, rules and regulations which may from time to time be promulgated and adopted pursuant to the Plan. In the event of any conflict between the provisions of your option and those of the Plan, the provisions of the Plan shall control.

IONIS PHARMACEUTICALS, INC.
2011 EQUITY INCENTIVE PLAN

OPTION AGREEMENT
(NONSTATUTORY STOCK OPTION)

FOR OPTIONS GRANTED AFTER JANUARY 1, 2022

Pursuant to your Stock Option Grant Notice ("***Grant Notice***") and this Option Agreement, Ionis Pharmaceuticals, Inc. (the "***Company***") has granted you an option under its 2011 Equity Incentive Plan (the "***Plan***") to purchase the number of shares of the Company's Common Stock indicated in your Grant Notice at the exercise price indicated in your Grant Notice. Capitalized terms not explicitly defined in this Option Agreement but defined in the Plan shall have the same definitions as in the Plan.

The details of your option are as follows:

1. VESTING. Subject to the limitations contained herein, your option will vest as provided in your Grant Notice, provided that vesting will cease upon the termination of your Continuous Service.

2. NUMBER OF SHARES AND EXERCISE PRICE. The number of shares of Common Stock subject to your option and your exercise price per share referenced in your Grant Notice may be adjusted from time to time for Capitalization Adjustments.

3. EXERCISE RESTRICTION FOR NON-EXEMPT EMPLOYEES. In the event that you are an Employee eligible for overtime compensation under the Fair Labor Standards Act of 1938, as amended (*i.e.*, a "***Non-Exempt Employee***"), you may not exercise your option until you have completed at least six months of Continuous Service measured from the Date of Grant specified in your Grant Notice, notwithstanding any other provision of your option.

4. METHOD OF PAYMENT. Payment of the exercise price is due in full upon exercise of all or any part of your option. You may elect to make payment of the exercise price in cash or by check or in any other manner ***permitted by your Grant Notice,*** which may include one or more of the following:

(a) Provided that at the time of exercise the Common Stock is publicly traded, pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of Common Stock, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds.

(b) Subject to the consent of the Company at the time of exercise, by a "net exercise" arrangement pursuant to which the Company will reduce the number of shares of Common Stock issued upon exercise of your option by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price; provided, however, that the Company shall accept a cash or other payment from you to the extent of any remaining balance of the aggregate exercise price not satisfied by such reduction in the number of whole shares to be issued; provided further, however, that shares of Common Stock will no longer be outstanding under your option and will not be exercisable thereafter to the extent that (1) shares are used to pay the exercise price pursuant to the "net exercise," (2) shares are delivered to you as a result of such exercise, and (3) shares are withheld to satisfy tax withholding obligations.

5. **Whole Shares.** You may exercise your option only for whole shares of Common Stock.

6. **Securities Law Compliance.** Notwithstanding anything to the contrary contained herein, you may not exercise your option unless the shares of Common Stock issuable upon such exercise are then registered under the Securities Act or, if such shares of Common Stock are not then so registered, the Company has determined that such exercise and issuance would be exempt from the registration requirements of the Securities Act. The exercise of your option also must comply with other applicable laws and regulations governing your option, and you may not exercise your option if the Company determines that such exercise would not be in material compliance with such laws and regulations.

7. **Term.** You may not exercise your option before the commencement or after the expiration of its term. The term of your option commences on the Date of Grant and expires upon the earliest of the following:

(a) three months after the termination of your Continuous Service for any reason other than upon your Disability, retirement or death; provided, however, that if during any part of such three month period your option is not exercisable solely because of the condition set forth in the section above relating to "Securities Law Compliance," your option shall not expire until the earlier of the Expiration Date or until it shall have been exercisable for an aggregate period of three months after the termination of your Continuous Service; and if (i) you are a Non-Exempt Employee, (ii) your Continuous Service terminates within six months after the Date of Grant specified in your Grant Notice, and (iii) you have vested in a portion of your option at the time of your termination of Continuous Service, your option shall not expire until the earlier of (x) the later of (A) the date that is seven months after the Date of Grant specified in your Grant Notice or (B) the date that is three months after the termination of your Continuous Service, or (y) the Expiration Date;

(b) 12 months after the termination of your Continuous Service due to your Disability;

(c) 18 months after the termination of your Continuous Service due to your retirement; provided that (i) you were over the age of 55 at the time of such retirement and (ii) you had been providing Continuous Service to the Company as an Employee, Director or Consultant (or any combination thereof) for a continuous and uninterrupted period of at least five years prior to such retirement;

(d) 18 months after your death if you die during your Continuous Service;

(e) the Expiration Date indicated in your Grant Notice; or

(f) the day before the tenth (10^{th}) anniversary of the Date of Grant.

Notwithstanding the foregoing, if you die during the period provided in Section 7(a), 7(b) or 7(c) above, the term of your option shall not expire until the earlier of 18 months after your death, the Expiration Date indicated in your Grant Notice, or the day before the tenth anniversary of the Date of Grant.

8. EXERCISE.

(a) You may exercise the vested portion of your option (and the unvested portion of your option if your Grant Notice so permits) during its term by delivering a Notice of Exercise (in a form designated by the Company) together with the exercise price to the Secretary of the Company, or to such other person as the Company may designate, during regular business hours, together with such additional documents as the Company may then require.

(b) By exercising your option you agree that, as a condition to any exercise of your option, the Company may require you to enter into an arrangement providing for the payment by you to the Company of any tax withholding obligation of the Company arising by reason of (1) the exercise of your option, (2) the lapse of any substantial risk of forfeiture to which the shares of Common Stock are subject at the time of exercise, or (3) the disposition of shares of Common Stock acquired upon such exercise.

(c) If (i) you have not exercised your option in full by the 10th business day prior to the expiration of this option, (ii) at such time you are a current employee of the Company or were an employee of the Company within the previous 90 days, (iii) you have not otherwise instructed the broker to exercise this option prior to expiry under a separate Company-approved Rule 10b5-1 Plan, and (iv) the prevailing market price of the Common Stock exceeds the Exercise Price per share of this option, then you authorize the Company's external stock plan administrator ("Administrator") to, in its sole discretion, without obligation, and in compliance with all applicable legal conditions and restrictions, exercise this option on your behalf and sell the number of whole shares of Common Stock having a Fair Market Value sufficient to cover the aggregate exercise price plus the minimum amount of tax required to be withheld by law (such number of shares to be determined by the Company as of the date of exercise), and to remit payment of such exercise price and withholding amounts to the Company. In addition, you authorize the Company to, in its sole discretion and in compliance with all applicable legal conditions and restrictions, take any action it deems necessary or appropriate to effect such an exercise and sale.

Notwithstanding the foregoing, the Company may, in its sole discretion, without obligation, and in lieu of the automatic exercise and sale set forth above, effect a "net exercise" arrangement to cover the aggregate exercise price and minimum amount of the tax to be withheld by the Company by law, each as further described in Section 5(c)(iv) and Section 8(f) of the Plan.

You will take all necessary and appropriate actions to effect the exercise and sale under this section, including but not limited to completing any exercise forms or authorizations. You hereby authorize and appoint each of Administrator and the Company's Corporate Secretary to serve, individually or collectively, as your agent and attorney-in-fact and, in accordance with the terms of this section, to effect the exercise and sale of your option. You will pay the Company an administrative fee of $100 in connection with any exercise or sale under this section.
This Section 8(c) is intended to meet the requirements of, and comply with, Rule 10b5-1 (c) under the Exchange Act.

9. Transferability. Your option is not transferable, except (1) by will or by the laws of descent and distribution, (2) pursuant to a domestic relations order, (3) with the prior written approval of the Company, by instrument to an *inter vivos* or testamentary trust, in a form accepted by the Company, in which the option is to be passed to beneficiaries upon the death of the trustor (settlor) and (4) with the prior written approval of the Company, by gift, in a form accepted by the Company, to a permitted transferee under Rule 701 of the Securities Act.

10. Option not a Service Contract. Your option is not an employment or service contract, and nothing in your option shall be deemed to create in any way whatsoever any obligation on your part to continue in the employ of the Company or an Affiliate, or of the Company or an Affiliate to continue your employment. In addition, nothing in your option shall obligate the Company or an Affiliate, their respective stockholders, Boards of Directors, Officers or Employees to continue any relationship that you might have as a Director or Consultant for the Company or an Affiliate.

11. Withholding Obligations.

(a) At the time you exercise your option, in whole or in part, or at any time thereafter as requested by the Company, you hereby authorize withholding from payroll and any other amounts payable to you, and otherwise agree to make adequate provision for (including by means of a "cashless exercise" pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board to the extent permitted by the Company), any sums required to satisfy the federal, state, local and foreign tax withholding obligations of the Company or an Affiliate, if any, which arise in connection with your option.

(b) Upon your request and subject to approval by the Company, in its sole discretion, and compliance with any applicable legal conditions or restrictions, the Company may withhold from fully vested shares of Common Stock otherwise issuable to you upon the exercise of your option a number of whole shares of Common Stock having a Fair Market Value, determined by the Company as of the date of exercise, not in excess of the minimum amount of tax required to be withheld by law (or such lower amount as may be necessary to avoid classification of your option as a liability for financial accounting purposes). If the date of determination of any tax withholding obligation is deferred to a date later than the date of exercise of your option, share withholding pursuant to the preceding sentence shall not be permitted unless you make a proper and timely election under Section 83(b) of the Code, covering the aggregate number of shares of Common Stock acquired upon such exercise with respect to which such determination is otherwise deferred, to accelerate the determination of such tax withholding obligation to the date of exercise of your option. Notwithstanding the filing of such election, shares of Common Stock shall be withheld solely from fully vested shares of Common Stock determined as of the date of exercise of your option that are otherwise issuable to you upon such exercise. Any adverse consequences to you arising in connection with such share withholding procedure shall be your sole responsibility.

(c) You may not exercise your option unless the tax withholding obligations of the Company and/or any Affiliate are satisfied. Accordingly, you may not be able to exercise your option when desired even though your option is vested, and the Company shall have no obligation to issue a certificate for such shares of Common Stock unless such obligations are satisfied.

12. **Tax Consequences**. You hereby agree that the Company does not have a duty to design or administer the Plan or its other compensation programs in a manner that minimizes your tax liabilities. You shall not make any claim against the Company, or any of its Officers, Directors, Employees or Affiliates related to tax liabilities arising from your option or your other compensation. In particular, you acknowledge that this option is exempt from Section 409A of the Code only if the exercise price per share specified in the Grant Notice is at least equal to the "fair market value" per share of the Common Stock on the Date of Grant and there is no other impermissible deferral of compensation associated with the option.

13. **Notices.** Any notices provided for in your option or the Plan shall be given in writing and shall be deemed effectively given upon receipt or, in the case of notices delivered by mail by the Company to you, five days after deposit in the United States mail, postage prepaid, addressed to you at the last address you provided to the Company.

14. **Governing Plan Document.** Your option is subject to all the provisions of the Plan, the provisions of which are hereby made a part of your option, and is further subject to all interpretations, amendments, rules and regulations, which may from time to time be promulgated and adopted pursuant to the Plan. In the event of any conflict between the provisions of your option and those of the Plan, the provisions of the Plan shall control.

Exhibit 10.14

IONIS PHARMACEUTICALS, INC.
2011 EQUITY INCENTIVE PLAN

RESTRICTED STOCK UNIT AGREEMENT

Pursuant to the Restricted Stock Unit Grant Notice ("***Grant Notice***") and this Restricted Stock Unit Agreement and in consideration of your services, Ionis Pharmaceuticals, Inc. (the "***Company***") has awarded you a Restricted Stock Unit Award (the "***Award***") under its 2011 Equity Incentive Plan (the "***Plan***"). Your Award is granted to you effective as of the Date of Grant set forth in the Grant Notice for this Award. This Restricted Stock Unit Award Agreement shall be deemed to be agreed to by the Company and you upon the earlier of (i) signing (or electronic acceptance) by you of the Restricted Stock Unit Grant Notice to which it is attached, and (ii) your receipt of shares of Common Stock under this Restricted Stock Unit Agreement. Capitalized terms not explicitly defined in this Restricted Stock Unit Agreement shall have the same meanings given to them in the Plan or the Grant Notice, as applicable. In the event of any conflict between the terms in this Restricted Stock Unit Agreement and the Plan, the terms of the Plan shall control. The details of your Award, in addition to those set forth in the Grant Notice and the Plan, are as follows.

1. GRANT OF THE AWARD. This Award represents the right to be issued on a future date the number of shares of the Company's Common Stock that is equal to the number of stock units indicated in the Grant Notice (the "***Stock Units***"). As of the Date of Grant, the Company will credit to a bookkeeping account maintained by the Company for your benefit (the "***Account***") the number of Stock Units subject to the Award. This Award was granted in consideration of your services to the Company. Except as otherwise provided herein, you will not be required to make any payment to the Company (other than past and future services to the Company) with respect to your receipt of the Award, the vesting of the Stock Units or the delivery of the Common Stock to be issued in respect of the Award.

2. VESTING.

(a) In General. Subject to the limitations contained herein, your Award will vest, if at all, in accordance with the vesting schedule provided in the Grant Notice, provided that vesting will cease upon the termination of your Continuous Service. Upon such termination of your Continuous Service, the Stock Units credited to the Account that were not vested on the date of such termination will be forfeited at no cost to the Company and you will have no further right, title or interest in the Stock Units or the shares of Common Stock to be issued in respect of the Award.

3. NUMBER OF SHARES.

(a) The number of Stock Units subject to your Award may be adjusted from time to time for Capitalization Adjustments, as provided in the Plan.

(b) Any additional Stock Units that become subject to the Award pursuant to this Section 3 and Section 7, if any, shall be subject, in a manner determined by the Board, to the same forfeiture restrictions, restrictions on transferability, and time and manner of delivery as applicable to the other Stock Units covered by your Award.

(c) Notwithstanding the provisions of this Section 3, no fractional shares or rights for fractional shares of Common Stock shall be created pursuant to this Section 3. The Board shall, in its discretion, determine an equivalent benefit for any fractional shares or fractional shares that might be created by the adjustments referred to in this Section 3.

4. Securities Law Compliance. You may not be issued any shares in respect of your Award unless either (i) the shares are registered under the Securities Act; or (ii) the Company has determined that such issuance would be exempt from the registration requirements of the Securities Act. Your Award also must comply with other applicable laws and regulations governing the Award, and you will not receive such shares if the Company determines that such receipt would not be in material compliance with such laws and regulations.

5. Transfer Restrictions. Prior to the time that shares of Common Stock have been delivered to you, you may not transfer, pledge, sell or otherwise dispose of this Award or the shares issuable in respect of your Award, except as expressly provided in this Section 5. For example, you may not use shares that may be issued in respect of your Award as security for a loan. The restrictions on transfer set forth herein will lapse upon delivery to you of shares in respect of your vested Award.

(a) Death. Your Award is transferable by will and by the laws of descent and distribution. In addition, upon receiving written permission from the Board or its duly authorized designee, you may, by delivering written notice to the Company, in a form provided by or otherwise satisfactory to the Company and any broker designated by the Company to effect transactions under the Plan, designate a third party who, in the event of your death, shall thereafter be entitled to receive any distribution of Common Stock or other consideration to which you were entitled at the time of your death pursuant to this Agreement. In the absence of such a designation, your executor or administrator of your estate shall be entitled to receive, on behalf of your estate, such Common Stock or other consideration.

(b) Certain Trusts. Upon receiving written permission from the Board or its duly authorized designee, you may transfer your Award to a trust if you are considered to be the sole beneficial owner (determined under Section 671 of the Code and applicable state law) while the Award is held in the trust, provided that you and the trustee enter into transfer and other agreements required by the Company.

(c) Domestic Relations Orders. Upon receiving written permission from the Board or its duly authorized designee, and provided that you and the designated transferee enter into transfer and other agreements required by the Company, you may transfer your Award or your right to receive the distribution of Common Stock or other consideration thereunder, pursuant to a domestic relations order that contains the information required by the Company to effectuate the transfer. You are encouraged to discuss the proposed terms of any division of this Award with the Company prior to finalizing the domestic relations order to help ensure the required information is contained within the domestic relations order.

6. DATE OF ISSUANCE.

(a) If the Award is exempt from application of Section 409A of the Code and the regulations and other guidance thereunder and any state law of similar effect (collectively **"*Section 409A*"**), the Company will deliver to you a number of shares of the Company's Common Stock equal to the number of vested Stock Units subject to your Award, including any additional Stock Units received pursuant to Section 3 above that relate to those vested Stock Units on the applicable vesting date(s). However, if a scheduled delivery date falls on a date that is not a business day, such delivery date shall instead fall on the next following business day. Notwithstanding the foregoing, in the event that (i) you are subject to the Company's policy permitting officers and directors to sell shares only during certain "window" periods, in effect from time to time (the "***Policy***") or you are otherwise prohibited from selling shares of the Company's Common Stock in the public market and any shares covered by your Award are scheduled to be delivered on a day (the "***Original Distribution Date***") that does not occur during an open "window period" applicable to you or a day on which you are permitted to sell shares of the Company's common stock pursuant to a written plan that meets the requirements of Rule 10b5-1 under the Exchange Act, in each case as determined by the Company in accordance with the Policy, or does not occur on a date when you are otherwise permitted to sell shares of the Company's common stock on the open market, and (ii) the Company elects not to satisfy its tax withholding obligations by withholding shares from your distribution, then such shares shall not be delivered on such Original Distribution Date and shall instead be delivered on the first business day of the next occurring open "window period" applicable to you pursuant to such policy (regardless of whether you are still providing continuous services at such time) or the next business day when you are not prohibited from selling shares of the Company's Common Stock in the open market, but in no event later than the fifteenth day of the third calendar month of the calendar year following the calendar year in which the shares covered by the Award vest. Delivery of the shares pursuant to the provisions of this Section 6(a) is intended to comply with the requirements for the short-term deferral exemption available under Treasury Regulation 1.409A-1(b)(4) and shall be construed and administered in such manner. The form of such delivery of the shares (*e.g.*, a stock certificate or electronic entry evidencing such shares) shall be determined by the Company.

(b) The provisions of this Section 6(b) are intended to apply if the Award is subject to Section 409A because of the terms of a severance arrangement or other agreement between you and the Company, if any, that provides for acceleration of vesting of the Award upon your separation from service (as such term is defined in section 409A(a)(2)(A)(i) of the Code and applicable guidance thereunder ("***Separation From Service***") and such severance benefit does not satisfy the requirements for an exemption from application of Section 409A provided under Treasury Regulations Sections 1.409A-1(b)(4) or 1.409A-1(b)(9) ("***Non-Exempt Severance Arrangement***"). If the Award is subject to and not exempt from application of Section 409A due to application of a Non-Exempt Severance Arrangement, the following provisions in this Section 6(b) shall supersede anything to the contrary in Section 6(a).

(i) If the Award vests in ordinary course during your Continuous Service in accordance with the vesting schedule set forth in the Grant Notice, in no event will the shares to be issued in respect of your Award be issued any later than the later of: (i) December 31st of the calendar year that includes the applicable vesting date, or (ii) the 60th day that follows the applicable vesting date.

(ii) If the Award accelerates vesting under the terms of your Non-Exempt Severance Arrangement in connection with your Separation From Service, and such vesting acceleration provisions of your Non-Exempt Severance Arrangement were in effect as of the date of grant of the Award and therefore part of the terms of the Award as of the date of grant, then the shares will be earlier issued in respect of your Award upon your Separation From Service in accordance with the terms of the Non-Exempt Severance Arrangement, but in no event later than the 60th day that follows the date of your Separation From Service. However, if at the time the shares would otherwise be issued you are subject to the distribution limitations contained in section 409A of the Code applicable to "specified employees" as defined in section 409A(a)(2)(B)(i) of the Code and applicable guidance thereunder, such share issuances shall not be made before the date which is six months following the date of your Separation From Service, or, if earlier, the date of your death that occurs within such six month period.

(iii) If the Award accelerates vesting under the terms of your Non-Exempt Severance Arrangement in connection with your Separation From Service, and such vesting acceleration provisions of your Non-Exempt Severance Arrangement were not in effect as of the date of grant of the Award and therefore not a part of the terms of the Award on the date of grant, then such acceleration of vesting of the Award shall not accelerate the issuance date of the shares, but the shares shall instead be issued on the same schedule as set forth on the Grant Notice as if they had vested in ordinary course during your Continuous Service, notwithstanding the vesting acceleration of the Award. Such issuance schedule is intended to satisfy the requirements of payment on a specified date or pursuant to a fixed schedule, as provided under Treas. Reg. 1.409A-3(a)(4).

(c) The provisions in this Agreement for delivery of the shares in respect of the Award are intended either to comply with the requirements of Section 409A or to provide a basis for exemption from such requirements so that the delivery of the shares will not trigger the additional tax imposed under Section 409A, and any ambiguities herein will be so interpreted.

7. Dividends. You shall be entitled to receive payments equal to any cash dividends and other distributions paid with respect to a corresponding number of shares to be issued in respect of the Stock Units covered by your Award, provided that if any such dividends or distributions are paid in shares, the Fair Market Value of such shares shall be converted into additional Stock Units covered by the Award, and further provided that such additional Stock Units shall be subject to the same forfeiture restrictions and restrictions on transferability as apply to the Stock Units subject to the Award with respect to which they relate.

8. Restrictive Legends. The shares issued in respect of your Award shall be endorsed with appropriate legends determined by the Company.

9. Award not a Service Contract.

(a) Your Continuous Service with the Company or an Affiliate is not for any specified term and may be terminated by you or by the Company or an Affiliate at any time, for any reason, with or without cause and with or without notice. Nothing in this Restricted Stock Unit Agreement (including, but not limited to, the vesting of your Award pursuant to the schedule set forth in Section 2 herein or the issuance of the shares in respect of your Award), the Plan or any covenant of good faith and fair dealing that may be found implicit in this Restricted Stock Unit Agreement or the Plan shall: (i) confer upon you any right to continue in the employ of, or affiliation with, the Company or an Affiliate; (ii) constitute any promise or commitment by the Company or an Affiliate regarding the fact or nature of future positions, future work assignments, future compensation or any other term or condition of employment or affiliation; (iii) confer any right or benefit under this Restricted Stock Unit Agreement or the Plan unless such right or benefit has specifically accrued under the terms of this Agreement or Plan; or (iv) deprive the Company of the right to terminate you at will and without regard to any future vesting opportunity that you may have.

(b) By accepting this Award, you acknowledge and agree that the right to continue vesting in the Award pursuant to the schedule set forth in Section 2 is earned only by continuing as an employee, director or consultant at the will of the Company (not through the act of being hired, being granted this Award or any other award or benefit) and that the Company has the right to reorganize, sell, spin-out or otherwise restructure one or more of its businesses or Affiliates at any time or from time to time, as it deems appropriate (a "reorganization"). You further acknowledge and agree that such a reorganization could result in the termination of your Continuous Service, or the termination of Affiliate status of your employer and the loss of benefits available to you under this Restricted Stock Unit Agreement, including but not limited to, the termination of the right to continue vesting in the Award. You further acknowledge and agree that this Restricted Stock Unit Agreement, the Plan, the transactions contemplated hereunder and the vesting schedule set forth herein or any covenant of good faith and fair dealing that may be found implicit in any of them do not constitute an express or implied promise of continued engagement as an employee or consultant for the term of this Agreement, for any period, or at all, and shall not interfere in any way with your right or the Company's right to terminate your Continuous Service at any time, with or without cause and with or without notice.

10. WITHHOLDING OBLIGATIONS.

(a) On or before the time you receive a distribution of the shares subject to your Award, or at any time thereafter as requested by the Company, you hereby authorize any required withholding from the Common Stock issuable to you and/or otherwise agree to make adequate provision in cash for any sums required to satisfy the federal, state, local and foreign tax withholding obligations of the Company or any Affiliate which arise in connection with your Award (the "***Withholding Taxes***"). Additionally, the Company may, in its sole discretion, satisfy all or any portion of the Withholding Taxes obligation relating to your Award by any of the following means or by a combination of such means: (i) withholding from any compensation otherwise payable to you by the Company; (ii) causing you to tender a cash payment; or (iii) withholding shares of Common Stock from the shares of Common Stock issued or otherwise issuable to you in connection with the Award with a Fair Market Value (measured as of the date shares of Common Stock are issued to pursuant to Section 6) equal to the amount of such Withholding Taxes; provided, however, that the number of such shares of Common Stock so withheld shall not exceed the amount necessary to satisfy the Company's required tax withholding obligations using the minimum statutory withholding rates for federal, state, local and foreign tax purposes, including payroll taxes, that are applicable to supplemental taxable income.

(b) Unless the tax withholding obligations of the Company and/or any Affiliate are satisfied, the Company shall have no obligation to deliver to you any Common Stock.

(c) In the event the Company's obligation to withhold arises prior to the delivery to you of Common Stock or it is determined after the delivery of Common Stock to you that the amount of the Company's withholding obligation was greater than the amount withheld by the Company, you agree to indemnify and hold the Company harmless from any failure by the Company to withhold the proper amount.

(d) If specified in your Grant Notice and permitted by the Company, you may direct the Company to withhold shares of Common Stock with a Fair Market Value (measured as of the date shares of Common Stock are issued pursuant to Section 6) equal to the amount of such Withholding Taxes; provided, however, that the number of such shares of Common Stock so withheld shall not exceed the amount necessary to satisfy the Company's required tax withholding obligations using the minimum statutory withholding rates for federal, state, local and foreign tax purposes, including payroll taxes, that are applicable to supplemental taxable income.

11. **Unsecured Obligation.** Your Award is unfunded, and as a holder of a vested Award, you shall be considered an unsecured creditor of the Company with respect to the Company's obligation, if any, to issue shares pursuant to this Agreement. You shall not have voting or any other rights as a stockholder of the Company with respect to the shares to be issued pursuant to this Agreement until such shares are issued to you pursuant to Section 6 of this Agreement. Upon such issuance, you will obtain full voting and other rights as a stockholder of the Company. Nothing contained in this Agreement, and no action taken pursuant to its provisions, shall create or be construed to create a trust of any kind or a fiduciary relationship between you and the Company or any other person.

12. **Other Documents**. You hereby acknowledge receipt or the right to receive a document providing the information required by Rule 428(b)(1) promulgated under the Securities Act, which includes the Plan prospectus. In addition, you acknowledge receipt of the Company's insider-trading policy and agree that you may sell shares only in compliance with such policy, in effect from time to time.

13. **Notices.** Any notices provided for in your Award or the Plan shall be given in writing and shall be deemed effectively given upon receipt or, in the case of notices delivered by the Company to you, five days after deposit in the United States mail, postage prepaid, addressed to you at the last address you provided to the Company. Notwithstanding the foregoing, the Company may, in its sole discretion, decide to deliver any documents related to participation in the Plan and this Award by electronic means or to request your consent to participate in the Plan by electronic means. You hereby consent to receive such documents by electronic delivery and, if requested, to agree to participate in the Plan through an on-line or electronic system established and maintained by the Company or another third party designated by the Company.

14. Miscellaneous.

(a) The rights and obligations of the Company under your Award shall be transferable to any one or more persons or entities, and all covenants and agreements hereunder shall inure to the benefit of, and be enforceable by the Company's successors and assigns. Your rights and obligations under your Award may only be assigned with the prior written consent of the Company.

(b) You agree upon request to execute any further documents or instruments necessary or desirable in the sole determination of the Company to carry out the purposes or intent of your Award.

(c) You acknowledge and agree that you have reviewed your Award in its entirety, have had an opportunity to obtain the advice of counsel prior to executing and accepting your Award, and fully understand all provisions of your Award.

(d) This Agreement shall be subject to all applicable laws, rules, and regulations, and to such approvals by any governmental agencies or national securities exchanges as may be required.

(e) All obligations of the Company under the Plan and this Agreement shall be binding on any successor to the Company, whether the existence of such successor is the result of a direct or indirect purchase, merger, consolidation, or otherwise, of all or substantially all of the business and/or assets of the Company.

15. Governing Plan Document. Your Award is subject to all the provisions of the Plan, the provisions of which are hereby made a part of your Award, and is further subject to all interpretations, amendments, rules and regulations which may from time to time be promulgated and adopted pursuant to the Plan. Except as expressly provided herein, in the event of any conflict between the provisions of your Award and those of the Plan, the provisions of the Plan shall control.

16. Severability. If all or any part of this Agreement or the Plan is declared by any court or governmental authority to be unlawful or invalid, such unlawfulness or invalidity shall not invalidate any portion of this Agreement or the Plan not declared to be unlawful or invalid. Any Section of this Agreement (or part of such a Section) so declared to be unlawful or invalid shall, if possible, be construed in a manner which will give effect to the terms of such Section or part of a Section to the fullest extent possible while remaining lawful and valid.

17. Effect on Other Employee Benefit Plans. The value of the Award subject to this Agreement shall not be included as compensation, earnings, salaries, or other similar terms used when calculating the Employee's benefits under any employee benefit plan sponsored by the Company or any Affiliate, except as such plan otherwise expressly provides. The Company expressly reserves its rights to amend, modify, or terminate any of the Company's or any Affiliate's employee benefit plans.

18. **Choice of Law.** The interpretation, performance and enforcement of this Agreement will be governed by the law of the state of California without regard to such state's conflicts of laws rules.

19. **Amendment.** This Agreement may not be modified, amended or terminated except by an instrument in writing, signed by you and by a duly authorized representative of the Company. Notwithstanding the foregoing, this Agreement may be amended solely by the Board by a writing which specifically states that it is amending this Agreement, so long as a copy of such amendment is delivered to you, and provided that no such amendment adversely affecting your rights hereunder may be made without your written consent. Without limiting the foregoing, the Board reserves the right to change, by written notice to you, the provisions of this Agreement in any way it may deem necessary or advisable to carry out the purpose of the grant as a result of any change in applicable laws or regulations or any future law, regulation, ruling, or judicial decision, provided that any such change shall be applicable only to rights relating to that portion of the Award which is then subject to restrictions as provided herein.

IONIS PHARMACEUTICALS, INC.
PERFORMANCE BASED RESTRICTED STOCK UNIT GRANT NOTICE
(2011 EQUITY INCENTIVE PLAN)

Ionis Pharmaceuticals, Inc. (the ***"Company"***), pursuant to its Amended and Restated 2011 Equity Incentive Plan (the ***"Plan"***), hereby awards to Participant a Performance Based Restricted Stock Unit (***"PRSU"***) Award for the number of stock units set forth below (the ***"Award"***). The Award is subject to all of the terms and conditions as set forth herein; and in the Plan and the Performance Based Restricted Stock Unit Agreement (the ***"Agreement"***), both of which are attached hereto and incorporated herein in their entirety. Capitalized terms not otherwise defined herein shall have the meanings set forth in the Plan or the Agreement. In the event of any conflict between the terms in the Award and the Plan, the terms of the Plan shall control.

Participant:	_____
Date of Grant:	_____
Target Number of Stock Units Subject to Award:	_____
Maximum Number of Stock Units Subject to Award:	_____
Consideration:	Participant's Services

Vesting Schedule: Subject to Section 4(b) of the Agreement, if Participant ceases to be a Service Provider for any or no reason before Participant vests in the PRSU, the PRSU and Participant's right to acquire any shares hereunder will immediately terminate.

The shares subject to the Award will vest three years following the Date of Grant. The number of shares to vest will be calculated by multiplying the Target Number of shares subject to the Award by a Performance Multiplier as set forth in the Agreement.

You must accept this Award prior to the vest date. If you do not accept this Award by the vest date, this Award will automatically expire.

Issuance Schedule: The shares of Common Stock to be issued in respect of the Award will be issued in accordance with Section 1 of the Agreement.

Special Tax Withholding Right: *If permitted by the Company*, you may direct the Company (i) to withhold or sell shares in the open market, from shares otherwise issuable in respect of the Award, a portion of those shares with an aggregate fair market value (measured as of the delivery date) equal to the amount of the applicable withholding taxes, or (ii) to make a cash payment equal to such fair market value directly to the appropriate taxing authorities, all as provided in Section 12 of the Agreement.

Additional Terms/Acknowledgements: The undersigned Participant acknowledges receipt of, and understands and agrees to, this Grant Notice, the Agreement and the Plan. Participant further acknowledges that as of the Date of Grant, this Grant Notice, the Agreement and the Plan set forth the entire understanding between Participant and the Company regarding the Award and supersede all prior oral and written agreements on that subject, with the exception of any employment or severance arrangement that would provide for vesting acceleration of the Award upon the terms and conditions set forth therein.

IONIS PHARMACEUTICALS, INC.

By: _____
Signature

Title: _____

Date: _____

PARTICIPANT:

_____
Signature

Date: _____

ATTACHMENTS: Performance Based Restricted Stock Unit Agreement

PERFORMANCE BASED RESTRICTED STOCK UNIT AGREEMENT

Pursuant to the Performance Based Restricted Stock Unit Grant Notice ("***Grant Notice***") and this Performance Based Restricted Stock Unit Agreement ("***Agreement***") and in consideration of your services, Ionis Pharmaceuticals, Inc. (the "***Company***") has awarded you a Performance Based Restricted Stock Unit Award (the "***Award***") under its Amended & Restated 2011 Equity Incentive Plan (the "***Plan***"). Your Award is granted to you effective as of the Date of Grant set forth in the Grant Notice for this Award. This Agreement will be deemed to be agreed to by the Company and you upon the earlier of (i) signing (or electronic acceptance) by you of the Grant Notice to which it is attached, and (ii) your receipt of shares of Common Stock under this Agreement. Capitalized terms not explicitly defined in this Agreement will have the same meanings given to them in the Plan or the Grant Notice, as applicable. In the event of any conflict between the terms in this Agreement and the Plan, the terms of the Plan will control. The details of your Award, in addition to those set forth in the Grant Notice and the Plan, are as follows.

1. GRANT AND VESTING OF THE AWARD.

(a) This Award represents the right to be issued on a future date the number of shares of the Company's Common Stock that is equal to the number of performance based restricted stock units ("***PRSUs***") as described below. This Award was granted in consideration of your services to the Company. Except as otherwise provided herein, you will not be required to make any payment to the Company (other than past and future services to the Company) with respect to your receipt of the Award, the vesting of the PRSUs or the delivery of the Common Stock to be issued in respect of the Award.

(b) 100% of the maximum number of PRSUs subject to this Agreement are eligible for vesting at the end of the Performance Period (as defined in Section 2 below) depending on the Company's relative Total Shareholder Return at the end of the Performance Period. The PRSUs subject to vesting during the Performance Period will be subject to forfeiture and cancellation by the Company if the Company's performance during such Performance Period does not meet or exceed the Threshold Level (as defined in the table set forth in Section 3(a)(iii)) of the Performance Measure for the Performance Period.

(c) Following the end of the Performance Period, the Company's Compensation Committee (the "***Committee***") will certify the Company's relative Total Shareholder Return on a percentage rank basis compared to the Comparison Group (the "***Performance Measure***") for such Performance Period (the "***Certification***"). Shares underlying vested PRSUs will be promptly distributed following completion of the Certification but in no event later than March 15 of the year following the year in which the applicable Certification occurred.

2. Additional Definitions.

(a) "***Comparison Group***" means the companies included in the NASDAQ Biotechnology Index on the Date of Grant, as may be adjusted as described in Section 3(b)(iii) below.

(b) "***Performance Period***" means the three-year period commencing on the Date of Grant and ending on the third anniversary of the Date of Grant.

(c) "***Target***" means the target number of shares set forth in the Grant Notice. The Target for the Performance Period will be 100% of the target number of shares set forth in the Grant Notice.

(d) "***Total Shareholder Return***" or "***TSR***" means total shareholder return as applied to the Company or any company in the Comparison Group, meaning stock price appreciation from the beginning to the end of the Performance Period, plus dividends and distributions made or declared (assuming such dividends or distributions are reinvested in the common stock of the Company or any company in the Comparison Group) during the Performance Period, expressed as a percentage return.

3. Calculation.

(a) For purposes of the Award, the number of PRSUs earned at the end of the Performance Period will be calculated using the method as follows:

(i) First, for the Company and for each other company in the Comparison Group, determine the TSR for the Performance Period.

(ii) Next, rank the TSR values determined in step (i) above from low to high (with the company having the lowest TSR being ranked number 1, the company with the second lowest TSR ranked number 2, and so on) and determine the Company's percentile rank based upon its position in the list by dividing the Company's position by the total number of companies (including the Company) in the Comparison Group and rounding the quotient to the nearest hundredth. For example, if the Company was ranked 61 on the list out of 80 companies (including the Company), its percentile rank would be 76.25%.

(iii) Finally, plot the percentile rank for the Company determined in accordance with step (ii) above into the appropriate band in the left-hand column of the table below to determine the number of shares earned as a percent of the Target for the Performance Period, which is the figure in the right-hand column of the table below corresponding to that percentile rank. Use linear interpolation between points in the table below to determine the percentile rank and the corresponding share funding if the Company's percentile rank is greater than 25% and less than 90% but not exactly one of the percentile ranks listed in the left-hand column.

	Relative TSR Percentile Rank	TSR Performance Multiplier
	<25th Percentile	0%
Threshold	25th Percentile	50%
Target	50th Percentile	100%
	60th Percentile	125%
	75th Percentile	150%
Maximum	90th Percentile	200%

There is no minimum number of shares or other consideration that you will receive, and no shares will be earned, if the percentile rank is below the 25th percentile for the Performance Period.

(b) Rules of Calculation:

(i) If the Company's absolute TSR is negative over the Performance Period, the pay-out will not exceed 100% of Target for the Performance Period, even if the percentile rank exceeds the 50th percentile (the "***Negative TSR Cap***").

(ii) Except as modified in Section 3(b)(iii) or 3(b)(iv) below, for purposes of computing TSR, the stock price at the beginning of the Performance Period will be the average closing price of a share of common stock over the 20 trading days beginning on the first day of the Performance Period, and the stock price at the end of the Performance Period will be the average closing price of a share of common stock over the 20 trading days preceding and including the last day of the Performance Period, adjusted for changes in capital structure; *provided, however*, that TSR will be negative one hundred percent (-100%) if a company: (A) files for bankruptcy, reorganization, or liquidation under any chapter of the U.S. Bankruptcy Code; (B) is the subject of an involuntary bankruptcy proceeding that is not dismissed within 30 days; (C) is the subject of a stockholder approved plan of liquidation or dissolution; or (D) ceases to conduct substantial business operations.

(iii) Companies will be removed from the Comparison Group if they undergo a Specified Corporate Change. A company that is removed from the Comparison Group before the measurement date will not be included at all in the computation of relative TSR. A company in the Comparison Group will be deemed to have undergone a ***Specified Corporate Change*** *if* it (A) ceases to be a domestically domiciled publicly traded company on a national stock exchange or market system, unless such cessation of such listing is due to a low stock price or low trading volume; (B) has gone private; (C) has reincorporated in a foreign (e.g., non-U.S.) jurisdiction, regardless of whether it is a reporting company in that or another jurisdiction; or (D) has been acquired by another company (whether by a peer company or otherwise, but not including internal reorganizations), or has sold all or substantially all of its assets.

(iv) The Company's Compensation Committee may in its good faith discretion calculate the TSRs and TSR Percentile Rank using a subscription service (such as Bloomberg) provided such calculation is (A) consistently applied, (B) intended to ease the burden of administering this Award, and (C) intended to preserve the overall intent of this Award.

4. Vesting And Termination of Continuous Service.

(a) In General. Subject to the limitations contained herein, your Award will vest, if at all, in accordance with Section 1 above, provided that vesting will cease upon the termination of your Continuous Service except as set forth below. Upon termination of your Continuous Service, the PRSUs that were not vested on the date of such termination will be forfeited at no cost to the Company, and you will have no further right, title or interest in the PRSUs or the shares of Common Stock to be issued in respect of the Award except as set forth below.

(b) Change in Control.

(i) If a Change in Control Termination (as such term is defined in the Company's Severance Benefit Plan adopted October 18, 2018 (the "***Severance Plan***")) occurs during the Change in Control Protection Period (as such term is defined in the Severance Plan), the Award will pay-out at Target and the Target PRSUs subject to such Award that have not already vested will vest immediately upon the Change in Control Termination.

(ii) If a Change in Control (as such term is defined in the Severance Plan) occurs and your Award will not be assumed, continued or substituted by the successor or acquiror entity in such Change in Control, the Award will pay-out at Target and the Target PRSUs subject to such Award that have not already vested will vest immediately upon the Change in Control.

(iii) If a Change in Control (as such term is defined in the Severance Plan) occurs and your Award will be assumed, continued or substituted by the successor or acquiror entity in such Change in Control, the PRSUs subject to such Award will automatically convert upon the Change in Control to time-vested restricted stock units ("***RSUs***") at a rate of one RSU for each of the Target number of PRSUs. The RSUs will not be subject to the relative TSR performance measure described in Section 1 above and instead will vest at Target at the end of the applicable Performance Periods outlined in Section 2(b) above that are still remaining at the time of the Change in Control. Such RSUs will be subject to further acceleration in the case of a Change in Control Termination during the Change in Control Protection Period (as such term is defined in the Severance Plan).Notwithstanding anything to the contrary in this Agreement or the Severance Plan, if you are a party to a prior written employment agreement, change of control agreement, or plan or other similar written agreement or plan (each, a "***Prior Agreement***"), that provides, in certain circumstances, for greater benefits regarding the accelerated vesting of equity awards (including PRSUs) following a Change in Control of the Company or similar transaction, the terms of such Prior Agreement shall control the definition of the term "*Change in Control*" (or any term used therein of similar import) and the terms and conditions by which the vesting of the PRSUs may be accelerated as a result of a Change in Control, as well as the benefits that may otherwise be available to you upon a Change in Control.

5. Adjustments to Number of Shares.

(a) The number of shares subject to your Award may be adjusted from time to time for Capitalization Adjustments, as provided in the Plan.

(b) Any additional shares that become subject to the Award pursuant to this Section 5 and Section 9, if any, will be subject, in a manner determined by the Board, to the same forfeiture restrictions, restrictions on transferability, and time and manner of delivery as applicable to the other shares covered by your Award.

(c) Notwithstanding the provisions of this Section 5, no fractional shares or rights for fractional shares of Common Stock will be created pursuant to this Section 5. The Board will, in its discretion, determine an equivalent benefit for any fractional shares or fractional shares that might be created by the adjustments referred to in this Section 5.

6. Securities Law Compliance. You may not be issued any shares in respect of your Award unless either (i) the shares are registered under the Securities Act; or (ii) the Company has determined that such issuance would be exempt from the registration requirements of the Securities Act. Your Award also must comply with other applicable laws and regulations governing the Award, and you will not receive such shares if the Company determines that such receipt would not be in material compliance with such laws and regulations.

7. Transfer Restrictions. Prior to the time that shares of Common Stock have been delivered to you, you may not transfer, pledge, sell or otherwise dispose of this Award or the shares issuable in respect of your Award, except as expressly provided in this Section 7. For example, you may not use shares that may be issued in respect of your Award as security for a loan. The restrictions on transfer set forth herein will lapse upon delivery to you of shares in respect of your vested Award.

(a) **Death**. Your Award is transferable by will and by the laws of descent and distribution. In addition, upon receiving written permission from the Board or its duly authorized designee, you may, by delivering written notice to the Company, in a form provided by or otherwise satisfactory to the Company and any broker designated by the Company to effect transactions under the Plan, designate a third party who, in the event of your death, will thereafter be entitled to receive any distribution of Common Stock or other consideration to which you were entitled at the time of your death pursuant to this Agreement. In the absence of such a designation, your executor or administrator of your estate will be entitled to receive, on behalf of your estate, such Common Stock or other consideration.

(b) **Certain Trusts.** Upon receiving written permission from the Board or its duly authorized designee, you may transfer your Award to a trust if you are considered to be the sole beneficial owner (determined under Section 671 of the Code and applicable state law) while the Award is held in the trust, provided that you and the trustee enter into transfer and other agreements required by the Company.

(c) Domestic Relations Orders. Upon receiving written permission from the Board or its duly authorized designee, and provided that you and the designated transferee enter into transfer and other agreements required by the Company, you may transfer your Award or your right to receive the distribution of Common Stock or other consideration thereunder, pursuant to a domestic relations order that contains the information required by the Company to effectuate the transfer. You are encouraged to discuss the proposed terms of any division of this Award with the Company prior to finalizing the domestic relations order to help ensure the required information is contained within the domestic relations order.

8. Date of Issuance.

(a) If the Award is exempt from application of Section 409A of the Code and the regulations and other guidance thereunder and any state law of similar effect (collectively **"*Section 409A*"**), the Company will deliver to you a number of shares of the Company's Common Stock equal to the number of vested PRSUs subject to your Award, including any additional PRSUs received pursuant to Section 5 above that relate to those vested PRSUs in accordance with Section 1(c) above. Notwithstanding the foregoing, in the event that (i) you are subject to the Company's policy permitting officers and directors to sell shares only during certain "window" periods, in effect from time to time (the "***Policy***") or you are otherwise prohibited from selling shares of the Company's Common Stock in the public market and any shares covered by your Award are scheduled to be delivered on a day (the "***Original Distribution Date***") that does not occur during an open "window period" applicable to you or a day on which you are permitted to sell shares of the Company's Common Stock pursuant to a written plan that meets the requirements of Rule 10b5-1 under the Exchange Act, in each case as determined by the Company in accordance with the Policy, or does not occur on a date when you are otherwise permitted to sell shares of the Company's Common Stock on the open market, and (ii) the Company elects not to satisfy its tax withholding obligations (if any) by withholding shares from your distribution, then such shares will not be delivered on such Original Distribution Date and will instead be delivered on the first business day of the next occurring open "window period" applicable to you pursuant to such policy (regardless of whether you are still providing Continuous Services at such time) or the next business day when you are not prohibited from selling shares of the Company's Common Stock in the open market, but in no event later than the fifteenth day of the third calendar month of the calendar year following the calendar year in which the shares covered by the Award vest. Delivery of the shares pursuant to the provisions of this Section 8(a) is intended to comply with the requirements for the short-term deferral exemption available under Treasury Regulation 1.409A-1(b)(4) and will be construed and administered in such manner. The form of such delivery of the shares (*e.g.*, a stock certificate or electronic entry evidencing such shares) will be determined by the Company.

(b) The provisions of this Section 8(b) are intended to apply if the Award is subject to Section 409A because of the terms of a severance arrangement or other agreement between you and the Company that provides for acceleration of vesting of the Award upon your separation from service (as such term is defined in section 409A(a)(2)(A)(i) of the Code and applicable guidance thereunder ("***Separation From Service***") and such severance benefit does not satisfy the requirements for an exemption from application of Section 409A provided under Treasury Regulations Sections 1.409A-1(b)(4) or 1.409A-1(b)(9) ("***Non-Exempt Severance Arrangement***"). If the Award is subject to and not exempt from application of Section 409A due to application of a Non-Exempt Severance Arrangement, the following provisions in this Section 8(b) will supersede anything to the contrary in Section 8(a).

(i) If the Award vests in ordinary course during your Continuous Service in accordance with the vesting schedule set forth in the Grant Notice, in no event will the shares to be issued in respect of your Award be issued any later than the later of: (A) December 31st of the calendar year that includes the applicable vesting date, or (B) the 60th day that follows the applicable vesting date.

(ii) If the Award accelerates vesting under the terms of your Non-Exempt Severance Arrangement in connection with your Separation From Service, and such vesting acceleration provisions of your Non-Exempt Severance Arrangement were in effect as of the Date of Grant of the Award and therefore part of the terms of the Award as of the Date of Grant, then the shares will be earlier issued in respect of your Award upon your Separation From Service in accordance with the terms of the Non-Exempt Severance Arrangement, but in no event later than the 60th day that follows the date of your Separation From Service. However, if at the time the shares would otherwise be issued you are subject to the distribution limitations contained in section 409A of the Code applicable to "specified employees" as defined in section 409A(a)(2)(B)(i) of the Code and applicable guidance thereunder, such share issuances will not be made before the date which is six months following the date of your Separation From Service, or, if earlier, the date of your death that occurs within such six month period.

(iii) If the Award accelerates vesting under the terms of your Non-Exempt Severance Arrangement in connection with your Separation From Service, and such vesting acceleration provisions of your Non-Exempt Severance Arrangement were not in effect as of the Date of Grant of the Award and therefore not a part of the terms of the Award on the Date of Grant, then such acceleration of vesting of the Award will not accelerate the issuance date of the shares, but the shares will instead be issued on the same schedule as set forth on the Grant Notice as if they had vested in ordinary course during your Continuous Service, notwithstanding the vesting acceleration of the Award. Such issuance schedule is intended to satisfy the requirements of payment on a specified date or pursuant to a fixed schedule, as provided under Treas. Reg. 1.409A-3(a)(4).

(c) The provisions in this Agreement for delivery of the shares in respect of the Award are intended either to comply with the requirements of Section 409A or to provide a basis for exemption from such requirements so that the delivery of the shares will not trigger the additional tax imposed under Section 409A, and any ambiguities herein will be so interpreted.

9. Dividends. You will be entitled to receive payments equal to any cash dividends and other distributions paid with respect to a corresponding number of shares to be issued in respect of the PRSUs covered by your Award, provided that if any such dividends or distributions are paid in shares, the Fair Market Value of such shares will be converted into additional PRSUs covered by the Award, and further provided that such additional PRSUs will be subject to the same forfeiture restrictions and restrictions on transferability as apply to the PRSUs subject to the Award with respect to which they relate.

10. Restrictive Legends. The shares issued in respect of your Award will be endorsed with appropriate legends determined by the Company.

11. Award not a Service Contract.

(a) Your Continuous Service with the Company or an Affiliate is not for any specified term and may be terminated by you or by the Company or an Affiliate at any time, for any reason, with or without cause and with or without notice. Nothing in this Agreement (including, but not limited to, the vesting of your Award pursuant to Section 1 herein or the issuance of the shares in respect of your Award), the Plan or any covenant of good faith and fair dealing that may be found implicit in this Agreement or the Plan will: (i) confer upon you any right to continue in the employ of, or affiliation with, the Company or an Affiliate; (ii) constitute any promise or commitment by the Company or an Affiliate regarding the fact or nature of future positions, future work assignments, future compensation or any other term or condition of employment or affiliation; (iii) confer any right or benefit under this Agreement or the Plan unless such right or benefit has specifically accrued under the terms of this Agreement or Plan; or (iv) deprive the Company of the right to terminate you at will and without regard to any future vesting opportunity that you may have.

(b) By accepting this Award, you acknowledge and agree that the right to continue vesting in the Award pursuant to Section 1 is earned only by continuing as an employee, director or consultant at the will of the Company (not through the act of being hired, being granted this Award or any other award or benefit) and that the Company has the right to reorganize, sell, spin-out or otherwise restructure one or more of its businesses or Affiliates at any time or from time to time, as it deems appropriate (a "reorganization"). You further acknowledge and agree that such a reorganization could result in the termination of your Continuous Service, or the termination of Affiliate status of your employer and the loss of benefits available to you under this Agreement, including but not limited to, the termination of the right to continue vesting in the Award. You further acknowledge and agree that this Agreement, the Plan, the transactions contemplated hereunder and the vesting schedule set forth herein or any covenant of good faith and fair dealing that may be found implicit in any of them do not constitute an express or implied promise of continued engagement as an employee or consultant for the term of this Agreement, for any period, or at all, and will not interfere in any way with your right or the Company's right to terminate your Continuous Service at any time, with or without cause and with or without notice.

12. Withholding Obligations.

(a) On or before the time you receive a distribution of shares subject to your Award, or at any time thereafter as requested by the Company, you hereby authorize any required withholding (if any) from the Common Stock issuable to you and/or otherwise agree to make adequate provision in cash for any sums required to satisfy the federal, state, local and foreign tax withholding obligations (if any) of the Company or any Affiliate which arise in connection with your Award (the "***Withholding Taxes***"). Additionally, the Company may, in its sole discretion, satisfy all or any portion of the Withholding Taxes obligation relating to your Award by any of the following means or by a combination of such means: (i) withholding from any compensation otherwise payable to you by the Company; (ii) causing you to tender a cash payment; (iii) withholding shares of Common Stock from the shares of Common Stock issued or otherwise issuable to you in connection with the Award with a Fair Market Value (measured as of the date shares of Common Stock are issued pursuant to Section 8) equal to the amount of such Withholding Taxes; provided, however, that the number of such shares of Common Stock so withheld will not exceed the amount necessary to satisfy the Company's required tax withholding obligations using the minimum statutory withholding rates for federal, state, local and foreign tax purposes, including payroll taxes, that are applicable to supplemental taxable income; or (iv) selling shares of Common Stock in the open market that are issued to you in connection with the Award with a Fair Market Value (measured as of the date shares of Common Stock are issued pursuant to Section 8) equal to the amount of such Withholding Taxes; provided, however, that the number of such shares of Common Stock so sold will not exceed the amount necessary to satisfy the Company's required tax withholding obligations using the minimum statutory withholding rates for federal, state, local and foreign tax purposes, including payroll taxes, that are applicable to supplemental taxable income.

(b) Unless the tax withholding obligations of the Company and/or any Affiliate are satisfied, the Company will have no obligation to deliver to you any Common Stock.

(c) In the event the Company's obligation to withhold arises prior to the delivery to you of Common Stock or it is determined after the delivery of Common Stock to you that the amount of the Company's withholding obligation was greater than the amount withheld by the Company, you agree to indemnify and hold the Company harmless from any failure by the Company to withhold the proper amount.

13. **Unsecured Obligation.** Your Award is unfunded, and as a holder of a vested Award, you will be considered an unsecured creditor of the Company with respect to the Company's obligation, if any, to issue shares pursuant to this Agreement. You will not have voting or any other rights as a stockholder of the Company with respect to the shares to be issued pursuant to this Agreement until such shares are issued to you pursuant to Section 8 of this Agreement. Upon such issuance, you will obtain full voting and other rights as a stockholder of the Company. Nothing contained in this Agreement, and no action taken pursuant to its provisions, will create or be construed to create a trust of any kind or a fiduciary relationship between you and the Company or any other person.

14. **Other Documents**. You hereby acknowledge receipt or the right to receive a document providing the information required by Rule 428(b)(1) promulgated under the Securities Act, which includes the Plan prospectus. In addition, you acknowledge receipt of the Company's insider-trading policy and agree that you may sell shares only in compliance with such policy, in effect from time to time.

15. **Notices.** Any notices provided for in your Award or the Plan will be given in writing and will be deemed effectively given upon receipt or, in the case of notices delivered by the Company to you, five days after deposit in the United States mail, postage prepaid, addressed to you at the last address you provided to the Company. Notwithstanding the foregoing, the Company may, in its sole discretion, decide to deliver any documents related to participation in the Plan and this Award by electronic means or to request your consent to participate in the Plan by electronic means. You hereby consent to receive such documents by electronic delivery and, if requested, to agree to participate in the Plan through an on-line or electronic system established and maintained by the Company or another third party designated by the Company.

16. Miscellaneous.

(a) The rights and obligations of the Company under your Award will be transferable to any one or more persons or entities, and all covenants and agreements hereunder will inure to the benefit of, and be enforceable by the Company's successors and assigns. Your rights and obligations under your Award may only be assigned with the prior written consent of the Company.

(b) You agree upon request to execute any further documents or instruments necessary or desirable in the sole determination of the Company to carry out the purposes or intent of your Award.

(c) You acknowledge and agree that you have reviewed your Award in its entirety, have had an opportunity to obtain the advice of counsel prior to executing and accepting your Award, and fully understand all provisions of your Award.

(d) This Agreement will be subject to all applicable laws, rules, and regulations, and to such approvals by any governmental agencies or national securities exchanges as may be required.

(e) All obligations of the Company under the Plan and this Agreement will be binding on any successor to the Company, whether the existence of such successor is the result of a direct or indirect purchase, merger, consolidation, or otherwise, of all or substantially all of the business and/or assets of the Company.

17. Governing Plan Document. Your Award is subject to all the provisions of the Plan, the provisions of which are hereby made a part of your Award, and is further subject to all interpretations, amendments, rules and regulations which may from time to time be promulgated and adopted pursuant to the Plan. Except as expressly provided herein, in the event of any conflict between the provisions of your Award and those of the Plan, the provisions of the Plan will control.

18. Severability. If all or any part of this Agreement or the Plan is declared by any court or governmental authority to be unlawful or invalid, such unlawfulness or invalidity will not invalidate any portion of this Agreement or the Plan not declared to be unlawful or invalid. Any Section of this Agreement (or part of such a Section) so declared to be unlawful or invalid will, if possible, be construed in a manner which will give effect to the terms of such Section or part of a Section to the fullest extent possible while remaining lawful and valid.

19. Effect on Other Employee Benefit Plans. The value of the Award subject to this Agreement shall not be included as compensation, earnings, salaries, or other similar terms used when calculating your benefits under any employee benefit plan sponsored by the Company or any Affiliate, except as such plan otherwise expressly provides. The Company expressly reserves its rights to amend, modify, or terminate any of the Company's or any Affiliate's employee benefit plans.

20. **Choice of Law.** The interpretation, performance and enforcement of this Agreement will be governed by the law of the state of California without regard to such state's conflicts of laws rules.

21. **Amendment.** This Agreement may not be modified, amended or terminated except by an instrument in writing, signed by you and by a duly authorized representative of the Company. Notwithstanding the foregoing, this Agreement may be amended solely by the Board by a writing which specifically states that it is amending this Agreement, so long as a copy of such amendment is delivered to you, and provided that no such amendment adversely affecting your rights hereunder may be made without your written consent. Without limiting the foregoing, the Board reserves the right to change, by written notice to you, the provisions of this Agreement in any way it may deem necessary or advisable to carry out the purpose of the grant as a result of any change in applicable laws or regulations or any future law, regulation, ruling, or judicial decision, provided that any such change will be applicable only to rights relating to that portion of the Award which is then subject to restrictions as provided herein.

22. **Discretion of the Committee.** Unless otherwise explicitly provided herein, the Compensation Committee of the Board of Directors of the Company, or an authorized successor committee thereto, shall make all determinations required to be made hereunder, including but not limited to determinations relating to the achievement of any thresholds or the vesting of any PRSUs hereunder, and shall interpret all provisions of this PRSU Award Agreement and the underlying PRSUs, as it deems necessary or desirable, in its sole and absolute discretion. Such determinations and interpretations shall be binding on and conclusive to the Company and you. Without limiting the foregoing, the Company may, in its sole and absolute discretion, delay payments hereunder or make such other modifications with respect to the issuance of stock hereunder as it reasonably deems necessary to the extent that (a) audited financials are not complete for any applicable period during the Performance Period and/or (b) the Company has not had an adequate opportunity to review the audited financials or confirm the applicable TSR Percentile Ranks.

Exhibit 10.23

CERTAIN CONFIDENTIAL PORTIONS OF THIS EXHIBIT HAVE BEEN OMITTED AND REPLACED WITH "[***]". SUCH IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THIS EXHIBIT BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL.

LEASE AGREEMENT

by and between

SUDBERRY DEVELOPMENT, INC.,

a California corporation,

as Landlord

and

IONIS PHARMACEUTICALS, INC.,

a Delaware corporation,

as Tenant

Dated as of October 6, 2022

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LEASE AGREEMENT

THIS LEASE AGREEMENT (this "**Lease**") is made as of October 6, 2022 (the "**Effective Date**"), by and between SUDBERRY DEVELOPMENT, INC., a California corporation (the "**Landlord**"), and IONIS PHARMACEUTICALS, INC., a Delaware corporation (the "**Tenant**").

RECITALS

A. Landlord has the right, subject to certain conditions set forth in that certain Disposition and Development Agreement dated January 2, 2013, by and between Landlord and the City of Oceanside, a charter city (the "**City**"), as amended by that certain Amendment No. 1 dated March 27, 2013 and that certain Amendment No. 2 dated November 6, 2019 (as so amended, the "**Commercial DDA**") to acquire fee title to that certain vacant, undeveloped real property consisting of approximately 13.1 acres, as reflected on Exhibit A attached hereto (as may be adjusted pursuant to New Project Documents, the "**Land**").

B. Upon the satisfaction of certain conditions as set forth in the Commercial DDA, Landlord shall acquire fee title to the Land from the City by the recordation of a grant deed (the "**Closing**") from the City to a-yet-to-be-formed affiliate of Landlord (the "**Landlord Affiliate**").

C. In anticipation of the Closing, Landlord and Tenant have entered into this Lease for the Premises (as defined below); Landlord's rights and obligations as landlord under the Lease will be assigned to the Landlord Affiliate on or after the Closing.

NOW, THEREFORE, in consideration of the foregoing recitals and the mutual covenants contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

AGREEMENT

1. The Premises and Project.

1.1 The Premises; Lease Commencement Date. Landlord hereby leases to Tenant, and Tenant hereby leases from Landlord, those certain premises (the "**Premises**") located on the Land which shall be developed with that certain building (the "**Building**") to be constructed, consisting of approximately 217,000 rentable square feet (composed of office space, R&D space, and warehouse space), as well as approximately 34,600 square feet of mezzanine space, all as outlined in the Site Plan attached hereto as Exhibit A-1 and the Landlord-Tenant Responsibility Matrix attached hereto as Schedule 1 to Exhibit B. The parties hereby agree that the lease of the Premises is subject to the terms, covenants, and conditions set forth in this Lease, and Landlord and Tenant each covenant as a material part of the consideration for this Lease to keep and perform each and all of such terms, covenants, and conditions to be kept and performed by it, and that this Lease is made upon the condition of such performance. The parties further acknowledge and agree that the purpose of Exhibit A-1 is to show the approximate location of the Premises only, and such Exhibit is not meant to constitute an agreement, representation, or warranty as to the construction of the Premises, the precise area thereof or the specific location of the Common Areas (as defined below), or the elements thereof or the accessways to the Premises or the Project (as defined below); provided, however, changes to the Project are subject to Section 1.4, below. Except as specifically set forth in this Lease and in the Work Letter attached hereto as Exhibit B, Landlord shall tender possession of the Premises to Tenant in its "**AS IS"** condition, and Landlord shall not be obligated to provide or pay for any improvement work or services related to the improvement of the Premises or the Project. Landlord shall be deemed to have tendered possession of the Premises to Tenant upon the date of Substantial Completion of Landlord's Work, as those terms are defined in the Work Letter (the "**Lease Commencement Date**"). Except as expressly set forth in Section 2, below, if for any reason, Landlord is delayed in tendering possession of the Premises to Tenant by any particular date, Landlord shall not be subject to any liability for such failure, and the validity of this Lease shall not be impaired.

1.1.1 Remeasurement. Landlord reserves a one-time right after Building completion and in association with any Alterations (as defined below) that materially increase the square footage of the existing Premises to remeasure the Premises and the Building, and an ongoing right to measure any other portion of the Project in accordance with the commonly used or current or revised standards promulgated from time to time by the Building Owners and Managers Association (BOMA) or other generally-accepted measurement standards utilized by Landlord and to thereafter adjust the square footage of the Premises, Base Rent (as defined below), and Tenant's Proportionate Share (as defined below) of the Project and any other affected tenants of the Building and/or Project and all other future amounts payable by Tenant hereunder based upon the rentable area of the Premises and/or the Project.

1.2 The Project. The Building in which the Premises are located and the Common Areas are part of a larger commercial project (the "**Project**") owned or to be owned by Landlord or a Landlord Affiliate, which Landlord currently intends to consist of: (i) the Land upon which the Building and Premises are located, as well as (ii) additional land as reflected on Exhibit A-2 attached hereto, upon which improvements for commercial use are intended to be constructed. Tenant acknowledges that Landlord intends to record a final map or maps of the Project (the "**Final Map**") which may, among other things, subdivide all or a portion of the Project, create setbacks or slope areas, road and accessways through the Project, and accomplish other development objectives, but that the actual development of the Project, other than Landlord's express obligations pursuant to this Lease, is not guaranteed, and that Landlord may or may not construct or include all or any portion of the Project at any time, in its absolute and sole discretion. Any Final Map affecting the Premises or Land shall be subject to Tenant's approval rights of a New Project Document as set forth in Section 6.3, below. Landlord or a Landlord Affiliate also owns and intends to construct a sports arena and residential improvements northeast of the Land; such improvements are not a part of the Project and in no event shall any costs therefore be included in Operating Expenses (as defined below) or otherwise incurred therefor.

1.3 Common Areas. Tenant shall have the non-exclusive right to use in common with other tenants in the Project, and subject to the Rules (as defined below), those portions of the Project which are provided, from time to time, for use in common by Landlord, Tenant, and any other tenants of the Project (such areas, together with such other portions of the Project designated by Landlord, in its discretion, are collectively referred to herein as the "**Common Areas**"). The Common Areas shall be maintained and operated by Landlord in a manner that is consistent with a first-class mixed-use development.

1.4 Landlord Rights. Subject to the express rights and obligations set forth in this Lease, Landlord has the right, in its sole but reasonable discretion, from time to time, to: (a) make changes to the Project, including, but not limited to, changes in the location, size, shape and number of driveways, entrances, parking areas (provided reasonable alternatives acceptable to Tenant are provided), ingress, egress, direction of driveways, entrances and walkways; (b) close temporarily any portion of the Project for maintenance purposes so long as reasonable access to the Premises and parking areas remains available and reasonably convenient as reasonably determined by Tenant; (c) add additional buildings and improvements to the Project or remove existing buildings or improvements therefrom; (d) use the Common Areas while engaged in making additional improvements, repairs or alterations to the Project or any portion thereof; and (e) do and perform any other acts, alter or expand, or make any other changes in, to or with respect to the Building and/or the Project as Landlord may, in its sole but reasonable discretion, deem appropriate; provided, however, any such changes must be consistent with standards of first-class mixed-use developments. Landlord shall use reasonable efforts while conducting any of the foregoing activities to avoid any interference with Tenant's use of or access to the Premises, but Landlord shall not be subject to liability nor shall Tenant be entitled to any compensation or abatement or diminution of Rent (as defined below) as a result of such activities, Alterations or changes. Notwithstanding anything contained in this Section, or anywhere else in this Lease, at no time shall Landlord (aa) change the Project in a manner that materially increases Tenant's obligations or materially reduces Tenant's rights under this Lease, including without limitation regarding access to or use of the parking areas, or (bb) restrict access to the Premises during Tenant's normal hours of operation, unless such restriction is necessitated by an emergency occurring within or to the Premises, the Building, or the Project.

1.5 Landlord's Warranty. As of the Lease Commencement Date, Landlord shall and hereby does represent and warrant that the Building Systems (as defined below) installed as part of the Landlord's Work (as defined in Section 2.1 of the Work Letter) shall be in good working order, condition, and repair.

2. Term; Delays in Delivery.

2.1 Effectiveness of the Lease. Tenant acknowledges that Landlord does not own the Land upon which the Premises are located as of the Effective Date. Notwithstanding the foregoing, subject to the terms and conditions hereof: (i) this Lease shall be and become effective as of the Effective Date; provided, however, this Lease shall be and is contingent upon the occurrence of the Closing on or before the Outside Closing Date (as defined below), and (ii) upon the Closing, the conditions set forth in this Section 2.1 shall be satisfied, and this Lease will be deemed fully effective. Tenant agrees to execute any factually accurate and commercially reasonable amendment to the Lease required by Landlord to memorialize the foregoing and the assignment of the Lease by Landlord to the Landlord Affiliate.

2.1.1 Outside Closing Date. Following the Effective Date hereof, Landlord shall provide weekly updates on the developments with the City (which may be delivered via e-mail only) and the anticipated date for Closing and shall provide Tenant with written notice of the anticipated date for Closing seventy-five (75) days, thirty (30) days and five (5) days in advance thereof. In the event the Closing has not occurred by the date that is eight (8) months after the Effective Date ("**Outside Closing Date**"), Tenant may elect, by written notice to Landlord delivered within five (5) days after the Outside Closing Date, to terminate this Lease, in which case neither party shall have any further liability or obligation hereunder, except those liabilities and obligations that expressly survive Lease termination; provided, however, that if the Closing has occurred within such five (5)-day period, or if Landlord is able to provide evidence reasonably acceptable to Tenant that the Closing will occur within thirty (30) days, then any right to terminate and/or notice thereof shall be deemed rescinded, null and void, and the parties shall continue to be bound by this Lease. In the event the Outside Closing Date does not occur within twelve (12) months after the Effective Date, Landlord may elect, by written notice to Tenant delivered within five (5) days after such 12-month period, to terminate this Lease, in which case neither party shall have any further liability or obligation hereunder, except those expressly set forth herein. Notwithstanding the foregoing, Landlord shall not have the right to terminate this Lease in the event such delay is caused in whole or in part by the negligence of Landlord, its agents, contractors, employees, or representatives, or anyone acting under or on behalf of Landlord. If neither party timely serves the written notice of termination referenced in the preceding sentences, then the Outside Closing Date shall be extended for a period of thirty (30) days, whereupon the rights of the parties set forth in the preceding sentence shall again apply with respect to such extended date. The process set forth above shall continue until such time as a party has timely exercised its rights hereunder or the Closing has occurred.

2.2 Occurrence of Lease Commencement Date. Landlord will work diligently and shall use its commercially reasonable, good-faith efforts to cause the Lease Commencement Date to occur on or before the date that is twenty-four (24) months after the point in time at which the City of Oceanside's action(s) approving Landlord's Work (the "**Approvals**") become final either due to (i) the expiration of any appeals/challenge period, with no such appeal or challenge being filed (either through the City of Oceanside or in any court of competent jurisdiction) or (ii) any and all such filed appeal(s) or challenge(s) having been determined, on a final, unappealable basis, as unsuccessful (the "**Estimated Commencement Date**"); provided, however, if no later than five (5) business days prior to such Estimated Commencement Date, Landlord delivers evidence reasonably acceptable to Tenant that Landlord is working diligently and continuously and in good faith to complete the Landlord Work and will complete the Landlord Work within thirty (30) days, the Estimated Commencement Date shall be extended for such thirty (30) day period. If, for any reason whatsoever, the Lease Commencement Date does not occur on or before the Estimated Commencement Date, this Lease shall not be void or voidable, nor shall Landlord, or Landlord's agents, advisors, employees, partners, members, shareholders, directors, officers, invitees, independent contractors, or Landlord's manager (collectively, "**Landlord Party(ies)**"), be liable to Tenant for any loss or damage resulting therefrom except as expressly provided herein. Subject to any contrary provisions in the Work Letter, Tenant shall not be liable for Base Rent until Landlord delivers possession of the Premises to Tenant in the condition required by this Lease, and the Lease Expiration Date (as defined below) shall be extended by the same number of days that Tenant's possession of the Premises was delayed beyond the Estimated Commencement Date. If the Lease Commencement Date does not occur on or before the date that is ninety (90) days after the Estimated Commencement Date (the "**Late Delivery Deadline**"), Landlord will pay Tenant as liquidated damages (and not as a penalty) a late delivery fee in the amount of one (1) day of Base Rent for each day of delay after the Late Delivery Deadline that the Lease Commencement Date has not occurred. If the Lease Commencement Date does not occur on or before the date that is sixty (60) days after the Late Delivery Deadline, Tenant shall be entitled to two (2) days of Base Rent for each day of delay after the Estimated Delivery Date. If the Lease Commencement Date does not occur on or before the date that is ninety (90) days after the Late Delivery Deadline, Tenant shall have the right to terminate this Lease by delivering written notice thereof to Landlord, which termination shall be effective twenty (20) days thereafter if the Lease Commencement Date has not occurred by then. Upon any such termination, Landlord shall return all prepaid Rent and the parties shall have no further obligations hereunder, other than such obligations that expressly survive the termination of this Lease. Tenant acknowledges that its rights to late fees and termination as set herein are Tenant's sole and exclusive remedies at law or in equity for the failure of the Lease Commencement Date and Landlord's obligations related thereto to occur as set forth in this Lease.

2.3 Delays. Any and all deadlines regarding possession and delivery of the Premises, including without limitation, the Estimated Commencement Date, the Lease Commencement Date, the Late Delivery Deadline, and any Key Milestones (as defined below) shall be extended due to Force Majeure (as defined below), any Tenant Delays (as defined in Section 2.4.1 of the Work Letter), and any delay or delays encountered by Landlord affecting the construction of Landlord's Work (as defined below) solely due to waiting periods for obtaining governmental permits or approvals in excess of the time periods normally required to obtain such permits or approvals for newly-constructed, similarly-improved office and laboratory buildings in San Diego, California provided Landlord is diligently and continuously pursuing such approvals and permits. Landlord shall provide Tenant with regular updates regarding the progress of the Landlord's Work, the Estimated Commencement Date, the anticipated date of Substantial Completion of Landlord's Work, and any significant changes to the construction schedule. Notwithstanding the foregoing and anything herein to the contrary, in the event Landlord fails to achieve any of the following, Tenant shall have the right, as its sole remedy, to terminate this Lease, and neither party shall thereafter have any further rights or obligations under this Lease except those which expressly survive such termination: (a) Landlord does not obtain all Approvals by June 30, 2023 provided that if any appeal of or challenge to an Approval is filed, such date shall be tolled until the determination of such appeal or challenge, on a final, unappealable basis, as unsuccessful; (b) Landlord fails to commence grading of the Land upon which the Premises will be located on or before July 31, 2023, or (c) Landlord fails to commence active construction on site of Landlord's Work by March 15, 2024 (each of the foregoing, a "**Key Milestone**"). In the event Landlord fails to achieve a Key Milestone, Tenant may provide Landlord with written notice within thirty (30) days following the expiration of the Key Milestone of its election to terminate the Lease ("**Notice**"); such Notice shall become effective thirty (30) days after delivery thereof if Landlord does not achieve the applicable Key Milestone within such 30-day period.

2.4 Term. The term of this Lease (the "**Term**") shall commence on the Lease Commencement Date. If the Lease Commencement Date occurs on the first day of a calendar month, the lease expiration date shall be the day immediately preceding the twenty (20) year, three (3) month anniversary of the Lease Commencement Date; or if the Lease Commencement Date shall be other than the first day of a calendar month, the Lease expiration date shall be the last day of the month in which the twenty (20) year, three (3) month anniversary of the Lease Commencement Date occurs (as the case may be, the "**Lease Expiration Date**"), or such earlier date as this Lease may otherwise terminate in accordance with its terms, covenants, conditions, and provisions. The lease year ("**Lease Year**") means the twelve (12)-month period commencing on the first day of the first calendar month following the Lease Commencement Date (unless the Lease Commencement Date is the first day of the calendar month, in which case the first Lease Year shall commence on the Lease Commencement Date) and each consecutive period of twelve (12) calendar months thereafter during the Term. The initial Term may be extended by Tenant exercising the renewal options pursuant to Section 3, below.

3. **Renewal Options**. Tenant shall have the right to extend the Term of the Lease upon the following terms and conditions:

3.1 Extensions. Tenant has, subject to the provisions of this Section 3, the right ("**Option to Extend**") to extend the Term for two (2) additional term(s) of ten (10) years each (each, an "**Extension Term**") commencing on the day following the expiration of the Term (each, a "**Commencement Date of the Extension Term**"). Tenant will give Landlord written notice (the "**Extension Notice**") of Tenant's election to extend the Term no more than twenty-four (24) months and at least eighteen (18) months prior to the scheduled expiration of the Term (the "**Extension Notice Deadline**"). Such notice will constitute Tenant's irrevocable election to extend the Term and may not subsequently be revoked by Tenant. Time is of the essence with respect to the timing of such requirement to give notice to Landlord. Each Option to Extend the Term is personal to the Tenant originally named in the Lease and may not be exercised by any assignee or subtenant except as a result of a Permitted Transfer (as defined below).

3.2 Determination of Base Rent. The Base Rent starting on the Commencement Date of the Extension Term and continuing for twelve (12) months thereafter will be one hundred percent (100%) of the then-prevailing market rate for new leases for comparable life sciences manufacturing space to the Premises in comparable buildings to the Building in the State of California that a willing, comparable, non-equity tenant (excluding sublease and assignment transactions) would pay, and a willing, comparable landlord of life sciences manufacturing space would accept, at arm's length ("**Fair Market Rent**"); provided that, in no event shall the Fair Market Rent on the Commencement Date of the first Extension Term be less than the Base Rent on the last day of the 15th year of the Term, and in no event shall the Fair Market Rent on the Commencement Date of the second Extension Term be less than the Base Rent on the last day of the 20th year of the Term. Thereafter, the Base Rent shall be increased by three percent (3%) on each annual anniversary of the applicable Commencement Date of the Extension Term. Fair Market Rent will reflect all monetary and non-monetary considerations for comparable transactions, including the age, quality and layout of the existing improvements in the Premises, brokerage commissions, improvements paid for by Tenant improvement allowances, moving allowances, and rent concessions. Fair Market Rent will be adjusted to consider the size of the Premises, the length of the Extension Term, and the credit of Tenant, but will be calculated without taking into account any improvements paid for by Tenant pursuant to this Lease.

3.3 Fair Market Rent. Landlord will notify Tenant of its determination of the Fair Market Rent (consistent with the methodology reflected in Section 3.2, above) for the applicable Extension Term no later than thirty (30) days after Tenant delivers an Extension Notice. If Tenant delivers written notice to Landlord within thirty (30) days after its receipt of Landlord's determination of Fair Market Rent whereby Tenant disagrees with Landlord's determination of the Fair Market Rent, Landlord and Tenant will diligently and in good faith confer for a period of thirty (30) days thereafter in an attempt to agree on the Fair Market Rent. In the event Landlord and Tenant fail to reach an agreement on the Fair Market Rent within such thirty (30)-day period, then the Fair Market Rent that will be used in computing Base Rent for the applicable Extension Term will be determined as follows: within five (5) business days after the expiration of the thirty (30)-day period described above, Landlord and Tenant will each select an independent appraiser with at least ten (10) years' experience in the San Diego market. The two (2) appraisers will exchange their respective determinations of Fair Market Rent within ten (10) days after their selection, and if the lower appraisal is not less than ninety-five percent (95%) of the higher appraisal, then the two (2) appraisals will be averaged, and the result will be the Fair Market Rent. If, however, the two (2) appraisers are unable to agree on the Fair Market Rent or the lower appraisal is less than ninety-five percent (95%) of the higher appraisal, they then will select a similarly-qualified third appraiser (the "**Neutral Appraiser**"). Within five (5) days after selection of the Neutral Appraiser, each of Landlord's appraiser and Tenant's appraiser will provide the Neutral Appraiser with their respective determinations of Fair Market Rent, and the Neutral Appraiser's only role shall be to select, within fifteen (15) days thereafter, which of the two submitted determinations is closer to Fair Market Rent in such Neutral Appraiser's discretion. Each party will pay the cost of its own appraiser and the parties will share the cost of the Neutral Appraiser equally. If the process described in this Section 3 has not resulted in a determination of Fair Market Rent by the commencement of the applicable Extension Term, then the existing Base Rent will be used until the appraiser(s) reach a decision, with an appropriate rental credit and other adjustments to be made by the parties as necessary once the determination of Fair Market Rent has been made.

3.4 Terms and Conditions. Except for the Base Rent as determined above, Tenant's occupancy of the Premises during the applicable Extension Term will be on the same terms and conditions as are in effect immediately prior to the expiration of the Term; provided that Tenant will have no further options to extend this Lease once all options set forth in this Section 3 have been exercised, no Allowance (as defined in Section 6 of the Work Letter) shall be applicable, and Landlord shall have no obligations to improve the Premises or make any contributions toward improvement of the Premises in any manner whatsoever.

3.5 Amendment to Lease. If this Lease is extended for an Extension Term, then Landlord will prepare an amendment to this Lease confirming the extension of the Term and the other provisions applicable thereto and Landlord and Tenant will execute the amendment within thirty (30) days after agreement on the final form of such amendment, provided that any such extension will be effective irrespective of the execution of any such amendment. If Tenant exercises its right to extend the Term for an Extension Term, the Term as used in this Lease will be construed to include the applicable Extension Term.

3.6 No Right During Default. Tenant shall not have the right to extend the Term, notwithstanding anything set forth above to the contrary: (a) during any period of time commencing from the date Landlord gives written notice to Tenant that Tenant is in a monetary or material non-monetary default under any provision of the Lease, and continuing until the default alleged in said notice is cured; or (b) in the event that Landlord has given to Tenant two or more notices of default for the same monetary or material non-monetary default or three or more late charges have become payable under the Lease during the twelve (12)-month period prior to the time that Tenant intends to exercise an Option to Extend. The period of time within which an Option to Extend may be exercised shall not be extended or enlarged by reason of Tenant's inability to exercise such Option to Extend (with the exception of an event of Force Majeure) because of the foregoing provisions of this Section, even if the effect thereof is to eliminate Tenant's right to exercise such Option to Extend.

4. **Base Rent**. Commencing on the date that is ninety (90) days after the Lease Commencement Date (the "**Rent Commencement Date**"), Tenant will pay to Landlord, in advance without set-off, deduction, prior notice or demand, one-twelfth (1/12th) of the Annual Base Rent (the "**Base Rent**") on or before the first calendar day of each month. Notwithstanding the foregoing, the Base Rent for the first full month of the Term shall be due and payable upon the commencement of construction of the Landlord's Work. If the Rent Commencement Date is other than the first day of the month, Base Rent shall be pro-rated for the fraction of the month in which the Rent Commencement Date occurs in accordance with Section 5.2, below, and shall be due concurrently with the Base Rent due for the second month of the Term. Annual base rent ("**Annual Base Rent**") for the first twelve (12) months of the Term is defined as the amount that is equal to 7.9% of the Actual Costs (as defined in Section 7.2 of the Work Letter). Base Rent shall increase on each annual anniversary of the Rent Commencement Date (each, a "**Base Rent Adjustment Date**") during the Term, to equal one hundred three percent (103%) of the Base Rent in effect immediately prior to the applicable Base Rent Adjustment Date.

5. **Rent**.

5.1 Net Lease. "**Additional Rent**" shall mean all sums (exclusive of Base Rent) that Tenant is required to pay to Landlord under this Lease. The Base Rent, and the Additional Rent shall be collectively referred to as the "**Rent.**" This is a net lease and the Rent and all other sums payable hereunder by Tenant shall be paid without notice (except as expressly provided herein), demand, setoff, counterclaim, abatement, suspension, deduction, or defense. "**Tenant's Proportionate Share**" means one hundred percent (100%) of the Building and Tenant's Proportionate Share of the Project, based on Landlord's good faith estimates of the improvements to be constructed on the Project but subject to actual construction, measurement, and remeasurement as set forth in Section 1.1.1 above, and the Final Map, is 36.08%. Tenant acknowledges that the Building is part of a multi-building project and that certain costs and expenses incurred in connection with the Project shall be shared between the Building and the other buildings in the Project. As such, Landlord shall have the right, from time to time, to equitably allocate some or all of such expenses among different portions or occupants of the Project, in Landlord's reasonable discretion. Without limiting the foregoing:

5.1.1 Taxes. Landlord pays all Taxes (as defined below) levied or assessed against the Premises which are applicable to the Term, and Tenant's Proportionate Share of Taxes will be included in the Operating Expenses charged to Tenant. "**Taxes**" shall mean all federal, state, county, or local government or municipal taxes, fees, charges, or other impositions of every kind or nature, whether general, special, ordinary, or extraordinary, now or in the future, which are assessed, levied, charged, or imposed: (A) on the Project or any part thereof; (B) on Landlord with respect to the Project; (C) on the act of entering into this Lease; (D) on the use or occupancy of the Project or any part thereof; (E) with respect to services or utilities consumed in the use, occupancy, or operation of the Project; (F) on or attributable to personal property used in connection with the Project; (G) related to any transportation plan, fund, or system affecting the Project; and (H) relating to or on or measured by the Rent payable under this Lease, and any other tax, fee, or other excise, however described, which may be levied or assessed in lieu of, as a substitute (in whole or in part) for, or as an addition to, any of the foregoing. Taxes include taxes, fees, and charges such as real property taxes, general and special assessments, transit taxes, leasehold taxes, and taxes based on the receipt of Rent (including gross receipts or sales taxes applicable to the receipt of Rent, unless required to be paid by Landlord), and personal property taxes imposed on Landlord's fixtures, machinery, equipment, apparatus, systems, appurtenances, and other personal property used in connection with the Project, along with reasonable legal and other professional fees, costs and disbursements incurred in connection with proceedings to contest, determine or reduce real property taxes. Notwithstanding the foregoing, the following shall be excluded from Taxes: (i) any capital gains, capital levy, franchise, estate, inheritance, gift, corporation or unincorporated business, excise, income, profit, transfer or recordation, license fee, capital stock, net or excess profits, the ballpark tax and similar taxes which are assessed at the entity level against both Landlord and Tenant, as well as any abatements, reductions or credits received by Landlord in connection with the foregoing, (ii) those taxes which are directly associated with the process of construction of the Building (as opposed to taxes on the improvements), (iii) any fines, penalties and interest on late payments; provided, however, that if the taxing authority permits a taxpayer to elect to pay in installments, Landlord shall be permitted to pay such Taxes in installments and the interest charges resulting therefrom shall be deemed and included within Taxes, (iv) any expenses if included in Operating Expenses, and (vi) any taxes levied against the Project prior to the Lease Commencement Date, and (vii) taxes based on increases in assessed value due to any of the following actions, except to the extent the costs of such actions are permitted as Operating Expenses pursuant to Section 5.1.3, below: (a) any mortgaging or refinancing of the Project; (b) improvements for other occupants of the Project; and (c) capital improvements to the Project which do not benefit Tenant. Real estate taxes for the year in which the Lease Commencement Date occurs will be prorated as to Tenant and Landlord based on the number of days of occupancy as related to three hundred sixty-five (365) days.

5.1.1.1 Taxes Appeal Rights. In the event that, following receipt of written notice from Tenant requesting that Landlord pursue an appeal, protest or contest of property Taxes relating to the Premises or Building, Landlord elects not to pursue, or fails to commence such appeal, protest or contest prior to the earlier of (i) sixty (60) days after receipt of such notice and (ii) the date that is five (5) business days prior to the date such appeal, protest or contest is due, Tenant, at its sole cost and expense, shall have the right to pursue an appeal, protest or contest of such property Taxes in the name of Landlord; provided that Tenant notifies Landlord not less than seven (7) business days in advance that it is in fact pursuing such an appeal, protest or contest. Landlord, at no out-of-pocket cost and expense or liability to Landlord, shall reasonably cooperate with any such appeal, protest or contest, including without limitation by promptly executing any filings, authorizations, documents or other instruments reasonably required for Tenant to pursue in good faith such appeal, protest or contest; provided, however, in no event shall Tenant settle any such dispute without obtaining Landlord's prior reasonable approval with respect thereto, which Landlord shall provide (or if disapproving, provide the disapproval with a reasonably-detailed explanation for the disapproval) within five (5) business days following receipt thereof. If Landlord (or Tenant in the name of Landlord) so contests the Taxes or assessment and such contest results in a refund of any portion of real estate taxes that were included in the Taxes paid by Tenant, then Landlord shall credit against the next estimated payment or payments due as Additional Rent an amount equal to Tenant's Proportionate Share of the refunded Taxes or if the Term has expired, Landlord shall refund such amount to Tenant within thirty (30) days after Landlord's receipt thereof.

5.1.1.2 Personal Property Taxes. Tenant shall pay, prior to delinquency, any and all Taxes levied or assessed against any Tenant's Property (as defined below), whether levied or assessed against Landlord or Tenant.

5.1.2 Utilities. Tenant shall cause all utilities to be placed in its name and shall pay the actual costs for all utilities, including without limitation, water, sewer, natural gas, telephone, and electricity, used on the Premises. Tenant's obligation to pay utilities for periods during the Term shall survive the expiration or earlier termination of this Lease.

5.1.3 Operating Expenses. In addition to Base Rent payable by Tenant pursuant to Section 4, above, on the first day of each calendar month beginning after the Lease Commencement Date, Tenant shall pay to Landlord, as Rent, without notice, demand, offset, or deduction, one-twelfth of all Operating Expenses for the calendar year in which the Lease Commencement Date occurs, and for each calendar year thereafter during the Term, as estimated by Landlord in the most recently-delivered Estimated Statement (as defined below). Landlord shall deliver to Tenant, prior to the commencement of the Lease Commencement Date and prior to each anniversary of the Lease Commencement Date thereafter, a written statement ("**Estimated Statement**") setting forth Landlord's estimate of the Operating Expenses allocable to the ensuing calendar year (or portion thereof). Landlord may, at its option, during any such year (but no more than twice in any one calendar year), deliver to Tenant a revised Estimated Statement, revising Landlord's estimate of the Operating Expenses in accordance with Landlord's most current estimate. No later than one hundred twenty (120) days after the end of each calendar year during the Term, Landlord shall deliver to Tenant a written statement ("**Actual Statement**") setting forth the actual Operating Expenses allocable to such calendar year. Tenant's failure to object to Landlord regarding the contents of an Actual Statement, in writing, within one hundred twenty (120) days after delivery to Tenant of such Actual Statement shall constitute Tenant's absolute and final acceptance and approval of the Actual Statement, except in the event Tenant is later able to prove fraud or intentional misrepresentation. Following Landlord's receipt of Tenant's written request, Landlord shall also provide Tenant with reasonable back-up information (e.g., tax bills, bills for utility costs, etc.) as well as explanations based on known costs and reasonable projections. If the sum of Tenant's monthly payments actually paid by Tenant during any calendar year exceeds Tenant's obligations for Operating Expenses allocable to such year as reflected in an Actual Statement, then such excess will be credited against Tenant's future monthly payments of Operating Expenses, unless such year was the year during which the Term expires or is terminated (the "**Last Calendar Year**"), in which event either (i) such excess shall be credited against any monetary default or outstanding obligation of Tenant under this Lease, or (ii) if Tenant is not in default under this Lease and has no outstanding monetary obligations at such time, then Landlord shall pay to Tenant such excess within thirty (30) days after the expiration or termination of the Term. If the sum of Tenant's monthly payments of Operating Expenses actually paid by Tenant during any calendar year is less than Tenant's Proportionate Share of the actual Operating Expenses allocable to such year, then Tenant shall, within thirty (30) days of delivery of the Actual Statement, pay to Landlord the amount of such deficiency. The references in this Section to the actual Operating Expenses allocable to a calendar year shall include, if such calendar year is the Last Calendar Year, the actual Operating Expenses allocable to the portion of such year prior to the expiration or termination of the Term, calculated on a pro rata basis, without regard to the date of a particular expenditure. The provisions of this Section shall survive the termination of this Lease, and even though the Term has expired, and Tenant has vacated the Premises, when the final determination is made of Operating Expenses for the year in which this Lease terminates, which shall be within one hundred twenty (120) days after the end of such year, Tenant shall promptly pay any increase due over the estimated expenses paid by Tenant pursuant hereto and conversely any overpayment made in Tenant's estimated payments shall be promptly rebated by Landlord to Tenant. Notwithstanding the foregoing, if Landlord fails to provide the Actual Statement within thirty (30) days after written notice from Tenant that Landlord did not deliver the Actual Statement by the applicable date set forth herein, Landlord shall not have the right to collect from Tenant any underpayment of Tenant's Proportionate Share of Operating Expenses that may be determined for the period covered by such Actual Statement. Landlord shall not recover more than one hundred percent (100%) of the Operating Expenses actually incurred by Landlord and in the event that Landlord shall collect more than one hundred percent (100%), Landlord shall promptly reimburse to Tenant, Tenant's Proportionate Share of any such excess to the extent paid by Tenant.

5.1.3.1 Definition of Operating Expenses. Subject to the Excluded Costs (as defined below), the term operating expenses ("**Operating Expenses**") means all reasonable expenses, costs, and amounts of every kind or nature that Landlord pays or incurs because of or in connection with (but only to the extent applicable to) the ownership, operation, management, maintenance, or repair of the Project. Operating Expenses include, without limitation, the following amounts paid or incurred relative to the Project: (a) the cost of operating, managing, maintaining, and repairing all systems, including without limitation utility, mechanical, sanitary and storm drainage systems, and the cost of supplies, tools, and equipment, as well as commercially-reasonable maintenance and service contracts in connection with those systems, (b) the costs of licenses, certificates, permits, and inspections relating to the operation of the Project, including without limitation, costs related to any transportation management development plan for the Project if included in the Governing Documents (as defined below) and subject to the provisions of Section 5, (c) the costs of contesting the validity or applicability of any government enactments that may affect the Premises, the Project, or Operating Expenses, (d) fees, charges, and other costs, including administrative fees, management fees, and accounting costs, consulting fees, legal fees, and accounting fees of all persons engaged by Landlord or otherwise reasonably incurred by Landlord in connection with the operation, management, maintenance, and repair of the Premises; provided, however such management fee shall not exceed one percent (1%) of the net rent of the Project, subject to Section 8.2.4, below, (e) any costs or expenses payable pursuant to any declaration of covenants, conditions, and restrictions, reciprocal easement and/or maintenance agreement, conditions of approval, or similar instrument recorded against the Project, either now or in the future, including any association or similar fees, assessments or dues presently or hereafter established and applicable to the Project (collectively, the "**Governing Documents**"), subject to the terms set forth below, (f) amortization (including interest on the unamortized cost at a rate equal to the floating commercial loan rate announced from time to time by Bank of America as its "**Prime Rate**" (or a comparable rate selected by Landlord if such Prime Rate ceases to be published) plus one (1) percentage point per annum of the cost of acquiring or renting personal property used in the maintenance, repair, and operation of the Project, (g) Taxes, (h) the cost of capital improvements which (1) are intended as a labor saving or cost saving device or to effect other economies in, or otherwise improve, the maintenance or operation of the Project, or (2) are required under any government law or regulation enacted after the Effective Date, but only to the minimum extent required, (i) all costs of insurance to be maintained by Landlord pursuant to Section 9, below, (j) environmental management fees and environmental audits, (k) all recurring costs to satisfy any conditions of approval of the Project to the extent included in the Governing Documents, conditions imposed upon the Project, and/or to comply with applicable municipal, state and federal laws, statutes, codes, rules, regulations, ordinances, requirements, and orders (collectively, "**Laws**"), now in force or which may hereafter be in force, including without limitation, any stormwater treatment requirements, water quality requirements, or transportation demand management program, all as subject to the terms set forth below and (l) the costs of applying for, obtaining, maintaining, managing, and reporting associated with: (A) energy efficiency; energy measurement and reporting; water usage; recycling, composting, and waste management; indoor air quality; and chemical use (collectively, the "**Sustainability Practices**"), or (B) the U.S. EPA's Energy Star® Portfolio Manager, the Green Building Initiative's Green Globes™ building rating system, the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) building rating system, the ASHRAE Building Energy Quotient (BEQ), the Global Real Estate Sustainability Benchmark (GRESB), or other standard for high performance buildings adopted by Landlord with respect to the Building, as the same may be revised from time to time (as the case may be, the "**Green Building Standards**"); provided, however, such costs for Sustainability Practices or Green Building Standards included in Operating Expenses for any calendar year shall not increase by more than three percent (3%) per calendar year on a straight line basis. All capital expenditures permitted pursuant to clause (1) and clause (2) of subparagraph (h) above shall be amortized (including interest on the unamortized cost at the rate stated in subparagraph (f) of this Section) over their useful life, as reasonably determined by Landlord in accordance with sound accounting principles consistently applied. Notwithstanding the foregoing, Operating Expenses shall be net of any discounts, credits, reimbursements, and rebates received by Landlord for Operating Expenses.

5.1.3.2 Definition of Excluded Costs. "**Excluded Costs**" means the following expenses: (1) depreciation, principal, interest, and fees on mortgages; (2) real estate brokers' leasing commissions and marketing, advertising and promotional costs and expenses incurred in connection with the marketing of the Project, Building or any rentable space therein; (3) costs of any items to the extent Landlord actually receives reimbursement therefor from insurance proceeds, any tenant, occupant, or third party, or under warranties (such costs shall be excluded or deducted—as appropriate—from Operating Expenses in the year in which the reimbursement is received); (4) costs, including fines, penalties, and legal fees incurred, due to violations by any Landlord Party of applicable Laws, contracts, or leases pertaining to the Project, or title matters; (5) costs incurred or repairs necessitated by the gross negligence or willful misconduct of Landlord; (6) capital expenses other than those specifically included in the definitions of Operating Expenses; (7) charitable or political contributions and membership fees or other payments to trade organizations; (8) Landlord's general overhead expenses not related to the Project; (9) overhead and profit paid to subsidiaries or any Landlord Affiliate for management or other services, or for supplies or other materials, to the extent the amounts incurred exceed those that would have been reasonably incurred if such supplies, materials, or services were obtained from unrelated third parties; (10) wages, salaries, and other compensation paid to personnel above the grade of property manager; (11) cost of insurance coverages not generally carried by landlords of similar premises in the area, provided that the parties agree the cost of the coverages carried by Landlord as of the Lease Commencement Date shall be included as part of Operating Expenses; (12) costs and expenses incurred in leasing equipment or systems that would ordinarily constitute a capital expenditure if such equipment or systems were purchased, to the extent such rental charges exceed the amortization charge, if any, that would have been permitted had the item been purchased; (13) management fees in excess of what is permitted by Section 5.1.3.1(d), above; (14) interest and amortization of mortgages or any other funds borrowed by Landlord; (15) base ground rent plus escalations; (16) income, excess profit, franchise taxes or other such taxes imposed on or measured by the gross or net income of Landlord from the operation of the Building; (17) rent (actual or implied) and expenses for management office(s) located at the Project; (18) all costs and expenses incurred by Tenant or any other tenants of the Building and paid for or payable directly by Tenant or such other tenants either to third parties or to Landlord under agreements for direct payment or reimbursement for benefits or services; (19) costs incurred to remove, remediate, or otherwise arising from the presence of any Hazardous Materials (as defined below) or other toxic material or substances from or at either the Building, the Project or Premises in violation of Laws, and any costs incurred in connection with any governmental investigation, order, proceeding or report with respect thereto; (20) costs, including overhead and general administrative expenses, relating to the operation of the business of the legal entity or entities which constitute Landlord, either as a corporation, partnership, trust or other entity, such as trustee's fees, annual fees, partnership expenses, and legal, professional, consulting, and accounting fees (other than with respect to Building operations), including without limitation, sale and financing matters, legal entity accounting, income taxation matters and disputes with employees or persons who own an interest in Landlord, and costs and expenses relating to maintaining Landlord's existence, such as trustee's fees, annual fees, partnership expenses, administrative fees, deed recordation and legal and accounting fees relating to maintaining such existence; (21) funding reserves; (22) attorneys' fees, costs, disbursements and other expenses incurred in connection with negotiations or disputes with, or leasing to, tenants or prospective tenants of the Building; (23) costs for acquisition and initial construction of the Building or Project or in a tenant's premises specifically for a tenant's occupancy; (24) any expenses for repairs or maintenance which are recovered or recoverable under warranties and service contracts; (25) costs incurred as a result of the violation by Landlord or other tenants of the Building or the Project of the terms and conditions of any lease (including indemnity costs incurred by Landlord due a violation of such lease caused solely by Landlord's actions or inactions) or other agreement with Landlord as a party; (26) the costs of any "tap fees" or condenser water loop, sewer or water connection fees for the Building payable in connection with the initial construction of the Building or the Premises; (27) costs of repairing, replacing or otherwise correcting a physical defect (but not the costs of normal repair and maintenance) or design defect in the initial construction by Landlord of the Building (including, without limitation, the Building roof, the foundation, structure and curtain wall); (28) costs of Landlord's Work; (29) costs allocated to buildings other than the Building in which Landlord or any Landlord Affiliate has a direct or indirect interest; (30) costs of any additions to the Building or Project; (31) costs of purchasing artwork, sculptures or paintings; (32) allowances, concessions, permits, licenses, inspections and other costs and expenses incurred in completing, fixturing, furnishing, renovating or otherwise improving, decorating or redecorating space for Tenant or other tenants or prospective tenants of the Building, including, without limitation, constructing or finishing demising walls and public corridors with respect to such space and whether such work or alteration is performed for the initial occupancy by such tenant or thereafter and including any cash or other consideration paid on account of, with respect to or in lieu of any of the foregoing; (33) any incremental expenses incurred for use of any portion of the Land and/or the Building to accommodate special events not open to Tenant; (34) costs or payments associated with Landlord's obtaining air rights or development rights; and (35) costs of design, entitlement, site preparation, planning, marketing, construction and/or acquisition of new buildings or of additional real property for or to the Land, or any expansion of the Building or Project.

Except as otherwise expressly set forth herein, those Operating Expenses that are incurred at a Project level shall be allocated based on the square footage and the type of use (*i.e.* retail, office, manufacturing, etc.). Project level Operating Expenses shall not include operating costs and expenses allocated to other buildings in the Project.

5.1.4 Audit Rights. If Tenant objects to any Actual Statement and provides written notice to Landlord within ninety (90) days after its receipt of such Actual Statement, Tenant's Auditor (as defined below) shall have the right, at Tenant's sole cost and expense, upon at least thirty (30) days' prior notice to Landlord (which notice must be delivered within such ninety (90)-day period), at any time during regular business hours, to review and photocopy (or electronically copy) Landlord's records pertaining to Operating Expenses for the immediately preceding year only, and only to the extent reasonably necessary to evaluate Tenant's objections. The inspection of Landlord's records must be completed within thirty (30) days after such records are made available to Tenant's Auditor, and the written determination of Tenant's Auditor must be delivered to Landlord within six (6) months after Tenant delivers written notice of its objection to the Actual Statement at issue. If Tenant fails to deliver the written determination of Tenant's Auditor within said time period, Tenant shall forfeit any right to claim a refund, rebate, or return of Operating Expenses set forth in the applicable Actual Statement, except in the event of fraud or intentional misrepresentation. Tenant may engage a qualified employee in Tenant's finance or accounting department or an independent contractor who (i) is hired by Tenant on a non-contingent fee basis, and (ii) specializes in real estate audits, to perform the audit ("**Tenant's Auditor**") to inspect Landlord's records, subject to Landlord's prior written approval, which approval shall not be unreasonably withheld or delayed. If, following the date Landlord receives the written report of Tenant's Auditor (the "**Report Date**"), Landlord disputes the findings therein, and Landlord and Tenant are not able to resolve their differences within thirty (30) days following the Report Date, the dispute shall be resolved by binding arbitration as follows: Landlord and Tenant shall each designate an independent certified public accountant, who shall in turn jointly select an independent certified public accountant (the "**Independent CPA**"). Within sixty (60) days after selection, the Independent CPA shall review the relevant records and determine the proper amount of Operating Expenses payable by Tenant for the year in question, which determination shall be final and binding upon the parties. If the Independent CPA determines that the amount of Operating Expenses billed to Tenant was incorrect, the appropriate party shall pay to the other party the deficiency or overpayment, as applicable, within thirty (30) days following delivery of the Independent CPA's decision, without interest. The fees and costs of the Independent CPA shall be paid by Tenant unless the Independent CPA determines that Tenant has overpaid Operating Expenses for the applicable year, in the aggregate, by more than three percent (3%), in which case Landlord shall pay the fees and costs of the Independent CPA, up to a maximum amount of Ten Thousand and No/100 Dollars ($10,000), and Tenant shall pay any remaining balance owing to the Independent CPA. Tenant shall keep all information obtained by Tenant in connection with its review of Landlord's records confidential and obtain the agreement of Tenant's Auditor and the Independent CPA to keep all such information confidential. Landlord may condition inspection of Landlord's records by Tenant's Auditor or the Independent CPA upon receipt of an executed confidentiality agreement acceptable to Landlord. Tenant agrees that Tenant's sole right to inspect Landlord's books and records and to contest the amount of Operating Expenses payable by Tenant shall be as set forth in this Section 5. Notwithstanding the foregoing, if, as a result of Tenant's timely audit of Operating Expenses and real estate Taxes for a given calendar year it is determined that the amounts paid by Tenant to Landlord on account of certain line items for Operating Expenses exceed the amounts to which Landlord was entitled by more than three percent (3%), then Tenant shall have the right to examine Landlord's books and records for the two (2) previous calendar years as to such line items.

5.2 General Payment Terms. The Base Rent, Operating Expenses, late charges, default interest, and all other sums payable by Tenant to Landlord pursuant to this Lease are referred to collectively as the "**Rent**." All Rent shall be paid in lawful money of the United States of America and through a domestic branch of a United States financial institution, by check or electronic payment. Checks are to be made payable to Landlord and mailed to 5465 Morehouse Drive, Suite 260, San Diego, California 92121, or to such other person or place as Landlord may, from time to time, designate to Tenant in writing. Wiring instructions for electronic payments, if available, will be provided separately. Rent for any fractional part of a calendar month at the commencement or termination of the Term shall be a prorated amount of the Rent for a full calendar month based upon a thirty (30) day month.

5.3 Interest. Any installment of Rent and any other sum due from Tenant under this Lease which is not received by Landlord after expiration of all applicable notice and cure periods, shall bear interest from the date such payment was originally due under this Lease until paid at the Default Rate (as defined below); provided, however, with respect to the first late payment of Rent in any Lease year (and only such first late payment), interest shall not begin to accrue unless Tenant fails to pay such Rent within five (5) days after receipt of written notice from Landlord notifying Tenant of its failure to timely pay Rent. In addition, Tenant shall pay all costs and attorneys' fees incurred by Landlord in collection of such amounts.

5.4 Accord and Satisfaction. No writing on any check, or statement in any letter or other document accompanying any payment of Rent from Tenant, and no acceptance by Landlord of less than the full amount of Rent owing, shall affect any accord and satisfaction. Any such partial payment shall be treated as a payment on account, and Landlord may accept such payment without prejudice to Landlord's right to recover any balance due or to pursue any other remedy permitted by this Lease. Accordingly, Tenant hereby waives the provisions of California Uniform Commercial Code Section 3311 (and any similar Laws that would permit an accord and satisfaction contrary to the provisions of this Section 5.4). Tenant waives any right to specify the items against which any Rent paid is to be credited, and Landlord may apply such payments to any Rent due or past due under this Lease. No payment, receipt or acceptance of Rent following (i) any Event of Default (as defined below); (ii) the commencement of any action against Tenant; (iii) termination of this Lease or the entry of judgment against Tenant for possession of the Premises; or (iv) the exercise of any other remedy by Landlord, shall cure the Event of Default unless otherwise agreed to in writing by Landlord, reinstate this Lease, grant any relief from forfeiture, continue or extend the Term, or otherwise affect or constitute a waiver of Landlord's right to or the exercise of any remedy, including Landlord's right to terminate this Lease and recover possession of the Premises. Tenant acknowledges and agrees that the foregoing constitutes actual notice to Tenant of the provisions of California Code of Civil Procedure §1161.1(c). In order to give effect to the foregoing provisions, Landlord may (but is not required to) return to Tenant, at any time within fifteen (15) days after receiving same, any payment of any monetary amounts received from Tenant, including, but not limited to, Rent (x) that was paid following any Event of Default (irrespective of whether Landlord has commenced the exercise of any remedy), or (y) that is less than the amount due or owed. Each such returned payment (whether made by returning Tenant's actual check, or by issuing a refund in the event Tenant's check was deposited whether or not Tenant actually deposits or accepts such refund) shall establish that such payment was not received or approved by Landlord.

5.5 Late Charge. Late payment of Rent or other amounts due hereunder will cause Landlord to incur costs not contemplated by this Lease, the exact amount of which will be extremely difficult to ascertain. If any Rent or other sums due from Tenant are not received by Landlord or by Landlord's designated agent within five (5) days after their due date, then Tenant shall pay to Landlord a late charge equal to five percent (5%) of such overdue amount, plus any costs and attorneys' fees incurred by Landlord by reason of Tenant's failure to pay Rent and/or other charges when due hereunder; provided, however, that Tenant shall be entitled to one notice of late payment and a five (5) day cure period in each twelve (12)-month period before any such late charge accrues. Landlord and Tenant hereby agree that such late charges represent a fair and reasonable estimate of the costs that Landlord will incur by reason of Tenant's late payment and shall not be construed as a penalty. Landlord's acceptance of such late charges shall not constitute a waiver of Tenant's default with respect to such overdue amount or estop Landlord from exercising any of the other rights and remedies granted under this Lease.

6. Use of Premises.

6.1 Permitted Use. Subject to compliance with applicable Laws, including applicable zoning regulations, and this Lease, the Premises may be used solely for research and development, laboratory, biopharmaceutical manufacturing, assembly, storage, warehousing, office, administrative use related to products and merchandise made by Tenant (the "**Permitted Use**"); provided, however, Landlord shall not unreasonably withhold its approval of any Tenant request to change the Permitted Use. Tenant shall maintain and procure at Tenant's own expense and responsibility all licenses, permits, or inspection certificates required by any governmental agency, court, regulatory or administrative agency, commission or authority or other legislative, executive or judicial governmental entity (in each case including any self-regulatory organization), whether federal, state or local, domestic, foreign or multinational ("**Governmental Authority**") in respect to the Permitted Use and Tenant's business in, on, or about the Premises, and Tenant shall promptly provide evidence thereof to Landlord upon Landlord's request. Landlord makes no representation or warranty to Tenant that the Permitted Use is permitted by applicable Laws. During the Term, subject to the terms of this Lease and all applicable Laws, and subject to any emergencies, Tenant shall have the right to access the Premises twenty-four (24) hours per day, three hundred sixty-five (365) days per year.

6.2 Rules. Landlord shall have the right to impose reasonable and customary rules and regulations (the "**Rules**") regarding use of the Project, as reasonably deemed necessary by Landlord, and Tenant shall comply with such Rules to the extent such Rules are provided to Tenant in writing at least thirty (30) days prior to the effective date thereof. Landlord shall apply the Rules on a non-discriminatory basis to all similar tenants in the Project.

6.3 Governing Documents. As of the Effective Date, Landlord has complied with and, to its knowledge, is not in default of and shall at all times during the Term of this Lease continue to comply with its obligations as to the Premises under the Commercial DDA, all Governing Documents and any Rules and regulations adopted pursuant thereto. Until Substantial Completion of Landlord's Work, Landlord agrees to provide Tenant with any written notice of default or breach under the Commercial DDA as to the Premises or any Governing Documents. The existing Governing Documents are set forth on Exhibit E, attached hereto and incorporated herein. Without the prior written consent of Tenant, which will not be unreasonably withheld, conditioned, or delayed, Landlord will not take any of the following actions: (i) consent to any amendment of the Governing Documents or Commercial DDA that will have an adverse impact on the Premises or Tenant's access to or use thereof (each, an "**Amendment**"), (ii) other than in connection with the financing or refinancing of the Premises or Project which complies with Section 18 below, permit any encumbrance on title with respect to the Premises if they will adversely affect Tenant's rights or obligations under this Lease (each a "**New Project Document**"), or (iii) to the extent in Landlord's control, cause or permit any governing associations to adopt any assessments if they will adversely affect Tenant's rights or obligations under this Lease (each, an "**Association Act**"). In the event Tenant's consent is required, Tenant shall respond to Landlord's request for consent within ten (10) days and any refusal to provide consent must be made with specificity sufficient to assist Landlord in revising. Tenant shall respond in writing (with detailed reasons for any disapproval) to any revised request within ten (10) days following receipt of such request, and any failure to provide a written response within such ten-day period shall be deemed an approval.

6.4 Prohibited Uses. Tenant shall not use, or suffer or permit any use of the Premises, the Project, or any part thereof in violation of any Laws, this Lease, the Governing Documents, or the Rules. Tenant shall not do or permit anything to be done in or about the Premises or the Project which will damage the reputation of the Project or unreasonably and materially obstruct or interfere with the rights of other tenants or occupants of the Project, nor shall Tenant cause, maintain, or permit any nuisance in or about the Premises or the Project. Tenant shall not do, bring, or keep anything in or about the Premises that will cause a cancellation of any insurance covering the Premises. No machinery, equipment, apparatus, or other appliance shall be used or operated in or on the Premises that will unreasonably interfere with the equipment of any other tenant within the Project, including, without limitation, interference with transmission and reception of telephone, telecommunications, television, radio, or similar signals. Tenant shall not use the Premises in any manner that will cause the Building or any part thereof not to conform with the Building's Sustainability Practices or the certification of the Building issued pursuant to the applicable Green Building Standards, if any; provided, however, that in no event shall such practices or certification requirements have the effect of preventing Tenant from conducting its business at the Premises in a manner consistent with the Permitted Use.

6.5 Access. Landlord acknowledges and agrees that, except as otherwise expressly set forth in this Lease, Tenant shall have full responsibility for the maintenance and repair of and shall have unfettered access and control over the Premises throughout the Term of the Lease. Subject to Tenant's security requirements as set forth on Exhibit F attached hereto, as may be amended, and to the provisions of this Section 6.5, (i) Landlord, its agents, contractors and representatives may enter the Premises to inspect or show the Premises to prospective or existing lenders or purchasers, or to prospective tenants (with prospective tenants being shown the Premises only within the last twelve (12) months of the Term), to confirm Tenant is complying with its obligations under this Lease, to comply with Landlord's obligations under this Lease, to clean and make repairs, alterations or additions to the Premises to the extent permitted by this Lease, and (ii) in case of emergencies or to comply with applicable Laws or orders of Governmental Authority, Landlord shall have the right to temporarily close all or a portion of the Premises to perform inspections, repairs, alterations and additions. Except in the case of emergencies or to comply with applicable Laws or orders of Governmental Authority, Landlord shall provide Tenant with at least one (1) business day prior notice of entry into the Premises, which may be given via e-mail. Landlord shall also comply with any governmental regulations as are applicable to the Permitted Use or any reasonable security protocols of Tenant regarding access to secured or controlled rooms or areas within the Premises. Landlord will not close the Premises if the work can reasonably be completed on weekends and after normal business hours. Entry by Landlord shall not constitute constructive eviction or entitle Tenant to an abatement or reduction of Rent.

6.6 Environmental Requirements.

6.6.1 Definitions.

6.6.1.1 "**Contamination**" or "**Contaminated**" means any Hazardous Materials or toxic material, substance, chemical or waste, contaminant, emission, discharge or pollutant or comparable material listed, identified, or regulated pursuant to any Environmental Requirement (as defined below) or federal, state or local law, ordinance or regulation which has as a purpose the protection of health, safety or the Environment (as defined below), resulting from any cause, Release (as defined below), or source.

6.6.1.2 "**Environment**" means all forms of fauna, flora, soil, natural resources; surface, subsurface, or ground waters; land, ground, surface, or subsurface strata; ambient air; or any other environmental medium, including the indoor environment, contained within, or affected by the Premises or operations thereon.

6.6.1.3 "**Environmental Claim(s)**" means any claim, action, suit, proceeding, enforcement action, administrative proceeding, liability, loss, demand, damage (including punitive damages and damages based upon diminution in value or loss of use of the Premises or Project), encumbrance, cause of action of any kind, order, subpoena, obligation, cost, expense, royalty, fee, assessment, duty, requirement, charge, penalty, fine, forfeiture, judgment, injunctive relief, interest, and award (including recoverable legal counsel fees and cost of litigation of the party asserting the claim), whether arising by law, contract, tort, voluntary settlement, or in any other manner resulting from or in any way associated with:

(A) acts or omissions of Tenant or any Tenant Party (as defined below) with respect to, or occurring on, the Premises;

(B) Tenant's control, use, possession, or operation of the Premises;

(D) any condition existing or occurring in, on, under or within the Premises after the Lease Commencement Date;

(E) the damage or destruction of the Premises, the Project or any adjacent property resulting from the storage, use, handling, generation, or Release of Hazardous Materials from the Premises;

(F) the violation or alleged violation of any Environmental Requirement;

(F) the existence, assessment, or remediation of Contamination upon, under, in or emanating from, the Premises;

(G) emissions, discharges, Releases or threatened Releases, or the presence, generation, manufacturing, processing, distribution, use, treatment, storage, disposal, transport, labeling, advertising, sale, display, or handling, of Contamination;

(H) any special, indirect, or consequential damages, including, but not limited to, claims for loss of use, rents, anticipated profit or business opportunity, or business interruption, diminution in value, or mental or emotional distress or fear of injury or illness, trespass, nuisance or otherwise related in any way to the Premises; or

(I) any response costs any member of the Tenant or Landlord may incur with respect to the Premises under any Environmental Requirement.

6.6.1.4 "**Environmental Condition**" means Contamination at, on, under or emanating to or from the Premises or a condition or circumstance relating to the Premises or operation thereof which is or is alleged to be not in compliance with Environmental Requirements.

6.6.1.5 "**Environmental Requirement(s)**" means any present and future Laws, regulations, statutes, codes, rules, orders, permits, policies, licenses, certifications, decrees, standards, or interpretations imposed by any Governmental Authority relating to pollution; the protection of the Environment; the Release, emission, discharge or disposal of any material or chemical substance; human health or safety; Hazardous Materials; natural resource damage; product registration; hazard communication, each as from time to time has been or may be amended or adopted before or after the Effective Date, including any of the following: The Occupational Safety and Health Act, 29 U.S.C.A. § 651, *et seq.*; the Resource Conservation and Recovery Act, 42 U.S.C.A. § 6901, *et seq.*; the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C.A. § 9601, *et seq.*; the Clean Water Act, 33 U.S.C.A. §1251, *et seq.*; the Clean Air Act, 42 U.S.C.A. § 7401, *et seq.*; the Safe Drinking Water Act, 42 U.S.C.A. § 3001, *et seq.*; the Toxic Substances Control Act, 15 U.S.C.A. § 2601, *et seq.*; the Oil Pollution Act of 1990, 33 U.S.C.A. § 2701, *et seq.*; the California Underground Storage of Hazardous Substances Act, H&S C §§ 25280, *et seq.*; the California Hazardous Substances Account Act, H & S C §§ 25300, *et seq.*; the California Hazardous Waste Control Act, H & S C §§ 25100, *et seq.*; the California Safe Drinking Water and Toxic Enforcement Act, H & S C §§ 24249.5, *et seq.*; and the Porter-Cologne Water Quality Act, Wat C §§ 13000, *et seq.* As defined in Environmental Requirements, Tenant is and shall be deemed to be the "operator" of Tenant's "facility" and the "owner" of all Hazardous Materials brought on the Premises by Tenant or any Tenant Party, and the wastes, by-products, or residues generated, resulting, or produced therefrom.

6.6.1.6 "**Hazardous Materials**" means a substance, chemical, product, waste or other material that, because of its physical, chemical, or other characteristics, may pose a risk of endangering human health or safety or of degrading the Environment, or which is, or becomes identified, listed, published, regulated, or defined as, or which shows the characteristics of, a hazardous substance, hazardous waste, hazardous material, toxic substance or other regulatory term, including oil, oil waste, by-products and components, NORM, Hydrocarbons, and Hydrocarbons waste, produced water, by-products and components, polychlorinated biphenyls, and asbestos, or which is otherwise regulated or restricted under any Environmental Requirements or by any Governmental Authority, or which may otherwise cause, contribute to or result in an Environmental Condition or Environmental Condition. "Hazardous Materials" include, but are not limited to, all of the following: (1) a hazardous substance, as defined in Section 25281 or 25316 of the California Health and Safety Code; (2) a hazardous waste, as defined in Section 25117 of the California Health and Safety Code; (3) a waste, as defined in Section 470 of the California Health and Safety Code or as defined in Section 13050 of the California Water Code; and/or (4) any substance or material that is defined or designated as a hazardous waste, material or substance by any other applicable Environmental Requirements, including, without limitation, perfluoroalkyl substances (PFAS).

6.6.1.7 "**Release**" or "**Released**" or "**Releases**" means any release, deposit, discharge, emission, leaking, spilling, seeping, migrating, injecting, pumping, pouring, emptying, escaping, dumping, disposing, or other movement of Hazardous Materials into the Environment.

6.6.1.8 "**Remediation**" or "**Remediate**" means any and all actions required to be taken under the Environmental Requirements or otherwise to address an Environmental Condition, including investigation, monitoring, removal, remediation, corrective action, response action, mitigation, treatment, decontamination, or cleanup of (1) Hazardous Materials, (2) pollution or (3) Contamination, present or alleged to be present on, under or emanating from the Premises.

6.6.2 Prohibition/Indemnity. Tenant shall not cause or permit any Hazardous Materials to be brought upon, kept, used, stored, handled, treated, generated in or about, Released or disposed of from the Premises in violation of applicable Environmental Requirements. If Tenant breaches any obligations set forth in this Section 6.6, or if the presence of Hazardous Materials in, on, about, or under the Premises during the Term or any holding over or any other occupancy results in contamination of the Premises, the Project, or any adjacent property or if Contamination of the Premises, the Project, or any adjacent property by Hazardous Materials brought into, kept, used, stored, handled, treated, generated in or about, or Released or disposed of from the Premises by anyone other than Landlord and the Landlord Parties otherwise occurs during the Term or any holding over, Tenant hereby indemnifies and shall defend and hold Landlord and the Landlord Parties harmless from any and all Environmental Claims which arise during or after the Term as a result thereof. This indemnification by Tenant includes, without limitation, costs incurred in connection with any Remediation required by any federal, state or local Governmental Authority because of Hazardous Materials present in the air, soil or ground water above, on, or under the Premises.

6.6.3 Contamination. Without limiting Tenant's indemnity obligation in Section 6.6.2 above, if the presence of any Hazardous Materials in, on, under, or about the Premises, the Building, the Project, or any adjacent property caused or permitted by Tenant, its agents, employees or contractors, results in any Contamination of the Premises, the Building, the Project or any adjacent property, Tenant shall promptly take all actions at its sole expense and in accordance with applicable Environmental Requirements as are reasonably necessary and appropriate, in Landlord's reasonable discretion, to return the Premises, the Building, the Project, or any adjacent property substantially to the condition existing prior to the time of such Contamination; provided, however, Tenant shall first prepare and submit to Landlord, within thirty (30) days of learning of such Contamination or within such earlier time as required to comply with Environmental Requirements or Governmental Authority, a comprehensive plan specifying the actions to be taken by Tenant to Remediate the Contamination and restore the Premises to the conditions required by this Lease. Such plan shall include Tenant's timeframes to cause all such Remediation actions to be taken and any consultant(s) engaged for the performance of the Remediation. Landlord's approval of Tenant's Remediation plan shall first be obtained before Tenant takes any action, which approval shall not unreasonably be withheld so long as such actions would not potentially have any material adverse long-term or short-term effect on the Premises, the Building or the Project. Upon Landlord's approval of Tenant's Remediation plan (as so approved, the "**Clean-Up Plan**"), Tenant shall, at Tenant's sole cost and expense, without limitation on any rights and remedies of Landlord under this Lease, immediately implement the Clean-Up Plan with a consultant reasonably acceptable to Landlord and proceed to act in accordance with all applicable Environmental Requirements and this Lease. If Tenant fails to implement the actions in the Clean-Up Plan as set forth therein, Landlord shall have the right, but not the obligation, and without waiving any other rights and remedies under this Lease, following written notice to Tenant, to carry out such actions and recover the costs and expenses thereof from Tenant as Rent, payable within thirty (30) days after receipt of written demand therefor.

6.6.4 Business. Landlord acknowledges that it is not the intent of this Section 6.6 to prohibit Tenant from using the Premises for the Permitted Use. Tenant may operate its business according to prudent industry practices so long as the use or presence of Hazardous Materials is strictly and properly monitored according to all then-applicable Environmental Requirements. As a material inducement to Landlord to allow Tenant to use Hazardous Materials in connection with its business, Tenant represents and warrants that it has fully and accurately completed the Environmental Questionnaire which is attached to this Lease as Exhibit C (the "**Environmental Questionnaire**"). Tenant agrees to provide Landlord with annual updates of any changes in its use of Hazardous Materials not listed and described in the Environmental Questionnaire most-recently submitted to Landlord. Landlord shall not have any approval rights over such updates, provided the Hazardous Materials proposed to be used by Tenant are of a type and in such quantities as are reasonable and customary for the Permitted Use. Tenant agrees that, except as set forth on the Environmental Questionnaire (as it may be updated pursuant to this Section), neither Tenant nor any Tenant Party will produce, use, store, or generate any Hazardous Materials on, under, or about the Premises nor cause or permit any Hazardous Materials to be brought upon, placed, stored, manufactured, generated, blended, handled, recycled, used or released, on, in, under, or about the Premises.

6.6.5 Haz Mat Documents. Upon Landlord's request, or any time that Tenant is required to deliver a Hazardous Materials list to any Governmental Authority in connection with Tenant's use or occupancy of the Premises, Tenant shall deliver to Landlord a copy of such Hazardous Materials list. Tenant shall, prior to the Rent Commencement Date, deliver to Landlord true and correct copies of the following documents (the "**Haz Mat Documents**") relating to the use, storage, handling, treatment, generation, Release or disposal of Hazardous Materials at the Premises, or if unavailable at that time, concurrent with the receipt from or submission to a Governmental Authority, without regard to whether such materials are generated by Tenant or prepared for Tenant, or how Tenant comes into possession of such materials; permits; licenses; certifications; approvals; reports, audits, assessments, studies, and correspondence; storage and management plans; notice of violations of any Environmental Requirements; plans relating to the installation of any storage tanks to be installed in or under the Land (provided, said installation of tanks shall only be permitted after Landlord has given Tenant its written consent to do so, which consent may be withheld in Landlord's sole and absolute discretion); and all Remediation plans, closure plans or any other documents required by any and all federal, state and local Governmental Authority for any storage tanks installed in, on or under the Land for the closure of any such tanks. Tenant is not required, however, to provide Landlord with any portion(s) of the Haz Mat Documents containing information of a proprietary nature which, in and of themselves, do not contain a reference to any Hazardous Materials or hazardous activities. It is not the intent of this Section to provide Landlord with information which could be detrimental to Tenant's business should such information become possessed by Tenant's competitors. Tenant shall keep confidential and not disclose, discuss, disseminate, or copy any information, data, findings, communications, conclusions and reports regarding the Environmental Condition of the Premises to any person or entity, including any Governmental Authority (other than Tenant's consultants, attorneys, property managers, and employees that have a need to know such information), without the prior written consent of Landlord, unless Tenant is compelled to do so by applicable Environmental Requirements. If Tenant reasonably believes that disclosure is required by applicable Environmental Requirements, Tenant shall provide Landlord with at least ten (10) days' advance written notice to allow Landlord to attempt to obtain a protective order.

6.6.6 Landlord's Environmental Report. Tenant acknowledges that, prior to the Effective Date, Landlord delivered to Tenant a copy of Landlord's final Phase I environmental site assessment regarding the Land for Tenant's review prior to its execution of this Lease. Except as disclosed therein, Landlord represents and warrants that, to its knowledge, there are no Hazardous Materials on or under the Building, the Land, the Common Areas, or the Premises. Landlord covenants not to bring onto the Premises any Hazardous Materials in violation of applicable Environmental Requirements. Landlord shall indemnify Tenant and hold it harmless against any third-party claims, damages, losses or liabilities (including without limitation reasonable attorney's fees) incurred by Tenant arising from any uncured breach of the foregoing representation and warranty. In no event shall Tenant be responsible for the costs (and such costs shall not be included in Operating Expenses) of removal or any Remediation required due to the presence of Hazardous Materials outside the Premises not caused by Tenant or any Tenant Party.

6.6.7 Notices. Tenant shall notify Landlord in writing as soon as possible but in no event later than three (3) days after Tenant becomes aware of any of the following (collectively, "**Hazardous Materials Claims**"): (i) the occurrence of any actual, alleged, or threatened Release of any Hazardous Materials in, on, under, from, about, or in the vicinity of the Premises, regardless of the source or quantity of the Release, (ii) any regulatory actions, inquiries, inspections, investigations, directives, or any cleanup, compliance, enforcement, or abatement proceedings (including any threatened or contemplated actions) relating to or potentially affecting the Premises with respect to any actual, alleged, or threatened Release, or (iii) any claims by any person or entity relating to any Hazardous Materials in, on, under, from, about, or in the vicinity of the Premises. Tenant shall promptly forward to Landlord copies of any non-privileged documentation or correspondence received, prepared, or distributed regarding any Hazardous Materials Claims.

6.6.8 Testing. Landlord shall have the right to conduct annual tests of the Premises to determine any violation of Tenant's obligations under this Section 6.6, and to conduct additional tests at any time upon reasonable suspicion of a Release. Tenant shall pay the cost of such tests of the Premises; provided, however, that if Tenant conducts its own tests of the Premises using third party contractors and test procedures with Landlord's prior, written consent, which test data and reports are immediately provided to Landlord, Landlord shall accept such tests in lieu of the annual tests to be obtained by Landlord and paid by Tenant. Landlord's receipt of or satisfaction with any test results in no way waives any rights or remedies which Landlord may have against Tenant or any other person or entity. Tenant shall, at its sole cost and expense, promptly and satisfactorily remediate any environmental conditions identified by such testing in accordance with all Environmental Requirements, including without limitation, by complying with all of Tenant's obligations set forth in this Section 6.6 which are applicable thereto.

6.6.9 Pre-Existing and Migrating Conditions. Notwithstanding anything to the contrary contained in this Section 6.6, Tenant shall not be responsible for the indemnification and hold harmless obligation set forth in Section 6.6.2, which shall not apply to (i) contamination in, on or under the Premises which Tenant can prove existed in, on, or under the Premises immediately prior to the Lease Commencement Date, or (ii) the presence of any Hazardous Materials in, on or under the Premises which Tenant can prove migrated from outside of the Premises into the Premises, unless in either case, the presence of such Hazardous Materials (x) is the result of a breach by Tenant of any of its obligations under this Lease, or (y) to the extent it was caused, contributed to, or exacerbated by Tenant, its agents, employees, or contractors.

6.6.10 Underground Tanks. In no event shall Tenant have the right to install underground tanks.

6.6.11 Tenant's Obligations. Tenant's obligations under this Section 6.6 shall survive the expiration or earlier termination of this Lease. During any period of time, whether during or after the expiration or earlier termination of this Lease, required by Tenant or Landlord to complete the Remediation of the Premises of any Hazardous Materials (including, without limitation, the Release and termination of any licenses or permits restricting the use of the Premises and the completion of any Clean-Up Plan or the approved Surrender Plan (as defined below)), Tenant shall continue to pay the full Rent in accordance with this Lease for any portion of the Premises not relet by Landlord in Landlord's sole but reasonable discretion, which Rent shall be prorated daily.

6.7 Accessibility. Tenant acknowledges that the Premises, the Building and the Project are subject to, among other Laws, the requirements of the Americans with Disabilities Act, a federal law codified at 42 U.S.C. § 12101, *et seq.*, including, but not limited to Title III thereof ("**Disabilities Act**"), and all regulations and guidelines related thereto, together with any and all similar Laws, rules, regulations, ordinances, codes and statutes now or hereafter enacted by local or state agencies having jurisdiction thereof, as the same may be in effect on the date of this Lease and may be hereafter modified, amended or supplemented (collectively, the "**Accessibility Laws**"). As of the Lease Commencement Date, Landlord represents that the Building and all of Landlord's Work shall comply in all material respects with Accessibility Laws. Provided the Building and Landlord's Work is in compliance as of the Lease Commencement Date with applicable Laws, including without limitation Accessibility Laws, Tenant shall be solely responsible for investigating and confirming that all TI Work (as defined in Section 3 of the Work Letter) and Alterations comply with Accessibility Laws. Furthermore, from and after the Lease Commencement Date, subject to the provisions hereof, Tenant shall be responsible at its sole cost and expense for fully and faithfully complying with all applicable requirements of Accessibility Laws pertaining to the Premises. Within ten (10) days after receipt, Landlord and Tenant shall advise the other in writing, and provide such party with copies of (as applicable), any notices alleging violation of Accessibility Laws relating to any portion of the Premises, the Building or the Project; any claims made or threatened orally or in writing regarding noncompliance with Accessibility Laws and relating to any portion of the Premises, the Building or the Project; or any governmental or regulatory actions or investigations instituted or threatened regarding noncompliance with Accessibility Laws and relating to any portion of the Premises, the Building or the Project. Landlord and Tenant shall and hereby agree to protect, defend (with counsel acceptable to the other party) and hold Landlord and Tenant (as applicable) and their respective agents (as applicable) harmless and indemnify such parties from and against all liabilities, damages, claims, losses, penalties, judgments, charges and expenses (including attorneys' fees, costs of court and expenses necessary in the prosecution or defense of any litigation including the enforcement of this provision) arising from or in any way related to, directly or indirectly, the other party's violation or alleged violation of Accessibility Laws. The obligations of Landlord and Tenant herein shall survive the expiration or earlier termination of this Lease.

7. **Alterations**. Any alterations, additions, or improvements to the Premises by Tenant after completion of the TI Work (collectively referred to as "**Alterations**") shall be subject to the terms and conditions of this Section 7.

7.1 Cosmetic Alterations. Landlord's consent shall not be required for any Alteration that satisfies all of the following criteria (a "**Cosmetic Alteration(s)**"): (a) does not require a permit or other government approval to undertake; (b) is not visible from the exterior of the Building; (c) will not materially and adversely affect the Building (as opposed to Premises) plumbing, sewer, drainage, electrical, fire protection, life safety and security systems and equipment, heating, ventilation, and air conditioning systems (collectively, the "**Building Systems**"), or the exterior walls, foundation, roof (including roof membrane), or structural portions of the floor (the "**Building Structure**"); (d) the aggregate cost of all such Cosmetic Alterations in any consecutive twelve (12)-month period does not exceed One Million and No/100 Dollars ($1,000,000.00); and (e) do not require the consent or approval of, or other review or documentation by, any Mortgagee (as defined below) pursuant to loan documents then in effect provided Landlord delivered to Tenant prior written notice of any such requirements. Even though consent is not required, Tenant must provide written notice of any proposed Cosmetic Alteration to Landlord (with reasonable detail) at least thirty (30) days prior to beginning any Cosmetic Alteration with the exception of minor alterations including painting, wallpapering and hanging pictures, for which no notice shall be required. The performance of Cosmetic Alterations shall also be subject to all the other provisions of this Section 7.1. Notwithstanding anything herein to the contrary, in no event shall consent be required prior to the installation of movable furniture or equipment not affixed to or incorporated into the Premises in any manner and which, in any event, satisfies the criteria of a Cosmetic Alteration; provided, however, the $1,000,000 limit in Section 7.1(d) shall not apply.

7.2 Requirements for Alterations. Any Alterations other than Cosmetic Alterations will require Landlord's prior written approval, which shall not be unreasonably withheld, conditioned, or delayed. At least fifteen (15) business days prior to starting work on any Alterations, Tenant shall furnish Landlord with plans and specifications reasonably acceptable to Landlord (except that Landlord's approval with respect to the specifications for Cosmetic Alterations shall not be required); names of contractors, which such contractors shall be subject to Landlord's reasonable approval as to any non-Cosmetic Alteration; copies of necessary permits and approvals; and evidence of contractor's insurance in amounts reasonably required by Landlord. Material changes to the plans and specifications (excluding changes that would be considered Cosmetic Alterations) must be submitted to Landlord for its reasonable approval. Tenant acknowledges and agrees that Tenant, at Tenant's expense, is responsible for performing all accessibility and other work required to be performed in connection with the Alterations, including, but not limited to, any "path of travel" or other work outside the Premises to the extent necessitated as a result of Tenant's proposed Alterations; provided, however, that Landlord may elect upon written notice to Tenant, to perform any such work in the Common Areas or elsewhere outside of the Premises, at Tenant's expense. If Landlord elects to perform such work outside the Premises, then prior to the commencement of such Alterations by Tenant, Tenant shall deposit with Landlord, Landlord's reasonable estimate of the cost of performing such work, including the reasonable and actual cost of Landlord's construction manager. Alterations shall be performed in a good and workmanlike manner, in compliance with all applicable Laws, the Building's Sustainability Practices and Green Building Standards, if any, and Landlord requirements, including the Work Letter and the requirements of any insurer providing coverage for the Premises, the Building or the Project. Alterations shall be performed free of mechanic's and materialmen's liens and of any claims therefor. If Tenant fails to remove any such lien by bond or otherwise within ten (10) business days after notice from Landlord, Landlord may pay the amount necessary to remove such lien, without being responsible for investigating the validity thereof, and Tenant shall reimburse Landlord therefor within ten (10) business days after receipt of an invoice therefor. All Alterations, including Cosmetic Alterations, shall be at Tenant's sole cost and expense. Tenant shall reimburse Landlord, as Rent, within thirty (30) days of demand (which such demand shall include reasonable backup documentation), for any actual, reasonable out-of-pocket costs incurred by Landlord in connection with reviewing the plans and specifications with respect to any Tenant Alterations. Furthermore, Landlord shall have the right (but not an obligation) to monitor construction of the Alterations, and to require corrections of faulty construction or any material deviation from the plans for such Alterations as approved, and Tenant shall reimburse Landlord for its reasonable and actual third party costs (including, but not limited to, the reasonable and actual costs of any construction manager retained by Landlord) in monitoring construction; provided, however, that no such inspection shall be deemed to create any liability on the part of Landlord, or constitute a representation by Landlord or any person hired to perform such inspection that the work so inspected conforms with such plans or complies with any applicable Laws, and no such inspection shall give rise to a waiver of, or estoppel with respect to, Landlord's continuing right at any time or from time to time to require the correction of any faulty work or any material deviation from such plans. In no event shall Landlord be entitled to reimbursement for any costs to monitor construction of the Alterations (including the costs of any construction or project manager) in excess of 1% of the hard costs of construction of the Alteration.

7.3 Removal of Alterations. Tenant's obligation to remove any Alterations upon the expiration or earlier termination of this Lease shall be as set forth in Section 19, below.

8. Maintenance and Repairs; Utilities.

8.1 Maintenance by Landlord. This Lease is intended to be a net lease. Subject to Section 6 above and Sections 10 and 11 below, Landlord shall, at Landlord's sole cost, repair any latent defects in Landlord's Work; the foregoing obligation shall not at any time ever include any TI Work, Tenant's Work (as defined in Section 3 of the Work Letter), or Alterations, except in the event any defects in the original construction of the Building or Landlord's Work caused the necessity for repairs. In addition, Landlord shall maintain, repair and replace (as needed), as part of Operating Expenses, only the following elements of the Project including the Premises, except to the extent maintained by an owners' association: (i) the Building Structure; (ii) the Building Systems which do not exclusively serve the Premises or another tenant's premises; and (iii) the Common Areas outside the Premises, including landscaping and parking areas but not including the maintenance and repair of electrical vehicle charging stations which shall be Tenant's responsibility pursuant to Section 8.2 below. Notwithstanding the foregoing, subject to Section 9.5 below, maintenance, repairs and/or replacements necessitated in any material respect by any breach by Tenant or any negligent act or omission of Tenant or Tenant's agents, employees or contractors, shall be performed at Tenant's cost and expense. Landlord's obligations hereunder shall not include windows, glass or plate glass, doors or overhead doors, dock bumpers, dock plates or levelers, or office entries, all of which shall be maintained by Tenant. Tenant shall promptly give Landlord written notice of any repair required by Landlord pursuant to this Section 8.1, after which Landlord shall have a reasonable opportunity to repair such item, not to exceed thirty (30) days; provided, however, if such repair is reasonably expected to take longer than thirty (30) days, Landlord shall be deemed to have complied with its obligations hereunder so long as it commences the repair within such thirty (30)-day period and diligently and continuously prosecutes such repair to completion. Tenant hereby waives the benefit of California Civil Code Sections 1941 and 1942, and any other statute providing a right to make repairs and deduct the cost thereof from the Rent.

8.2 Maintenance by Tenant.

8.2.1 Subject to Landlord's obligations in Section 8.1 above, Tenant, at its sole expense, shall repair, replace and maintain in good condition and in compliance with all applicable Laws all portions of the Premises and the Building and all areas, improvements and systems serving the Premises including, without limitation, all aspects of Tenant's Work and any Alterations, dock, dock equipment and loading areas, the equipment yard, truck doors, plumbing, water, and sewer lines up to points of common connection, entries, doors, door frames, ceilings, windows, window frames, interior walls, and the interior side of demising walls, heating, ventilation and air conditioning systems and other building and mechanical systems exclusively serving the Premises, the fire sprinklers and fire protection systems serving the Building (including the monitoring thereof), and repairing and maintaining the electrical charging stations within the parking areas of the Premises. Such repair and replacements shall include capital expenditures and repairs whose benefit may extend beyond the Term. Tenant shall have access to enter upon such parts of the Project reserved to Landlord, and to Common Areas as necessary to comply with its obligations under this Section 8.2. Tenant, at Tenant's expense, shall enter into commercially reasonable and customary maintenance service contracts for the maintenance and repair of the heating, ventilation and air conditioning systems and other mechanical and Building Systems exclusively serving the Premises. Upon request, Landlord shall, at no material cost or expense to Landlord, reasonably cooperate with Tenant as necessary for Tenant to fully perform the requirements of this Section.

8.2.2 In the event that any repair or maintenance obligation required to be performed by Tenant hereunder may affect any portion of the Building Structure or which would likely materially, adversely affect any Building Systems, prior to commencing any such repair, Tenant shall provide Landlord with written notice of the necessary repair or maintenance and a brief summary of the component or components of the Building Structure, and/or the Building Systems, that may be affected by such repair or maintenance. Within five (5) days after Landlord's receipt of Tenant's written notice, Landlord shall have the right, but not the obligation, to elect to cause such repair or maintenance to be performed by Landlord, or a contractor selected and engaged by Landlord, but at Tenant's sole cost and expense provided the cost therefor shall not materially exceed the cost that Tenant would have paid for the same service, and further provided the repairs or maintenance are performed within the same timeframe that Tenant would have caused the repairs or maintenance to be performed.

8.2.3 Unless Landlord elects to cause the repair or maintenance to be performed by Landlord or a contractor selected and engaged by Landlord as set forth in Section 8.2.2 above, if Tenant fails to perform any repair or replacement for which it is responsible within the time periods set forth herein and Tenant fails to commence such repair or replacement within ten (10) business days (unless such repair will, due to the nature of the repair, reasonably require a period of time in excess of ten (10) business days to commence such cure, then such additional period of time as is reasonably necessary) after receipt of Landlord's written notice (or sooner in the event of an emergency condition that poses an imminent threat to life or material damage to property), then Landlord may perform such work and be reimbursed by Tenant for its actual out-of-pocket costs in connection therewith within thirty (30) days after its receipt of written demand therefor (which demand shall be accompanied by reasonable supporting documentation). Subject to Sections 9 and 10 below, Tenant shall bear the full cost of any repair or replacement to any part of the Building or Project that results from damage caused by Tenant or its agents, employees or contractors, and any repair that benefits only the Premises.

8.2.4 As long as Tenant is performing its repair and maintenance obligations under this Section 8.2, and notwithstanding anything to the contrary in Section 5.1 above, Landlord shall not charge Tenant, and Tenant shall not be obligated to pay, as part of Tenant's Proportionate Share of Operating Expenses, a management fee in excess of three-quarters of one percent (0.75 %) of the net rent of the Premises.

8.3 Utilities. Tenant shall contract with and directly pay when due utility company charges for all water, gas, electricity, heat, light, power, telephone, sewer, sprinkler services, refuse and trash collection, and other utilities and services used on the Premises, all maintenance charges for utilities, and any storm sewer charges or other similar charges for utilities imposed upon the Premises by any Governmental Authority or utility provider, together with any taxes, penalties, surcharges or the like pertaining to Tenant's use of the Premises. Landlord shall have no responsibilities whatsoever in connection with the foregoing. Electrical, gas (if any) and water shall be separately metered. Landlord may cause at Tenant's expense for the actual cost thereof any utilities to be separately metered or charged directly to Tenant by the provider. Tenant shall pay its share of all charges for jointly metered utilities based upon consumption, as reasonably determined by Landlord. If any Governmental Authority suggests voluntary guidelines applicable to the Project, relating to the use or conservation of water, gas, electricity, power, or the reduction of automobile emissions, Landlord, at its sole but reasonable discretion to the extent voluntary, may comply with such voluntary guidelines and, accordingly, require Tenant to so comply. Landlord and Tenant shall comply with any mandatory controls imposed by any Governmental Authority.

8.3.1 Tenant shall, at its sole cost and expense, contract directly with a janitorial service and shall pay for all janitorial services used on or for the Premises. Landlord shall have no obligations whatsoever in connection therewith.

8.3.2 Tenant shall store all trash and garbage within the Premises or in a trash dumpster or similar container approved by Landlord as to type, location and screening, and Tenant shall arrange for the regular pick-up of such trash and garbage at Tenant's expense. Tenant shall comply with applicable Laws related to trash and recycling.

8.3.3 Tenant shall, within ten (10) days after request by Landlord, provide consumption data in a form reasonably required by Landlord for: (i) any utility billed directly to Tenant or any subtenant or licensee of Tenant; and (ii) any sub metered or separately metered utility supplied to the Premises, which Landlord is not responsible for reading. If Tenant utilizes separate service providers from those of Landlord, Tenant hereby consents to Landlord obtaining the consumption data directly from such service providers and, within ten (10) days after written request, Tenant shall execute and deliver to Landlord and the service providers such written releases as the service providers may request evidencing Tenant's consent to deliver the consumption data to Landlord.

8.3.4 Tenant acknowledges (i) that Landlord shall have no obligation to provide any security measures for any portion of the Premises or the Project other than such commercially reasonable security measures employed by landlords of comparable Projects, in Landlord's sole discretion, and (ii) that Landlord has made no representation to Tenant regarding the safety or security of the Project. If Landlord provides any security measures at any time, then (a) Landlord shall not be obligated to continue providing such security measures, and Landlord shall not be obligated to provide such security measures with any particular standard of care, and (b) all reasonable and actual costs and expenses incurred by Landlord to implement such security measures will be considered Operating Expenses. Tenant assumes all responsibility for the security and safety of Tenant, the Premises, and/or Tenant's Parties. Tenant may, at its own expense, install its own security system ("**Tenant's Security System**") in the Premises; provided, however, that Tenant shall coordinate the installation and operation of Tenant's Security System as an Alteration, and Tenant shall coordinate with Landlord as reasonably requested by Landlord to ensure Landlord's access to the Premises pursuant to its rights set forth in Section 6.5 above.

8.3.5 Except as otherwise specified herein, no failure to furnish or delay in furnishing any utilities or services or for diminution in the quality or quantity of any utilities shall result in the termination of this Lease or any liability of Landlord or any Landlord Party for loss or injury to persons or property, or for damages, fees, costs, or expenses of any kind whatsoever or injunctive relief; provided, however, in the event that Tenant requests Landlord's assistance in restoring disrupted utility service, Landlord shall promptly cooperate with Tenant to assist Tenant to cause same to be restored, it being understood that any costs of same will be treated as Operating Expenses. Furthermore, Tenant will be entitled to an equitable abatement of Rent for the period of such failure or interruption (retroactive to the first day of such interruption) but only to the extent such failure or interruption: (i) is directly attributable to Landlord's gross negligence or misconduct or that of its employees, agents or contractors, (ii) prevents Tenant from using, and Tenant does not use, the Premises or the affected portion thereof for the conduct of Tenant's business operations therein, (iii) Tenant was using the Premises or such affected portion for the conduct of Tenant's business operations prior to the failure or interruption, and (iv) such failure or interruption continues for more than three (3) consecutive business days (or ten (10) business days in any twelve (12)-month period) after delivery of written notice of such failure or interruption from Tenant to Landlord.

9. Insurance; Waiver of Subrogation.

9.1 Landlord's Insurance. Landlord shall purchase and keep in force a special causes of loss (all risk) property insurance policy covering the Premises. Landlord may also purchase and maintain such additional and commercially reasonable insurance coverage as Landlord may from time to time determine, taking into account what landlords of comparable buildings in comparable projects maintain, or as may be required by any Mortgagee, including commercial general liability insurance, pollution insurance in the amount of Five Million Dollars ($5,000,000), which pollution insurance shall not be placed until Tenant has commenced operations in the Premises, and insurance coverage against the risks of earthquake once the Landlord's Work is complete, flood damage, terrorism or other perils, and business interruption coverage. All insurance carried by Landlord shall be in such amounts, issued by such companies, and on such terms and conditions as Landlord may from time to time determine, and the premiums and deductibles (not to exceed $25,000) for all insurance maintained by Landlord from time to time shall be included in Operating Expenses. Tenant shall, at its sole cost and expense, comply with any and all reasonable requirements pertaining to the Premises, the Building, and the Project of any insurer necessary for the maintenance of reasonable property and commercial general liability insurance covering the Building and the Project and the adjustment of any losses in connection therewith.

9.2 Tenant's Insurance. Tenant shall, at its own cost and expense, procure and keep in full force and effect for the Term:

9.2.1 Commercial General and Umbrella Liability Insurance. Tenant shall maintain commercial general liability (CGL) and, if necessary, commercial umbrella insurance with a limit of not less than Five Million and No/100 Dollars ($5,000,000) each occurrence. CGL insurance shall be written on ISO occurrence form CG 00 01 4 13 (or a substitute form providing equivalent coverage) and shall cover liability arising from premises, operations, independent contractors, products-completed operations, personal injury and advertising injury, and liability assumed under an insured contract. Landlord and Landlord's advisors, property managers, and any mortgagee of Landlord ("**Mortgagee**") (collectively, including Landlord, the "**Landlord Insureds**") shall be included as an insured under CGL, using ISO additional insured endorsement CG 20 11 or a substitute providing equivalent coverage, and under the commercial umbrella, if any. This insurance shall apply as primary insurance with respect to any other insurance or self-insurance programs afforded to Landlord. There shall be no endorsement or modification of the CGL to make it excess over other available insurance; alternatively, if the CGL states that it is excess or pro rata, the policy shall be endorsed to be primary with respect to the additional insured. A copy of the Additional Insured Endorsement or equivalent policy wording will be submitted with the Certificate of Insurance. If the required coverage is maintained by an excess/umbrella policy, the insurance shall be excess over and no less broad than all coverages described herein. The limit of any insurance shall not limit the liability of Tenant hereunder. Tenant waives all rights against Landlord and the Landlord Parties for recovery of damages to the extent these damages are covered by the commercial general liability or commercial umbrella liability insurance maintained pursuant to this Section. Such insurance shall contain a "contractual liability" endorsement insuring Tenant's performance of Tenant's obligation to indemnify Landlord and the Landlord Parties as set forth in this Lease. The amount and coverage of such insurance shall not limit Tenant's liability nor relieve Tenant of any other obligation under this Lease.

9.2.2 Commercial Property Insurance. Tenant shall, at Tenant's expense, maintain in full force and effect on all Tenant's Work, Alterations and its business personal property, furniture, furnishings, trade or business fixtures, cabling, and equipment (collectively, "**Tenant's Property**") on the Premises, special causes of loss (all risk) property insurance in an amount equal to one hundred percent (100%) of the full replacement cost thereof and including coverage for sprinkler leakage. The policy shall be issued on ISO form CP 1030 or equivalent. Any coinsurance requirement in the policy shall be eliminated through the attachment of an agreed amount endorsement, the activation of an agreed value option, or as is otherwise appropriate under the particular policy form. During the Term of this Lease, the proceeds from any such insurance shall be used for the repair or replacement of Tenant's Property. Landlord shall have no interest in the insurance upon Tenant's Property and will sign all documents reasonably necessary in connection with the settlement of any claim or loss by Tenant respecting Tenant's Property. Landlord will not carry insurance on Tenant's Property.

9.2.3 Commercial Automobile Liability. Tenant shall, at Tenant's expense, maintain automobile liability insurance including coverage on owned, hired, and non-owned automobiles and other vehicles, if used in connection with the performance of the work, with bodily injury and property damage limits of not less than One Million and No/100 Dollars ($1,000,000.00) per accident. Tenant waives all rights against Landlord and the Landlord Parties for recovery of damages to the extent these damages are covered by the business auto liability or commercial umbrella liability insurance obtained by Tenant pursuant to this Section (or under any applicable auto physical damage coverage).

9.2.4 Workers' Compensation Insurance; Employer's Liability Insurance. Tenant shall, at Tenant's expense, maintain workers' compensation and employer's liability insurance. The employer's liability limits shall not be less than One Million and No/100 Dollars ($1,000,000.00) each accident for bodily injury by accident or One Million and No/100 Dollars ($1,000,000.00) each employee for bodily injury by disease. Tenant waives all rights against Landlord and the Landlord Parties for recovery of damages to the extent these damages are covered by the workers' compensation and employer's liability or commercial umbrella liability insurance obtained by Tenant pursuant to this Section. Tenant shall obtain an endorsement equivalent to WC 00 03 13 to effect this waiver.

9.2.5 Business Interruption Insurance. Tenant shall, at Tenant's expense, maintain in full force and effect business interruption, business income and extra expense or similar coverage as part of its commercial property insurance, and in no event shall Landlord be liable for any business interruption or other consequential loss sustained by Tenant, whether or not it is insured, even if such loss is caused by the negligence of Landlord, its employees, officers, directors, or agents.

9.2.6 Environmental Insurance. Landlord also reserves the right to require Tenant to obtain insurance based on the Permitted Use, including without limitation, pollution legal liability insurance with a limit of Five Million and No/100 Dollars ($5,000,000), which pollution insurance will in no event be required to be in place until Tenant has commenced operations in the Premises, environmental impairment liability insurance and/or underground storage tank insurance, if Landlord deems such insurance necessary or appropriate based on Tenant's Permitted Use or operations within the Premises.

9.2.7 Builder's Risk Insurance. If required by Landlord in connection with the Tenant's Work or any Tenant-made Alteration, Tenant shall obtain or shall cause its general contractor to maintain builder's risk insurance for perils covered by a causes of loss-special form insurance policy for one hundred percent (100%) of the insurable value of all construction work in place or in progress from time to time.

9.3 General Requirements; Evidence of Coverage. All insurance policies required to be carried by Tenant under this Lease shall be issued by an insurance company qualified to do business in the state/commonwealth where the Premises are located for the issuance of such type of coverage and shall have a Best's Financial Strength Rating of A- or better and a Best's Financial Size Rating of VIII or better. Prior to Landlord granting access to the Premises to Tenant or any Tenant Party, Tenant shall deliver to Landlord certificates of insurance and true and complete copies of any and all endorsements required herein for all insurance required to be maintained by Tenant hereunder. Tenant shall, at least ten (10) days after expiration of each policy, furnish Landlord with certificates of renewal thereof. Failure of Landlord to demand such certificate or other evidence of full compliance with these insurance requirements or failure of Landlord to identify a deficiency from evidence that is provided shall not be construed as a waiver of Tenant's obligation to maintain such insurance. Landlord may from time to time require reasonable increases in the types and/or limits of insurance to be carried by Tenant if Landlord believes that additional coverage is necessary or desirable. If Tenant does not comply with Tenant's obligations under this Section 9, Landlord may, at its option and at Tenant's expense, purchase such insurance coverage to protect Landlord Insureds. The cost of such insurance shall be paid to Landlord by Tenant, as Rent, within ten (10) days after demand.

9.4 Vendors' Insurance. In addition to the insurance Tenant is required to carry under this Lease, Tenant acknowledges that Landlord will require Tenant's vendors and contractors entering the Building to carry such insurance as Landlord shall reasonably determine to be necessary, and satisfactory evidence of such insurance must be delivered to Landlord prior to entry into the Building by such vendors and contractors.

9.5 Mutual Waiver of Subrogation Rights. Whenever (a) any loss, cost, damage, or expense resulting from fire, explosion, or any other casualty or occurrence is incurred by either of the parties to this Lease in connection with the Premises and (b) such party is then covered in whole or in part by insurance with respect to such loss, cost, damage, or expense, then the party so insured thereby releases the other party from any and all claims for damage, loss, or injury to its property it may have on account of such loss, cost, damage, or expense to the extent of any amount recovered by reason of such insurance and waives any right of subrogation which might otherwise exist in or accrue to any person on account thereof; provided that such release of and waiver of the right of subrogation shall not be operative in any case where the effect thereof is to invalidate such insurance coverage. The intent of this provision is that each party shall look solely to its insurance with respect to property damage or destruction which can be covered by property insurance of the type described in this Section 9.5. Each party agrees that the property policies of insurance identified in this Section 9 shall include a waiver of all rights of subrogation by the insurance carrier against the other party, its agents, and employees with respect to property damage covered by the applicable property insurance policy. Nothing in this Section 9.5 shall relieve a party of liability to the other for failure to carry insurance required by this Lease.

10. Damages to Premises.

10.1 Repair Estimate. If the Premises are damaged or destroyed by fire, earthquake or other casualty (a "**Casualty**"), Tenant shall give prompt written notice thereof to Landlord, and Landlord shall deliver to Tenant within a good faith estimate from a third party engineer or architect mutually-reasonably acceptable to Landlord and Tenant (the "**Damage Notice**") of whether a material portion of the Premises (i.e., more than fifteen percent (15%) of the replacement cost thereof) has been damaged by the Casualty (a "**Material Casualty Event**") and the time needed to repair the damage caused by such Casualty. Landlord shall use commercially reasonable efforts to cause the Damage Notice to be delivered within sixty (60) days after the parties have agreed upon a third-party engineer or architect.

10.2 Tenant's Rights. If (i) the Damage Notice reflects that a Material Casualty Event has occurred and states that, in the professional opinion of such third party engineer or architect, such Material Casualty Event will take longer than three hundred sixty-five (365) days after the date of the Casualty to repair (the "**Repair Period**"), or (ii) Landlord fails to deliver the Damage Notice by the date that is ninety (90) days after such Casualty and thereafter fails to remedy such failure within ten (10) days after receipt of written notice from Tenant, then Tenant may terminate this Lease by delivering written notice to Landlord of its election to terminate within thirty (30) days after the Damage Notice has been delivered to Tenant (or, if no Damage Notice is delivered, within thirty (30) days after the expiration of the ten (10)-day period), with such termination effective as of the date of termination specified in such termination notice which shall in no event be earlier than thirty (30) days after the date of such termination notice, and no later than ninety (90) days after the date of such termination notice, to allow the parties sufficient time to comply with the provisions of this Lease regarding surrender of the Premises. Alternately, Tenant may, by delivery of written notice to Landlord with thirty (30) days after Tenant's receipt of a Damage Notice reflecting a Material Casualty Event and Repair Period longer than three hundred sixty-five (365) days, elect to undertake the repair of such Casualty damage and restore the Premises at Tenant's cost and expense; provided that Landlord shall reimburse Tenant an amount equal to the insurance proceeds actually received by Landlord in respect of such Casualty damage (or would have received if Landlord maintained the insurance required pursuant to the terms of this Lease, all as the same may have been reduced by amounts required to be paid towards deductibles and to Landlord's current Mortgagee without the ability to use such proceeds towards the repair or restoration of the Premises). If Tenant elects to restore the Premises pursuant to the preceding sentence, such election shall be non-revocable, and such restoration shall become and be a Tenant obligation under this Lease.

10.3 Landlord's Rights. If the Damage Notice reflects that a Material Casualty Event has occurred, a third-party engineer or architect estimates that the damage to the Premises cannot be repaired within the Repair Period, and Tenant does not elect to repair such Casualty damage pursuant to its right above, Landlord may terminate this Lease by giving written notice of its election to terminate within sixty (60) days after delivery of the Damage Notice to Tenant. Notwithstanding the foregoing, if the Premises are wholly or partially damaged or destroyed within the final nine (9) months of the then-applicable Term, and Tenant has not exercised Tenant's renewal option pursuant to Section 3 above, Landlord may, at its option, elect to terminate this Lease upon written notice given to Tenant within sixty (60) days following such Casualty (which termination shall be effective sixty (60) days after the giving of such notice to allow the parties sufficient time to comply with the provisions of this Lease regarding surrender of the Premises).

10.4 Repair Obligation. If neither party elects to terminate this Lease following a Casualty and there has not been a Material Casualty Event, then Landlord shall, within a reasonable time after such Casualty, begin to repair the Premises and shall proceed with reasonable diligence to restore the Premises to substantially the same condition as existed immediately before such Casualty; however, Landlord's obligation to repair or restore the Premises shall be limited to the extent of the insurance proceeds actually received by Landlord for the Casualty in question (or would have received if Landlord maintained the insurance required pursuant to the terms of this Lease, all as the same may have been reduced by amounts required to be paid to Landlord's current Mortgagee without the ability to use such proceeds towards the repair or restoration of the Premises). Any deductible if and as accrued under Landlord's insurance policies shall be deemed to be an Operating Expense hereunder. Notwithstanding any other provision of this Lease to the contrary but subject to then-applicable Laws, Landlord shall be required to reconstruct the Building and Premises in accordance with the Building standards for the initial construction and all of Landlord's Work; provided however, under no circumstances shall Landlord be required to repair, replace or compensate Tenant or any other person for the repair, restoration or replacement of (i) Tenant's Property, or (ii) any Leasehold Improvements (as defined below), and Tenant shall promptly repair and replace all such Leasehold Improvements at Tenant's sole cost and expense. For purposes hereof, the "**Leasehold Improvements**" shall mean all tenant and other improvements in and to the Premises, including, without limitation, all TI Work, all Tenant's Work, and all Alterations made in or to the Building and/or the Premises after the date of mutual execution and delivery of this Lease. In the event the damage is due to the gross negligence or willful misconduct of Landlord or any of Landlord Parties, Landlord shall be solely responsible for the full amount of the deductible for Tenant's applicable insurance policies which shall not exceed $25,000, as well as for the full amount of the deductible for Landlord's applicable insurance policies. Notwithstanding anything contained in this Section 10.4 to the contrary, if the Premises, Building or any other part of the Project are wholly or partially damaged or destroyed as a result of the gross negligence or willful misconduct of Tenant or any of Tenant's agents, employees, customers, or contractors (individually a "**Tenant Party**" or "**Tenant Related Party**" and collectively, the "**Tenant Parties**" or "**Tenant Related Parties**"), Tenant shall pay to Landlord the full amount of the deductible under Landlord's insurance policy and this Lease shall continue in full force and effect without any abatement or reduction in Rent or other payments owed by Tenant.

10.5 Abatement of Rent. If the Premises are damaged by Casualty, Rent for the portion of the Premises in which Tenant is unable to conduct its business due to such damage, as determined by a third-party engineer or architect mutually-reasonably acceptable to Landlord and Tenant, shall be abated from the date of damage until (i) the completion of Landlord's repairs (or until the date of termination of this Lease by Landlord or Tenant as provided above, as the case may be) or (ii) in the event Tenant elects to undertake the repairs pursuant to Section 10.3, the earlier of (A) the completion of Tenant's repairs and (B) the expiration of the Repair Period.

10.6 Waiver. The provisions of this Section 10 shall constitute Tenant's sole and exclusive remedy in the event of damage or destruction to the Premises, and Tenant waives and releases all statutory rights and remedies in favor of Tenant in the event of damage or destruction, including without limitation those available under California Civil Code Sections 1932 and 1933(4).

11. **Condemnation**. If title to all or any portion of the Premises shall be taken by any public or quasi-public use or authority under any statute or by right of eminent domain, or by private purchase in lieu thereof, then the rights of the parties to share in the condemnation award or purchase price thereby resulting shall be governed by the provisions of this Section 11.

(a) Should all or such material portion of the Premises be taken in such a manner as to materially interfere with Tenant's access to, use or occupancy thereof, Tenant shall have the right, at any time within sixty (60) days after the date possession of the condemned parcel is given to the condemnor, to terminate this Lease by giving Landlord written notice of such election prior to the expiration of such right, in which event this Lease shall terminate as of the date of such written notice, and all Rent shall be prorated to such date. Any determination of whether a taking results in a material interference with Tenant's use and occupancy shall be made on the basis of a reasonable person, acting fairly and in good faith. Landlord shall be entitled to (i) any amount paid for the taking of Landlord's fee interest in the Premises, (ii) any severance damages included in the award, (iii) any amount paid for the taking of the Premises except that paid for any improvements made to the Premises by Tenant which remain the property of Tenant, and (iv) any amount which represents the present worth of rent payments to be made in the future under the provisions of this Lease; and none of Landlord's interests in the above shall be subject to any diminution or apportionment whatsoever. Tenant shall be entitled to compensation paid under condemnation for the taking of any improvements made to the Premises by Tenant which remain the property of Tenant and may, to the extent permitted by applicable Laws, pursue a claim against the condemnor for its moving expenses, inconvenience and business interruption in a proceeding independent of any suit pursued by Landlord so long as Landlord's award is not thereby reduced or delayed or adversely affected, and Landlord is not at risk of incurring any liability or expense in connection therewith.

(b) In the event of a partial taking of the Premises which does not materially interfere with Tenant's continued use and occupancy of the Premises and there remains a sufficient portion of the Premises for the continued use of Tenant, then this Lease shall terminate only as to the part so taken, as of the date that possession of such part of the Premises is taken, and the Rent herein provided for shall be reduced to reflect the same proportion as the fair market rental value of the Premises after the taking bears to the fair market rental value of the Premises before the taking. In the event of a partial taking, Landlord agrees to replace or repair the Building facility constituting a portion of the Premises to its condition as existed when the Term commenced, and without regard to improvements made by Tenant, by reinstalling plumbing, electrical, wiring, walls, and paving, if necessary, so that such Building facility shall be completely operable and an integral whole, but at a cost to Landlord not to exceed the condemnation award received by Landlord. In the event of such partial taking, Landlord shall be entitled to receive all amounts described in the third sentence of paragraph (a) above; and none of Landlord's interest in the above shall be subject to any diminution or apportionment whatsoever. Tenant shall be entitled to compensation paid under any partial taking for the taking of any improvements made to the Premises by Tenant which remain the property of Tenant.

(c) Landlord and Tenant agree to execute all documents and assignments reasonably necessary to carry out this Section 11 in the event of condemnation or purchase in lieu thereof.

(d) Tenant hereby waives any and all rights it might otherwise have pursuant to Section 1265.130 of The California Code of Civil Procedure, and any other Laws which allow it to petition a Governmental Authority to terminate the Lease in the event of a partial taking or taking of the Premises, the Building, the Project, or any portion thereof.

12. Assignment and Subletting.

12.1 No Transfer. Except as set forth below, Tenant shall not, without Landlord's prior written consent (which consent shall not be unreasonably withheld, conditioned or delayed), voluntarily or by operation of law, directly or indirectly, mortgage, pledge, assign or encumber this Lease or any interest herein, including, but not limited to, the right to initiate any collections, lawsuits, audits or other findings of fact, sublease any portion of the Premises or any right or privilege appurtenant thereto, or grant any license or right to use any portion of the Premises (each, a "**Transfer**"). Notwithstanding the foregoing, subject to the terms and conditions hereof except that Landlord's consent shall not be required, Tenant may at any time assign this Lease (or sublet all or any portion of the Premises) to any of the following (as the case may be, a "**Permitted Transfer(s)**"): (i) any Affiliate (as defined below) of Tenant, (ii) a successor to Tenant by merger or consolidation, or (iii) a successor to Tenant by purchase of all or substantially all (i.e., at least ninety percent (90%) of Tenant's assets; provided, however, that, as to any Permitted Transfer, the proposed transferee has a net worth (as determined in accordance with GAAP, but excluding intellectual property and any other intangible assets ("**Net Worth**")) immediately after the transfer that is not less than Tenant's Net Worth immediately before the transfer or as otherwise approved in writing by Landlord. Subject to the foregoing, this Lease shall be binding upon, inure to the benefit of, and be enforceable by the parties and their respective successors and permitted assigns. For purposes of this Lease, "**Affiliate(s)**" means, as to either party, any other individual or entity that, directly or indirectly, controls, or is controlled by, or is under common control with, such party. For this purpose, "control" (including, with its correlative meanings, "controlled by" and "under common control with") shall mean the ownership of more than fifty percent (50%) of the voting stock of a corporation or more than fifty percent (50%) of all of the legal and equitable interests in any other business entity.

12.2 Requirements for Transfer. If Tenant desires to effect a Transfer, including a Permitted Transfer, then at least thirty (30) days before the date Tenant desires the Transfer to be effective (the "**Transfer Date**"), Tenant shall give Landlord a notice (the "**Transfer Notice**") containing such information about the proposed transferee, including the proposed use of the Premises and any Hazardous Materials proposed to be used, stored, handled, treated, generated in, released or disposed of from the Premises, the Transfer Date, any relationship between Tenant and the proposed transferee, and all material terms and conditions of the proposed Transfer, including a copy of any proposed assignment or sublease in its final form, and such other information as is reasonably necessary or appropriate for Landlord to consider whether to grant its consent. If Landlord's consent is required, Landlord may, by giving written notice to Tenant within ten (10) business days after receipt of the Transfer Notice: (i) grant such consent, (ii) refuse such consent, in its reasonable discretion and provide a detailed explanation as to its reasons therefor, or (iii) terminate this Lease with respect to the space described in the Transfer Notice (a "**Transfer Termination**"). If Landlord delivers notice of its election to exercise a Transfer Termination, Tenant shall have the right to withdraw such Transfer Notice by giving written notice to Landlord of such election within five (5) business days after its receipt of notice of the Transfer Termination. If Tenant withdraws such Transfer Notice, this Lease shall continue in full force and effect. If Tenant does not withdraw such Transfer Notice, this Lease, and the term and estate herein granted, shall terminate as of the date set forth in the notice of Transfer Termination with respect to the space described in such Transfer Notice. No failure of Landlord to exercise any such option to terminate this Lease, or to deliver a timely notice in response to the Transfer Notice, shall be deemed to be Landlord's consent to the proposed Transfer. Tenant shall pay Landlord's reasonable fees (including, but not limited to, the fees and expenses of Landlord's counsel) actually incurred in connection with Landlord's consideration of any Transfer and/or its preparation or review of any documents in connection therewith. If Landlord shall consent to, or reasonably withhold its consent to, any proposed Transfer, Tenant shall indemnify, defend, and hold harmless Landlord against and from any and all loss, liability, damages, costs, and expenses (including reasonable counsel fees and expenses) resulting from any claims that may be made against Landlord by the proposed transferee or by any brokers or other persons claiming a commission or similar fee in connection with the proposed Transfer. Notwithstanding the foregoing or anything to the contrary in this Lease, if Tenant is prohibited from providing a Transfer Notice as to any Permitted Transfer as a result of government regulations, Tenant shall provide notice as soon as reasonably practical after the Transfer Date.

12.3 Conditions to Transfer. As a condition to any Transfer, whether or not Landlord's consent is required, Landlord may require:

12.3.1 that any proposed transferee agree in writing at the time of such Transfer that if Landlord gives such party notice that Tenant is in default under this Lease, such party shall thereafter make all payments otherwise due Tenant directly to Landlord, which payments will be received by Landlord without any liability except to credit such payment against those due under the Lease, and any such third party shall agree to attorn to Landlord or its successors and assigns should this Lease be terminated for any reason; provided, however, in no event shall Landlord or its successors or assigns be obligated to accept such attornment;

12.3.2 a list of Hazardous Materials, certified by the proposed transferee to be true and correct, which the proposed transferee intends to use, store, handle, treat, generate in, or release or dispose of from the Premises, together with copies of all Haz Mat Documents relating to such use, storage, handling, treatment, generation, Release, or disposal of Hazardous Materials by the proposed transferee in, on, under, or about the Premises. Neither Tenant nor any such proposed transferee is required, however, to provide Landlord with any portion(s) of such documents containing information of a proprietary nature which, in and of themselves, do not contain a reference to any Hazardous Materials or hazardous activities; and

12.3.3 that the proposed transferee certifies in writing that it can and does make the representations, warranties, and certifications set forth in Section 35, below.

12.4 No Release. No Transfer, nor Landlord consent to any Transfer, shall relieve Tenant or any transferee from obtaining the consent of Landlord to any further Transfer, nor shall it release Tenant or any transferee from full and primary liability under this Lease. The acceptance of Rent hereunder, or the acceptance of performance of any other term, covenant, or condition thereof, from any other person or entity shall not be deemed to be a waiver of any of the provisions of this Lease or a consent to any Transfer of the Premises.

12.5 Transfer Premium. If Landlord approves a Transfer, Tenant shall pay to Landlord, as Rent, fifty percent (50%) of any Transfer Premium received by Tenant. The term "**Transfer Premium**" means all Rent and other consideration paid by a transferee in excess of the Rent payable by Tenant under this Lease (on a rentable square foot basis, if less than the entire Premises is transferred), after deducting Transfer Costs. As used herein, "**Transfer Costs**" means the actual costs incurred and paid by Tenant for (i) any third-party leasing commissions that are reasonable and customary for the market in which the Premises are located, (ii) any tenant improvement allowance actually paid by Tenant to the transferee for improvements made in the Premises, and (iii) out-of-pocket legal fees, concessions, allowances, or reletting fees and expenses reasonably incurred by Tenant in connection with such Transfer. For purposes of the foregoing calculation, the leasing commissions and any tenant improvement allowance shall be amortized on a straight-line basis over the term of the applicable Transfer. If part of the consideration for such Transfer shall be payable other than in cash, Landlord's share of such non-cash consideration shall be in such form as is reasonably satisfactory to Landlord. If Tenant shall enter into multiple Transfers, the Transfer Premium shall be calculated independently with respect to each Transfer. The Transfer Premium due Landlord hereunder shall be earned and paid monthly, within five (5) days after Tenant receives any Transfer Premium from the transferee. Landlord shall have the right to request, and Tenant shall promptly provide, sufficient documentation to confirm the accurate Transfer Premium due in connection with any Transfer. If Landlord is unable to verify the accuracy of the Transfer Premium, Landlord shall have the right at all reasonable times to audit the books, records, and papers of Tenant relating to such Transfer and to make copies thereof. If any Transfer Premium is found to be understated, Tenant shall within thirty (30) days after demand pay the deficiency, and if understated by more than two percent (2%), Tenant shall pay Landlord's costs of such audit. The Transfer agreement between Tenant and the transferee, after approval by Landlord, shall not be amended or terminated without Landlord's prior written consent. In the event that, notwithstanding the giving of such notice, Tenant collects any rent or other sums from the transferee, then Tenant shall hold such sums in trust for the benefit of Landlord and shall immediately forward the same to Landlord. Landlord's collection of such rent and other sums shall not constitute an acceptance by Landlord of attornment by such assignee or subtenant. The provisions of this Section 12.5 shall not apply to Permitted Transfers.

13. Signs and Fixtures.

13.1 Signs. Tenant shall not erect any type or size of sign or signs (including electric or gas signs) on the roof or on the walls of the Building without the prior written consent of Landlord, which Landlord shall not unreasonably withhold, condition or delay; provided, however, Tenant shall have the right to erect, maintain and operate Building and monument signage bearing the corporate name, logo or other trademarks of Tenant reasonably acceptable to Landlord. Landlord and Tenant hereby approve the proposed signage attached hereto as Exhibit D. Any such signage which is approved by Landlord or otherwise permitted to be erected, maintained and operated pursuant to this Section 13.1 shall be erected, maintained and operated by Tenant, at its sole cost and expense, in compliance with all applicable Laws, Rules, and Governing Documents.

13.2 Fixtures. Subject to Section 7 above, Tenant shall also have the right to install any equipment or trade fixtures required in the operation of its business, which such equipment or trade fixtures shall be deemed Tenant's Property.

14. Waivers. Any agreement on the part of Tenant or Landlord to extend the time for the performance of any of the obligations or other acts of the other party to this Lease shall be valid only if set forth in an instrument in writing signed on behalf of such party. The failure or delay of Tenant or Landlord to assert any of its rights under this Lease or otherwise shall not constitute a waiver of such rights, nor shall any single or partial exercise by Tenant or Landlord of any of its rights under this Lease preclude any other or further exercise of such rights or any other rights under this Lease.

15. Quiet Enjoyment and Impairment of Use. Landlord covenants that, subject to all matters of record encumbering the Premises, Tenant, upon payment of Rent and performance of its undertakings herein specified, shall and may peacefully and quietly have, hold, and enjoy the Premises for the Term, with all the rights and privileges and for the uses herein provided, and Landlord acknowledges and agrees that this covenant is a covenant running with the land and is an integral part of Tenant's leasehold estate in the Premises.

16. Tenant's Self-Help Rights. Notwithstanding any provision set forth in this Lease to the contrary, if at any time (a) Tenant provides prior written notice to Landlord of an event or circumstance that requires the action of Landlord with respect to repair and/or maintenance, (b) Landlord is, in fact, required to perform repairs and/or maintenance under the terms of this Lease or is otherwise in default, and (c) Landlord fails to commence such action within a reasonable period of time (given the circumstances) after the receipt of such written notice, but in any event not later than seven (7) business days after receipt of such written notice (or within two (2) business days in the case of an emergency) (provided that, for purposes of this Section 16, to "commence" such action includes any steps taken by Landlord to design, consult, bid or seek permits or other governmental approval in connection with the necessary work so long as Landlord thereafter diligently continues the cure in good faith), then Tenant, as its sole remedy, may proceed to take the required action and shall be entitled to reimbursement by Landlord of Tenant's reasonable and necessary, actual out-of-pocket costs and expenses in taking such action (and only such action as specified in the notice given to Landlord). Such amounts shall be reimbursed by Landlord within thirty (30) days after receipt from Tenant of a detailed invoice setting forth a breakdown of the costs and expenses incurred in connection with the action taken by Tenant. If Landlord fails to reimburse Tenant for such costs within the aforesaid thirty (30)-day period, Tenant shall have the right to offset such amounts against the next installments of Rent that become due and owing. If Tenant takes such action, and such work affects the Building Structure, then Tenant shall use only those contractors used by Landlord in the Building for work thereon. In the event Landlord fails to comply with any of Landlord's other obligations under this Lease within a reasonable time period not to exceed thirty (30) days after Tenant furnishes Landlord with written notice of such breach or failure (or such longer period of time as may be reasonably necessary to effect such cure, provided that Landlord promptly commences such cure within the thirty (30)-day period and diligently prosecutes such cure to completion), Tenant shall have the right, but not the obligation, to perform such obligation on Landlord's account and Landlord shall reimburse Tenant within thirty (30) days of written demand (with underlying documentation) for the amount reasonably and actually expended by Tenant to perform such obligation.

Tenant shall give to any Mortgagee a copy of any notice of default given to Landlord at the same time as such notice is given to Landlord, provided that prior to such notice Tenant has been notified, in writing, of the address of such Mortgagee. Except as otherwise set forth in any subordination and non-disturbance agreement between Tenant and a Mortgagee, Tenant will not seek to terminate this Lease by reason of any act or omission that constitutes (or would over time constitute) a default of Landlord until Tenant shall have given written notice of such act or omission to Mortgagee (at Mortgagee's last address furnished to Tenant) and until a period of thirty (30) days shall have elapsed, Mortgagee shall have the right, but not the obligation, to remedy such act or omission; provided however, that if the act or omission does not involve the payment of money from Landlord to Tenant and (i) is of such a nature that it could not be reasonably remedied within the thirty (30) day-period aforesaid, or (ii) the nature of the act or omission or the requirements of local law require Mortgagee to appoint a receiver or to foreclose on or commence legal proceedings to recover possession of the Property in order to effect such remedy and such legal proceedings and consequent remedy cannot reasonably be achieved within said thirty (30) days, then Mortgagee shall have such further time as is reasonable under the circumstances to effect such remedy (not to exceed forty five (45) days after the expiration of the thirty (30) day-period aforesaid) provided that Mortgagee shall notify Tenant, within ten (10) days after receipt of Tenant's notice, of Mortgagee's intention to effect such remedy and provided further that Mortgagee institutes immediate legal proceedings to appoint a receiver for the Premises or to foreclose on or recover possession of the Premises within said thirty (30) day-period and thereafter prosecutes said proceedings and remedy with due diligence and continuity to completion. Notwithstanding the foregoing, Mortgagee shall have no rights under this Section 16 if Mortgagee is an entity that controls, is controlled by, or is under common control with Landlord.

17. Events of Default; Remedies.

17.1 Events of Default. Tenant shall be considered to be in default of this Lease upon the occurrence of any of the following events of default, following the expiration of each applicable notice and cure period (each, an "**Event of Default**"):

17.1.1 Tenant's failure to pay when due all or any portion of the Rent; provided, however, that Landlord will give Tenant written notice and an opportunity to cure any failure to pay Rent within five (5) business days of any such notice not more than once in any twelve (12)-month period and Tenant agrees that such notice shall be in lieu of and not in addition to, or shall be deemed to be, any notice required by law.

17.1.2 Tenant fails to pay and release of record, or diligently contest and bond around, any mechanic's or construction lien filed against the Premises for any work performed, materials furnished, or obligation incurred by or at the request of Tenant, within thirty (30) days of Tenant's receipt of written notice of attachment.

17.1.3 To the extent permitted by applicable Laws, (A) Tenant or any guarantor of this Lease being placed into receivership or conservatorship, or becoming subject to similar proceedings under Federal or State Law, or (B) a general assignment by Tenant or any guarantor of this Lease for the benefit of creditors, or (C) the filing by or against Tenant or any guarantor of this Lease of any proceeding under an insolvency or bankruptcy law, unless in the case of such a proceeding filed against Tenant or any guarantor the same is dismissed within ninety (90) days, or (D) the appointment of a trustee or receiver to take possession of all or substantially all of the assets of Tenant or any guarantor of this Lease, unless possession is restored to Tenant or such guarantor within thirty (30) days, or (E) any execution or other judicially-authorized seizure of all or substantially all of Tenant's assets located upon the Premises or of Tenant's interest in this Lease, unless such seizure is discharged within thirty (30) days.

17.1.4 Abandonment pursuant to the terms of California Civil Code Section 1951.3 of the Premises by Tenant.

17.1.5 Tenant fails to maintain the insurance coverages to the extent required under Section 9.

17.1.6 The failure by Tenant or any guarantor to maintain its legal existence if the failure is not cured within seven (7) business days after written notice is delivered to Tenant.

17.1.7 Failure of Tenant to execute and deliver to Landlord any estoppel certificate, subordination agreement, or lease amendment within the time periods and in the manner required by this Lease.

17.1.8 A Transfer in violation of Section 12 above.

17.1.9 Tenant's failure to comply in all material respects with any other term, provision or covenant of this Lease not enumerated in Sections 17.1.1 through 17.1.8, above, if the failure is not cured within thirty (30) days after written notice is delivered to Tenant, unless any such term, provision or covenant has a specified cure period set forth elsewhere in this Lease, in which case such specific cure period and not the thirty (30)-day period specified in this Section 17.1.9 shall apply thereto. If any failure to comply described in this Section 17.1.9 cannot reasonably be cured within thirty (30) days, Tenant shall be allowed additional time as is reasonably necessary to cure the failure so long as: (1) Tenant commences to cure the failure within thirty (30) days, and (2) Tenant diligently and continuously pursues a course of action to cure the failure and bring Tenant back into compliance with this Lease. Notwithstanding the foregoing, if Tenant's failure to comply creates a hazardous condition, or imminent risk of injury to persons or property, the failure must be cured promptly upon written notice thereof to Tenant.

The notice periods provided herein are in lieu of, and not in addition to, any notice periods provided by Law.

17.2 Remedies. Upon the occurrence of any Event of Default, Landlord shall have the option to pursue any one or more of the following remedies (and in connection therewith Tenant hereby specifically waives notice and demand for payment of Rent or other obligations, including without limitation, pursuant to California Code of Civil Procedure Section 1161, and waives any and all other notices or demand requirements imposed by applicable Law, in each case except for those notices and demands required pursuant to the terms of this Section 17):

17.2.1 Terminate this Lease and Tenant's right to possession of the Premises and recover from Tenant an award of damages equal to the sum of the following:

17.2.1.1 The Worth at the Time of Award (as defined below) of the unpaid Rent which had been earned at the time of termination;

17.2.1.2 The Worth at the Time of Award of the amount by which the unpaid Rent that would have been earned after termination until the time of award exceeds the amount of such Rent loss that Tenant affirmatively proves could have been reasonably avoided using commercially reasonable efforts and any amounts actually received during such period from others to whom the Premises may be rented;

17.2.1.3 The Worth at the Time of Award of the amount by which the unpaid Rent for the balance of the Term after the time of award exceeds the amount of such Rent loss that Tenant affirmatively proves could be reasonably avoided using commercially reasonable efforts;

17.2.1.4 Any other amount necessary to compensate Landlord for all the detriment proximately caused by Tenant's failure to perform its obligations under this Lease or which in the ordinary course of things would be likely to result therefrom, including, but not limited to: (A) any costs or expenses incurred by Landlord (1) in retaking possession of the Premises; (2) in maintaining, repairing, preserving, restoring, replacing, cleaning, altering, remodeling or rehabilitating the Premises or any affected portions of the Building or the Project, including such actions undertaken in connection with the reletting or attempted reletting of the Premises to a new tenant or tenants; (3) for leasing commissions, advertising costs and other expenses of reletting the Premises; or (4) in carrying the Premises, including taxes, insurance premiums, utilities and security costs; (B) any unearned brokerage commissions paid in connection with this Lease; (C) reimbursement of any previously-waived or abated Base Rent or Rent or any free rent or reduced rent granted hereunder; and (D) any concession made or paid by Landlord for the benefit of Tenant including, but not limited to, any moving allowances, contributions, payments or loans by Landlord for tenant improvements or build-out allowances (including, but not limited to, any unamortized portion of the Allowance (as defined in Section 6 of the Work Letter);

17.2.1.5 Such reasonable attorneys' fees and expenses incurred by Landlord as a result of such Event of Default, and court costs in the event suit is filed by Landlord to enforce such remedy; and

17.2.1.6 At Landlord's election, such other amounts in addition to or in lieu of the foregoing as may be permitted from time to time by applicable law.

The "**Worth at the Time of Award**" as to the amounts referred to in Sections 17.2.1.1 and 17.2.1.2 above, shall be computed by allowing interest on the amount determined pursuant to such Sections at the Default Rate. For purposes of Section 17.2.1.3, the Worth at the Time of Award shall be computed by discounting the amount determined pursuant to such section to present worth at a discount rate equal to one percentage point above the discount rate then in effect at the Federal Reserve Bank of San Francisco. For purposes hereof, the "**Default Rate**" shall be the lesser of a per annum rate equal to: (i) the greatest per annum rate of interest permitted from time to time under applicable law, or (ii) the Prime Rate plus five percent (5%) (the "**Default Rate**"). For purposes hereof, the "**Prime Rate**" shall be the per annum interest rate publicly announced as its prime or base rate by a federally insured bank selected by Landlord in the State of California.

17.2.2 Employ the remedy described in California Civil Code § 1951.4 (Landlord may continue this Lease in effect after Tenant's breach and abandonment and recover Rent as it becomes due, if Tenant has the right to sublet or assign, subject only to reasonable limitations). Landlord shall not be liable in any way whatsoever for its failure or refusal to relet the Premises. For purposes of this Section 17.2.2, the following acts by Landlord will not constitute the termination of Tenant's right to possession of the Premises:

(A) Acts of maintenance or preservation or efforts to relet the Premises, including, but not limited to, alterations, remodeling, redecorating, repairs, replacements and/or painting as Landlord shall consider advisable for the purpose of reletting the Premises or any part thereof, or

(B) The appointment of a receiver upon the initiative of Landlord to protect Landlord's interest under this Lease or in the Premises.

17.2.3 With or without terminating this Lease, in compliance with applicable Laws, re-enter the Premises, by force if necessary, and remove all persons and property from the Premises; such property may be removed and stored in a public warehouse or elsewhere at the cost of and for the account of Tenant.

17.2.4 In connection with any Event of Default, perform any such term, provision, covenant, or condition, or make any such payment which is the subject of such Event of Default, and by doing so Landlord shall not be liable or responsible for any loss or damage thereby sustained by Tenant or anyone holding under or through Tenant or any Tenant Parties. If Landlord performs any of Tenant's obligations hereunder, the full amount of the cost and expense incurred or the payment so made or the amount of the loss so sustained shall immediately be owing by Tenant to Landlord, and Tenant shall pay to Landlord within thirty (30) days after demand, as Rent, the full amount thereof with interest thereon at the Default Rate.

17.2.5 In the event of the abandonment of the Premises by Tenant or if Landlord elects to re-enter as provided in Section 17.2.3 above, or takes possession of the Premises pursuant to (i) legal proceeding or (ii) any notice provided by Law, then (if Landlord does not elect to terminate this Lease as provided in Section 17.2.1) above, Landlord may from time to time, without terminating this Lease, relet the Premises or any part thereof for such term or terms and at such rental or rentals and upon such other terms and conditions as Landlord in its sole but reasonable discretion may deem advisable with the right to make alterations and repairs to the Premises in Landlord's sole discretion. If Landlord elects to so relet, then rentals received by Landlord from such reletting shall be applied in the following order: (1) to reasonable attorneys' fees and expenses incurred by Landlord as a result of an Event of Default and court costs in the event suit is filed by Landlord to enforce such remedies; (2) to the payment of any indebtedness other than Rent due hereunder from Tenant to Landlord; (3) to the payment of any costs of such reletting; (4) to the payment of the costs of any alterations and repairs to the Premises; (5) to the payment of Rent due and unpaid hereunder; and (6) the residual amount, if any, shall be held by Landlord and applied in payment of future Rent and other sums payable by Tenant hereunder as the same may become due and payable hereunder. If the portion of such rentals received from such reletting during any month, which is applied to the payment of Rent hereunder, is less than the Rent payable during the month by Tenant hereunder, then Tenant shall pay such deficiency to Landlord. Such deficiency shall be calculated and paid monthly. Tenant shall also pay to Landlord, as soon as ascertained, any commercially reasonable and actual costs and expenses, taking into consideration market conditions and standard concessions being offered, incurred by Landlord in such reletting or in making such alterations and repairs not covered by the rentals received from such reletting. No re-entry or taking of possession of the Premises by Landlord pursuant to this Section 17 shall be construed as an election to terminate this Lease unless a written notice of such intention is given to Tenant or unless the termination thereof is decreed by a court of competent jurisdiction. Notwithstanding any reletting without termination by Landlord because of any Event of Default by Tenant, Landlord may at any time after such reletting elect to terminate this Lease for any such Event of Default.

17.3 WAIVERS. TENANT HEREBY WAIVES ANY AND ALL RIGHTS CONFERRED BY SECTION 3275 OF THE CIVIL CODE OF CALIFORNIA AND BY SECTIONS 1174 (c) AND 1179 OF THE CODE OF CIVIL PROCEDURE OF CALIFORNIA AND ANY AND ALL OTHER LAWS AND RULES OF LAW FROM TIME TO TIME IN EFFECT DURING THE TERM PROVIDING THAT TENANT SHALL HAVE ANY RIGHT TO REDEEM, REINSTATE OR RESTORE THIS LEASE FOLLOWING ITS TERMINATION PURSUANT TO THIS SECTION 17.

17.4 Other Rights and Remedies. If Tenant is in an Event of Default, then, to the extent permitted by Law, Landlord shall be entitled to receive interest on any unpaid item of Rent at the Default Rate. No right or remedy herein conferred upon or reserved to any party to this Lease is intended to be exclusive of any other right or remedy, and each and every right and remedy shall be cumulative. No act or conduct of Landlord, whether consisting of the acceptance of the keys to the Premises, or otherwise, shall be deemed to be or constitute an acceptance of the surrender of the Premises by Tenant prior to the expiration of the Term, and such acceptance by Landlord of surrender by Tenant shall only be effective upon a written acknowledgment of acceptance of surrender signed by Landlord. The surrender of this Lease by Tenant, voluntarily or otherwise, shall not work in a merger unless Landlord elects in writing that such merger take place, but shall operate as an assignment to Landlord of any and all existing subleases, or Landlord may, at its option, elect in writing to treat such surrender as a merger terminating Tenant's estate under this Lease, and thereupon Landlord may terminate any or all such subleases by notifying the subtenant of its election to do so within five (5) business days after such surrender.

18. **Subordination; Attornment**. Landlord represents and warrants that there is no current Mortgagee. As a condition to Tenant's subordination for all future Mortgagees, Landlord will secure for and promptly deliver to Tenant a non-disturbance agreement on such future Mortgagee's commercially reasonable standard form, which shall provide that, in the event Tenant is not in a default beyond applicable notice and cure periods, Mortgagee will not disturb the terms of the Lease, including without limitation the covenant to complete the required construction, to fund Tenant's allowance, and will not disturb the termination rights, self-help rights, rights of expansion and purchase rights as set forth in the Lease, and otherwise subject to approval by Tenant in its reasonable discretion. If Landlord requests Tenant's review of any non-disturbance agreement as to a future Mortgagee Tenant will provide its approval or disapproval (with detailed reasons therefor and reasonably changes to such form) within fifteen (15) business days after receipt of such request. Subject to the foregoing, Tenant accepts this Lease subject and subordinate to any mortgage(s), deed(s) of trust, ground lease(s) or other lien(s) or encumbrances now or subsequently arising upon the Premises, the Building, or the Project, and to renewals, modifications, refinancings and extensions thereof (collectively referred to as a "**Mortgage**"). This clause shall be self-operative except as provided above, but upon request from a Mortgagee, in lieu of having the Mortgage be superior to this Lease, a Mortgagee shall have the right at any time to subordinate its Mortgage to this Lease. If, in connection with obtaining financing for the Project or any portion thereof, any Mortgagee shall request reasonable modifications to this Lease as a condition to such financing, Tenant shall not unreasonably withhold, condition, or delay its consent to such modifications, provided such modifications do not, in Tenant's reasonable discretion, adversely affect Tenant's rights or increase Tenant's obligations under this Lease.

19. **Surrender of Premises**. At the expiration or earlier termination of this Lease or Tenant's right of possession, Tenant shall remove Tenant's property, including without limitation, its business personal property, furniture, furnishings, trade or business fixtures, cabling, and equipment, from the Premises and all signs installed by or on behalf of Tenant within the Project, and shall quit and surrender the Premises to Landlord in the same condition as existing on the Lease Commencement Date, free of Hazardous Materials not existing as of the Lease Commencement Date, broom clean, and in good order, condition and repair, ordinary wear and tear and Casualty excepted. Normal wear and tear shall not include any damage or deterioration to the floors of the Premises arising from the use of forklifts in, on or about the Premises (including any marks or stains on any portion of the floors), and any damage or deterioration that would have been prevented by proper maintenance by Tenant or Tenant otherwise performing all of its obligations under this Lease. In addition, Tenant shall remove and restore (1) any improvements and equipment located in the manufacturing portions of the Premises, (2) the chemical facility at the rear of the Building and any and all pipes connected thereto, and (3) upon written request from Landlord received not less than one hundred twenty (120) days prior to the expiration or earlier termination of the Lease, the HVAC mezzanine equipment, all as set forth on **Exhibit G** attached hereto. Tenant's removal and disposal work must comply with the Building's Sustainability Practices and the applicable Green Building Standards, if any. Tenant shall pay for or reimburse Landlord, as applicable, for any damage, expense or loss suffered by Landlord in connection with Tenant's removal work pursuant to this Section 19. If Tenant fails to completely satisfy its removal and restoration obligations by the expiration of the Term (or within thirty (30) days after the earlier termination of this Lease or of Tenant's right to possession), Landlord, at Tenant's sole cost and expense, shall be entitled (but not obligated) to cause such removal work to be done and to remove and store Tenant's property. Landlord shall not be responsible for the value, preservation, or safekeeping of Tenant's property. Tenant shall pay Landlord, upon demand, all of Landlord's costs and expenses to conduct such removal work and the expenses and storage charges incurred for Tenant's property. Alternately, Landlord may deem all or any part of Tenant's property to be abandoned, and title to Tenant's property shall be deemed to be immediately vested in Landlord. Tenant waives the provisions of California Civil Code Sections 1980 *et seq*. and 1993, *et seq*. governing the disposal of lost or abandoned property and releases Landlord, its employees, and agents from any and all claims, damages, liabilities and actions of every kind and nature whatsoever, whether now known or unknown, arising out of or relating to disposal of Tenant's property remaining in the Premises after the end of the Term.

At least four (4) months prior to the surrender of the Premises, Tenant shall deliver to Landlord a narrative description of the actions proposed (or required by any Governmental Authority) to be taken by Tenant in order to Remediate and surrender the Premises (including any Alterations permitted by Landlord to remain in the Premises) at the expiration or earlier termination of the Term, free from any Contamination and acceptable for unrestricted use and occupancy (the "**Surrender Plan**"). Such Surrender Plan shall be accompanied by a current listing of (i) all Hazardous Materials licenses and permits held by or on behalf of any Tenant Party with respect to the Premises, and (ii) all Hazardous Materials used, stored, handled, treated, generated, Released, or disposed of from the Premises, and shall be subject to the review and approval of Landlord's environmental consultant. In connection with the review and approval of the Surrender Plan, upon the request of Landlord, Tenant shall deliver to Landlord or its consultant such Haz Mat Documents as Landlord shall request. On or before Tenant's surrender of the Premises, Tenant shall deliver to Landlord evidence that the approved Surrender Plan has been satisfactorily completed and Landlord shall have the right, subject to reimbursement at Tenant's expense as set forth below, to cause Landlord's environmental consultant to inspect the Premises and perform such additional testing and procedures as may be deemed reasonably necessary to confirm that the Premises are, as of the effective date of such surrender, free from any Contamination resulting from Tenant's use and occupancy of the Premises. Tenant shall reimburse Landlord, as Rent, for the reasonable and actual expenses incurred by Landlord pursuant to this Section 19. Landlord shall have the unrestricted right to deliver such Surrender Plan and any report by Landlord's environmental consultant with respect to the surrender of the Premises to third parties.

If Tenant shall fail to prepare or submit a Surrender Plan approved by Landlord, or if Tenant shall fail to timely complete the approved Surrender Plan, or if such Surrender Plan, whether or not approved by Landlord, shall fail to adequately address any Contamination in, on or about the Premises, Landlord shall have the right to take such actions as Landlord may reasonably deem appropriate to assure that the Premises and the Project are surrendered free from any Contamination resulting from Tenant's use and occupancy of the Premises, the cost of which actions shall be reimbursed by Tenant as Rent.

20. **Holding Over**. Tenant shall have the right (the "**Hold Over Right**") to hold over possession of the Premises after the expiration (but not the earlier termination) of the Term for six (6) consecutive one (1)-month periods, upon the same terms and conditions set forth in this Lease (except that Tenant shall have no right to extend the Term pursuant to Section 4 above), provided that such right shall automatically terminate as of the date Landlord delivers written notice (the "**New Lease Notice**") to Tenant that Landlord has executed a Lease with a new tenant for the Premises or a portion thereof. If Landlord delivers a New Lease Notice, the Tenant's tenancy pursuant to the Hold Over Right shall expire and terminate on the date that is thirty (30) days after delivery of the New Lease Notice, and all of Tenant's surrender obligations as to the Premises must be completed by such date. Except pursuant to the Hold Over Right, if Tenant holds over after the expiration of the Term or after the effective date of termination based on the New Lease Notice, such tenancy shall be month-to-month only, and shall not constitute a renewal hereof or an extension for any further term, and in such case Base Rent shall be payable at a monthly rate equal to the product of (i) the Base Rent applicable during the last full month of the Term, and (ii) a percentage equal to one hundred fifty percent (150%). No hold over by Tenant or payment by Tenant after the expiration or early termination of this Lease shall be construed to extend the Term or prevent Landlord from immediate recovery of possession of the Premises by summary proceedings or otherwise. In addition, if Tenant holds over other than pursuant to the Hold Over Right, Tenant shall be responsible for all damages suffered by Landlord resulting from or occasioned by Tenant's holding over, including consequential damages, and Tenant shall protect, defend, indemnify and hold Landlord harmless from all loss, reasonable and actual costs (including reasonable attorneys' fees) and liability resulting from such hold over, including, without limiting the generality of the foregoing, any claims made by any succeeding tenant founded upon such failure to surrender and any lost profits to Landlord resulting therefrom.

21. **Notices**. Except as otherwise expressly provided in this Lease, all notices and demands which are required or may be permitted to be given to either party by the other hereunder shall be in writing and shall be sent by United States mail, postage prepaid, certified, or by personal delivery, or by a nationally-recognized overnight courier, addressed as set forth below, or to such other place as either party may from time to time designate in a notice to the other party given as provided herein. Notice shall be deemed given upon actual receipt (or attempted delivery if delivery is refused), if personally delivered, or one (1) business day following deposit for overnight delivery with a nationally-recognized overnight courier that provides a receipt, or on the third (3rd) day following deposit in the United States mail in the manner described above. In no event shall either party use a post office box or other address which does not accept overnight delivery. Notwithstanding the foregoing, notices from Landlord regarding general Building operational matters may be sent via e-mail to the e-mail address(es) provided by Tenant to Landlord for such purpose.

If to Landlord, to: Sudberry Development, Inc.
5465 Morehouse Drive, Suite 260
San Diego, CA 92121
Attn: William E. Mayer, COO
Email: [***]

with a copy to: Michelle N. Cardinal, Esq.
Email: [***]

If to Tenant, to: Ionis Pharmaceuticals, Inc.
2855 Gazelle Ct.
Carlsbad, CA 92010
Attn: General Counsel
Email: [***]

with a copy (which shall not constitute notice) to:

Cooley LLP
4401 Eastgate Mall
San Diego, CA 92121-1909
Attn: David L. Crawford, Esq.
Email: [***]

22. **Parking Areas**. Tenant shall have an exclusive license to use the parking areas serving the Premises located on the Land throughout the Term of the Lease, and Tenant shall use such areas in compliance with applicable Laws. Landlord shall not be responsible for enforcing Tenant's parking rights against any third parties; provided, however, Landlord shall not knowingly permit Landlord, its agents, contractors or employees, or other tenants or occupants of the Project to utilize such parking areas.

23. **Brokers**. Landlord and Tenant each represents and warrants that it has not dealt with any broker, agent or other person (collectively, "**Broker**") in connection with this transaction and that no Broker brought about this transaction, other than CBRE. Landlord and Tenant each hereby agree to indemnify and hold the other harmless from and against any claims by any Broker, other than CBRE, claiming a commission or other form of compensation by virtue of having dealt with Tenant or Landlord, as applicable, with regard to this leasing transaction. Landlord shall be responsible for all commissions due to CBRE arising out of the execution of this Lease in accordance with the terms of a separate written agreement between CBRE and Landlord.

24. **Short Form Lease**. Landlord and Tenant may agree upon a short form of Lease or memorandum to be recorded in the land records.

25. **Estoppel Certificates**. Tenant agrees at any time and from time to time upon no less than fifteen (15) business days' prior written notice by Landlord to execute, acknowledge, and deliver to Landlord a statement in writing certifying: (i) that this Lease is unmodified and in full force and effect (or if there have been modifications, that the same is in full force and effect as modified and stating the modifications), (ii) the date to which the Rent has been paid in advance, if any, (iii) stating whether or not to the best knowledge of the signer of such certificate Tenant or Landlord is in default in performance of any such covenant, agreement or condition contained in this Lease and, if so, specifying each such default of which the signer may have knowledge, and (iv) setting forth such further information with respect to the status of this Lease or the Premises as may be reasonably requested thereon, it being intended that any such statement delivered pursuant to this Section 25 may be relied upon by any prospective purchaser of the Premises and any Mortgagee thereof and their respective successors and assigns. Landlord agrees at any time and from time to time upon not less than fifteen (15) business days' prior written notice by Tenant to execute, acknowledge and deliver to Tenant a statement in writing certifying (i) that this Lease is unmodified and in full force and effect (or if there shall have been modifications that the same is in full force and effect as modified and stating the modifications), (ii) the date to which the Rent has been paid in advance, if any, (iii) stating whether or not to the best knowledge of the signer of such certificate Tenant is in default in performance of any covenant, agreement or condition contained in this Lease, and, if so, specifying each such default of which the signer may have knowledge, and (iv) setting forth such further information with respect to the status of this Lease or the Premises as may be reasonably requested thereon, it being intended that any such statement delivered pursuant to this Section 25 may be relied upon by any prospective assignee of Tenant's interest in this Lease.

26. Governing Law, Jurisdiction, and Venue.

26.1 Governing Law. This Lease shall be governed by and construed in accordance with the Laws of the State of California without giving effect to the principles of conflicts of law thereof or of any other jurisdiction that would result in the application of the Laws of any other jurisdiction.

26.2 Jurisdiction and Venue. All actions and proceedings arising out of or relating to this Lease shall be heard and determined in any state or federal court located within San Diego County, California and the parties hereby irrevocably submit to the exclusive jurisdiction and venue of such courts in any such action or proceeding and irrevocably waive the defense of an inconvenient forum, improper venue, or lack of jurisdiction to the maintenance of any such action or proceeding. The consents to jurisdiction and venue set forth in this Section 26 shall not constitute general consents to service of process in the State of California and shall have no effect for any purpose except as provided in this Section 26 and shall not be deemed to confer rights on any person or entity other than the parties. The parties agree that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by applicable Law; provided, however, that nothing in the foregoing shall restrict any party's rights to seek any post-judgment relief regarding, or any appeal from, a trial court judgment.

27. Attorneys' Fees. If either party hereto fails to perform any of its obligations under this Lease or if any dispute arises between the parties hereto concerning the meaning or interpretation of any provision of this Lease, then the defaulting party or the party not prevailing in such dispute, as the case may be, shall pay any and all costs and expenses incurred by the other party on account of such default and/or in enforcing or establishing its rights hereunder, including, but not limited to, court costs, expert fees and costs and attorneys' fees and disbursements. In addition to other circumstances, a party shall be deemed to have prevailed in any such action if such action is dismissed upon the payment by the other party of the sums allegedly due or the performance of obligations allegedly not complied with, or if such party obtains substantially the relief sought by it in the action, irrespective of whether such action is prosecuted to judgment. The reasonable costs to which the prevailing party is entitled shall include costs of investigation, copying costs, electronic discovery costs, electronic research costs, telephone charges, mailing and delivery charges, information technology support charges, consultant and expert witness fees and costs, travel expenses, court reporter fees, transcripts of court proceedings not ordered by the court, mediator fees and attorneys' fees incurred in discovery and contempt proceedings. Tenant shall also pay all attorneys' fees and costs Landlord incurs in defending this Lease or otherwise protecting Landlord's rights in any voluntary or involuntary bankruptcy case, assignment for the benefit of creditors, or other insolvency, liquidation or reorganization proceeding involving Tenant or this Lease, including all motions and proceedings related to relief from an automatic stay, lease assumption or rejection, use of cash collateral, claim objections, disclosure statements and plans of reorganization. The non-prevailing party shall also pay the attorneys' fees and costs incurred by the prevailing party in any post-judgment proceedings to collect and enforce the judgment. The covenant in the preceding sentence is separate and several and shall survive the merger of this provision into any judgment in connection with this Lease. Without limiting the generality of the foregoing, if Landlord utilizes the services of an attorney for the purpose of collecting any Rent due and unpaid beyond any applicable notice and cure period by Tenant or in connection with any other breach of this Lease by Tenant, Tenant shall pay Landlord's actual attorneys' fees and expenses, regardless of the fact that no legal action may be commenced or filed by Landlord.

28. **WAIVER OF JURY TRIAL**. TO THE EXTENT PERMITTED BY APPLICABLE LAW, EACH OF THE PARTIES HEREBY KNOWINGLY, INTENTIONALLY AND VOLUNTARILY IRREVOCABLY WAIVES ANY AND ALL RIGHTS TO TRIAL BY JURY IN ANY LEGAL ACTION ARISING OUT OF OR RELATED TO THIS LEASE.

29. **Interpretation**.

29.1 Broad Interpretation. When a reference is made in this Lease to an Article, a Section, or Exhibit, such reference shall be to an Article of, a Section of, or an Exhibit to this Lease unless otherwise indicated. The Table of Contents and headings contained in this Lease are for reference purposes only and shall not affect in any way the meaning or interpretation of this Lease. Whenever the words "include," "includes" or "including" are used in this Lease, they shall be deemed to be followed by the words "without limitation." The words "hereof," "herein" and "hereunder" and words of similar import when used in this Lease shall refer to this Lease as a whole and not to any particular provision of this Lease. The terms "or," "any" and "either" are not exclusive. The word "extent" in the phrase "to the extent" shall mean the degree to which a subject or other thing extends, and such phrase shall not mean simply "if." The word "will" shall be construed to have the same meaning and effect as the word "shall." The definitions contained in this Lease are applicable to the singular as well as the plural forms of such terms and to the masculine as well as to the feminine and neuter genders of such terms. Any agreement or instrument defined or referred to herein means such agreement or instrument as from time to time amended, modified or supplemented, including by waiver or consent, and references to all attachments, schedules and exhibits thereto and instruments incorporated therein. References to a person are also to its permitted assigns and successors.

29.2 Joint Drafting. The parties have participated jointly in the negotiation and drafting of this Lease and, in the event an ambiguity or question of intent or interpretation arises, this Lease shall be construed as jointly-drafted by the parties and no presumption or burden of proof shall arise favoring or disfavoring the parties by virtue of the authorship of any provision of this Lease.

30. **Entire Agreement**. This Lease constitutes the entire agreement between the parties, and supersedes all other prior agreements and understandings, both written and oral, among the parties and their Affiliates, or any of them, with respect to the subject matter hereof.

31. **Counterparts**. This Lease may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which taken together shall constitute one and the same agreement and shall become effective when one or more counterparts have been signed by each of the parties and delivered to each of the other parties hereto. The parties hereto agree that this Lease may be electronically signed, and that any electronic signature appearing on this Lease is the same as a handwritten signature for the purposes of validity, enforceability and admissibility.

32. **Indemnification**.

32.1 Indemnification.

32.1.1 Subject to the waivers in Section 9, Tenant hereby indemnifies and agrees to defend, save and hold Landlord and the Landlord Parties harmless from and against any and all Third-Party Claims (defined below) for injury or death to persons or damage to property occurring within or about the Premises or the Project arising directly out of Tenant's use or occupancy of the Premises or use of the Project (including, without limitation, any act, omission or neglect by Tenant or its agents, employees or contractors in or about the Premises or at the Project) or the breach or default by Tenant in the performance of any of its obligations hereunder. Such indemnity shall not apply to the extent caused by the gross negligence of the Landlord or any Landlord Parties; provided, however, Landlord's liability for any such gross negligence or willful misconduct shall nevertheless be subject to Section 32.4 below. The Landlord Parties shall not be liable for any damages arising from any act, omission or neglect of any tenant in the Project or Tenant Parties.

32.1.2 Subject to the waivers in Section 9, Landlord hereby indemnifies and agrees to defend, save and hold Tenant and Tenant's agents, employees, directors and officers harmless from and against any and all Third-Party Claims arising out of or in connection with any damage or injury occurring in or on the Project (excluding the Premises) due to Landlord's default or breach of its obligations pursuant to this Lease.

32.2 Procedures for Indemnification of Third-Party Claims.

32.2.1 Any Landlord Party or Tenant seeking indemnification under this Lease (an "**Indemnitee**") with respect to any claim asserted against such Indemnitee by a person other than Landlord, Tenant or any Affiliate of Landlord or Tenant (a "**Third-Party Claim**") in respect of any matter that is subject to indemnification hereunder shall promptly deliver to the other party (the "**Indemnifying Party**") written notice (a "**Third-Party Claim Notice**") setting forth a description in reasonable detail of the nature of the Third-Party Claim or, in the alternative, include a copy of all papers served with respect to such Third-Party Claim (if any); *provided*, *however*, that the failure to so transmit a Third-Party Claim Notice shall not affect the Indemnifying Party's obligations under this Section 32, unless the Indemnifying Party is materially prejudiced as a result of such failure.

32.2.2 If a Third-Party Claim is asserted against an Indemnitee, the Indemnifying Party shall be entitled to participate in the defense thereof and, if the Indemnifying Party delivers written notice to the Indemnitee within thirty (30) days after receipt of a Third-Party Claim Notice (or sooner, if the nature of the Third-Party Claim so requires) stating that the Indemnifying Party shall assume and control the defense of such Third-Party Claim and specifying any reservations to its defense (except that the failure to so specify any reservation to its defense in a timely-delivered written notice shall not affect the validity of such notice except to the extent the Indemnitee is materially prejudiced as a result of such failure), the Indemnifying Party may assume and control the defense thereof with counsel selected by the Indemnifying Party and reasonably satisfactory to the Indemnitee and settle such Third-Party Claim at the discretion of the Indemnifying Party; *provided*, that the Indemnifying Party shall not, except with the written consent of the Indemnitee (such consent not to be unreasonably withheld, conditioned or delayed), enter into any settlement or consent to entry of any judgment that: (i) does not include the provision by the person(s) asserting such claim to all indemnified parties of a full, unconditional and irrevocable release from all liability with respect to such Third-Party Claim, (ii) includes an admission of fault, culpability or failure to act by or on behalf of any Indemnitee, (iii) includes injunctive or other nonmonetary relief affecting any Indemnitee other than nonmonetary relief incidental to the monetary damages that does not restrict the operation of the businesses of the Indemnified Party or (iv) includes monetary amounts that would be payable by the Indemnified Party. If the Indemnifying Party elects to assume the defense of a Third-Party Claim, the Indemnifying Party shall not be liable to the Indemnitee for legal fees or expenses subsequently incurred by the Indemnitee in connection with the defense thereof; *provided*, that the Indemnitee shall have the right to participate in the defense thereof and to employ counsel, at its own expense, separate from the counsel employed by the Indemnifying Party (it being understood that the Indemnifying Party shall control such defense), *provided*, *further*, that if, based on the reasonable opinion of legal counsel to the Indemnitee, a conflict or potential conflict of interest exists between the Indemnifying Party and the Indemnitee which makes representation of both parties inappropriate under applicable standards of professional conduct, the reasonable fees and expenses of such separate counsel shall constitute indemnifiable liabilities pursuant to this Section 32. The Indemnitee may retain or take over the control of the defense or settlement of any Third-Party Claim the defense of which the Indemnifying Party has elected to control if the Indemnitee irrevocably waives its right to indemnity under this Section 32 and fully releases the Indemnifying Party with respect to such Third-Party Claim. If an Indemnifying Party elects not to assume and control the defense of any Third-Party Claim or fails to notify the Indemnitee of its election within thirty (30) days after receipt of a Third-Party Claim Notice, then such Indemnitee shall be entitled to continue to conduct and control the defense of such Third-Party Claim and the reasonable fees and expenses of counsel for the Indemnitee in connection with the defense of such Third-Party Claim shall constitute indemnifiable liabilities pursuant to this Section 32.

32.2.3 The parties shall reasonably cooperate with each other in the investigation, prosecution or defense of any Third-Party Claim. Such cooperation shall, upon reasonable written notice to the party providing such cooperation, include (i) providing, and causing their respective Affiliates to provide, documentary or other evidence in their possession or control that is reasonably related to the Third-Party Claim, (ii) implementing, and causing their respective Affiliates to implement, reasonable record retention or litigation hold policies and (iii) making available, and causing their respective Affiliates to make available, directors, officers and employees to give depositions or testimony. Except as otherwise provided in Section 32.2.2 above, the party requesting such cooperation shall pay the reasonable out-of-pocket expenses incurred in providing such cooperation (including reasonable legal fees and disbursements) by the party (or Affiliate thereof, as the case may be) providing such cooperation and by its officers, directors, employees and agents, but not including reimbursing such party (or Affiliate thereof, as the case may be) or its officers, directors, employees and agents for their time spent in such cooperation.

32.3 Additional Matters.

32.3.1 Indemnity payments or other payments in respect of any liabilities for which an Indemnitee is entitled to indemnification under this Section 32 shall be paid reasonably promptly (but in any event within a reasonable amount of time after the final determination of the amount that the Indemnitee is entitled to indemnification under this Section 32) by the Indemnifying Party to the Indemnitee as such liabilities are incurred upon demand by the Indemnitee, including reasonably satisfactory documentation setting forth the basis for the amount of such indemnity payments, including documentation with respect to calculations made and consideration of any insurance proceeds that actually reduce the amount of such liabilities.

32.3.2 If any Indemnitee has a claim against any Indemnifying Party under this Section 32 that does not involve a Third-Party Claim being asserted or threatened against such Indemnitee (a "**Direct Claim**"), such Indemnitee shall promptly deliver to the Indemnifying Party a written notice (a "**Direct Claim Notice**") setting forth a description in reasonable detail of the nature of the Direct Claim; *provided*, that the failure to so transmit a Direct Claim Notice shall not affect the Indemnifying Party's obligations under this Section 32, except to the extent that the Indemnifying Party is materially-prejudiced as a result of such failure.

32.4 Limitations on Liability.

32.4.1 **EXCEPT AS EXPRESSLY SET FORTH IN SECTIONS 6.5, 17, AND 20, IN NO EVENT SHALL EITHER PARTY OR ANY OF ITS AFFILIATES BE LIABLE FOR INDIRECT, SPECIAL, EXEMPLARY, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES, LOSS OF PROFITS OR BUSINESS INTERRUPTION, HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE), BREACH OF STATUTORY DUTY OR OTHERWISE, IN CONNECTION WITH OR ARISING IN ANY WAY OUT OF THE TERMS OF THIS AGREEMENT OR THE PERFORMANCE HEREOF, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.**

32.4.2 **NOTWITHSTANDING ANYTHING SET FORTH HEREIN AND EXCEPT IN THE EVENT OF FRAUD, MATERIAL MISREPRESENTATION, OR CRIMINAL ACTIVITY: (A) LANDLORD SHALL NOT BE LIABLE TO TENANT OR ANY OTHER PERSON FOR (AND TENANT AND EACH SUCH OTHER PERSON ASSUME ALL RISK OF) LOSS, DAMAGE OR INJURY, WHETHER ACTUAL OR CONSEQUENTIAL TO: TENANT'S PERSONAL PROPERTY OF EVERY KIND AND DESCRIPTION, INCLUDING, WITHOUT LIMITATION TRADE FIXTURES, EQUIPMENT, INVENTORY, SCIENTIFIC RESEARCH, SCIENTIFIC EXPERIMENTS, LABORATORY ANIMALS, WORK PRODUCT, LABORATORY WORK, SPECIMENS, SAMPLES, DATA, AND/OR SCIENTIFIC, BUSINESS, ACCOUNTING AND OTHER RECORDS OF EVERY KIND AND DESCRIPTION KEPT AT THE PREMISES AND ANY AND ALL INCOME DERIVED OR DERIVABLE THEREFROM; (B) THERE SHALL BE NO PERSONAL RECOURSE TO LANDLORD FOR ANY ACT OR OCCURRENCE IN, ON OR ABOUT THE PREMISES OR ARISING IN ANY WAY UNDER THIS LEASE OR ANY OTHER AGREEMENT BETWEEN LANDLORD AND TENANT WITH RESPECT TO THE SUBJECT MATTER HEREOF AND ANY LIABILITY OF LANDLORD HEREUNDER SHALL BE STRICTLY LIMITED SOLELY TO LANDLORD'S INTEREST IN THE PREMISES OR ANY PROCEEDS FROM SALE OR CONDEMNATION THEREOF, ANY INSURANCE PROCEEDS PAYABLE IN RESPECT OF LANDLORD'S INTEREST IN THE PREMISES OR IN CONNECTION WITH ANY SUCH LOSS AND BASE RENT COLLECTED BY LANDLORD FROM AND AFTER ANY JUDICIAL ADJUDICATION OF LIABILITY IN FAVOR OF TENANT AGAINST LANDLORD; AND (C) IN NO EVENT SHALL ANY PERSONAL LIABILITY BE ASSERTED AGAINST LANDLORD IN CONNECTION WITH THIS LEASE NOR SHALL ANY RECOURSE BE HAD TO ANY OTHER PROPERTY OR ASSETS OF LANDLORD OR ANY OF LANDLORD'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS OR CONTRACTORS. UNDER NO CIRCUMSTANCES SHALL LANDLORD OR ANY OF LANDLORD'S OFFICERS, DIRECTORS, EMPLOYEES, AGENTS OR CONTRACTORS BE LIABLE FOR INJURY TO TENANT'S BUSINESS OR FOR ANY LOSS OF INCOME OR PROFIT THEREFROM.**

33. **CASp Inspection**. For purposes of Section 1938(a) of the California Civil Code, Landlord hereby discloses to Tenant, and Tenant hereby acknowledges, that the Premises have not undergone inspection by a Certified Access Specialist (CASp). In addition, the following notice is hereby provided pursuant to Section 1938(e) of the California Civil Code:

"A Certified Access Specialist (CASp) can inspect the subject premises and determine whether the subject premises comply with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the subject premises, the commercial property owner or lessor may not prohibit the lessee or tenant from obtaining a CASp inspection of the subject premises for the occupancy or potential occupancy of the lessee or tenant, if requested by the lessee or tenant. The parties shall mutually agree on the arrangements for the time and manner of the CASp inspection, the payment of the fee for the CASp inspection, and the cost of making any repairs necessary to correct violations of construction-related accessibility standards within the premises."

In furtherance of and in connection with such notice: (i) Tenant, having read such notice and understanding Tenant's right to request and obtain a CASp inspection and with advice of counsel, hereby elects not to obtain such CASp inspection and waives its rights to obtain a CASp inspection with respect to the Premises to the extent permitted by any law now or hereafter in effect; and (ii) if the waiver set forth in clause (i) hereinabove is not enforceable pursuant to law, then Landlord and Tenant hereby agree as follows (which constitute the mutual agreement of the parties as to the matters described in the last sentence of the foregoing notice): (A) Tenant shall have the one-time right to request for and obtain a CASp inspection, which request must be made, if at all, in a written notice delivered by Tenant to Landlord on or before the date that is the earlier of (1) the date Tenant has commenced construction of its initial Tenant improvements, if any, or (2) the Commencement Date; (B) any CASp inspection timely requested by Tenant shall be conducted (1) between the hours of 9:00 a.m. and 5:00 p.m. on any business day, (2) only after ten (10) days' prior written notice to Landlord of the date of such CASp inspection, (3) in a professional manner by a CASp-designated by Landlord and without any testing that would damage the Premises in any way, and (4) at Tenant's sole cost and expense, including, without limitation, Tenant's payment of the fee for such CASp inspection, the fee for any reports prepared by a CASp in connection with such CASp inspection (collectively, the "**CASp Reports**") and all other costs and expenses in connection therewith; (C) Tenant shall deliver a copy of any CASp Reports to Landlord within three (3) business days after Tenant's receipt thereof; (D) Tenant, at its sole cost and expense, shall be responsible for making any improvements, Alterations, modifications and/or repairs to or within the Premises to correct violations of construction-related accessibility standards including, without limitation, any violations disclosed by such CASp inspection; and (E) if such CASp inspection identifies any improvements, Alterations, modifications and/or repairs necessary to correct violations of construction-related accessibility standards relating to those items of the Premises that are Landlord's obligation to repair, if any, then (1) Landlord shall perform such improvements, Alterations, modifications and/or repairs as and to the extent required by law to correct such violations, and (2) notwithstanding anything to the contrary contained in this Lease, Tenant shall reimburse Landlord for the cost of such improvements, Alterations, modifications and/or repairs within thirty (30) days after Tenant's receipt of an invoice therefor from Landlord.

34. Right of First Offer to Purchase.

34.1 Right of First Offer to Purchase. During the Term of the Lease (including any extensions or renewals thereof), Tenant will have an ongoing right to purchase the Premises as set forth below ("**ROFO**"). The option set forth in this Section 34 is personal to Ionis Pharmaceuticals, Inc. and may not be exercised by any other assignee or sublessee except in the event of a Permitted Transfer. If either (x) Landlord determines to sell the Premises to an unaffiliated buyer or (y) Landlord receives an unsolicited offer to sell the Premises to an unaffiliated potential buyer and Landlord wishes to either accept such offer or make a counter-offer to such potential buyer, Landlord shall notify Tenant of same, setting forth the essential terms of the sale (i.e., price, payment terms, "**AS IS**" or other condition of property, due diligence conditions, title and other contingencies, allocation of prorations and closing costs, and closing date) ("**ROFO Notice**"). Within ten (10) business days of receipt of Landlord's ROFO Notice, Tenant may deliver to Landlord a notice of Tenant's election to purchase the Premises, on the terms set forth in Landlord's ROFO Notice, except that Tenant shall not have any due diligence contingency in recognition of Tenant's use and occupancy of the Premises. Notwithstanding the foregoing, in no event shall any of the following permit Tenant to exercise its rights pursuant to this Section 34: (i) the sale of the Premises as part of a transaction involving more than one project owned by Landlord or its Affiliates and provided the sale includes one or more buildings comparable in size to the Premises, (ii) a merger or acquisition of Landlord into or by another entity, or (iii) the sale or transfer of any direct or indirect interest in Landlord.

34.2 Purchase Agreement. If Tenant timely exercises any such right to purchase, the parties shall proceed diligently and in good faith and within sixty (60) days (as may be extended as set forth below, the "**ROFP Period**") execute and deliver to one another an agreement of purchase and sale reasonably acceptable to Landlord and Tenant (the "**Purchase Agreement**"); provided, however, in the event the parties are proceeding diligently and in good faith to achieve the same, either party shall have the right to deliver written notice extending the ROFP Period for an additional thirty (30) days. The Purchase Agreement shall provide that Landlord agrees to sell and Tenant agrees to purchase the Premises "as-is, where-is," with customary representations and warranties made by Landlord or its Affiliates, but excluding any representation or warranty, express or implied, of any kind by Landlord relating to the physical condition of the Premises. Each of the parties covenants to make a good faith effort to negotiate the Purchase Agreement.

34.3 Landlord Right to Sell. If (i) Tenant does not timely exercise such right, or (ii) Tenant timely exercises such right but Tenant does not execute the Purchase Agreement within the ROFP Period, and provided Landlord proceeded diligently and in good faith to achieve execution of the Purchase Agreement, or (iii) the parties timely execute the Purchase Agreement but the Purchase Agreement is thereafter terminated for any reason other than Landlord's default, then Landlord shall thereafter be free to sell the Premises to any party and Tenant's rights under this Section 34 shall terminate and be of no further force or effect. Notwithstanding the foregoing, Landlord shall not sell the Premises for a price ninety-five percent (95%) or less of the price last-offered to Tenant nor on materially more-favorable terms regarding the closing date or amount of deposit(s) without first offering Tenant again the right to purchase the Premises on such more-favorable terms. Notwithstanding anything herein to the contrary, if Landlord fails to enter into an agreement with the proposed buyer within six (6) months following Tenant's receipt of the ROFO Notice, the ROFO shall be reinstated and shall once again apply if Landlord determines to sell the Premises or receives an unsolicited offer as described in Section 34.1 above.

34.4 Exclusions. Tenant's rights under this Section 34 shall not apply to any transfer of the Premises to Landlord's Mortgagee, either by foreclosure, trustee's sale, deed in lieu of foreclosure, or any other transfer to any lender in the exercise of its rights, or the purchaser at any foreclosure sale if not the lender.

35. OFAC. Landlord and Tenant each hereby represent and warrant to the other, for the entirety of the Term, that it is currently (a) in compliance with and shall at all times during the Term of this Lease remain in compliance with the regulations of the Office of Foreign Assets Control ("**OFAC**") of the U.S. Department of Treasury and any statute, executive order, or regulation relating thereto (collectively, the "**OFAC Rules**"), (b) not listed on, and shall not during the Term of this Lease be listed on, the Specially Designated Nationals and Blocked Persons List, Foreign Sanctions Evaders List, or the Sectoral Sanctions Identification List, which are all maintained by OFAC and/or on any other similar list maintained by OFAC or other Governmental Authority pursuant to any authorizing statute, executive order, or regulation, and (c) not a person or entity with whom a U.S. person is prohibited from conducting business under the OFAC Rules.

36. **Financial Information**. Within ten (10) business days after receipt of written request or any monetary Event of Default, Tenant shall execute and deliver to Landlord and/or its designee an audited financial statement or a current and complete financial statement for Tenant certified as true and correct by Tenant's chief financial officer, but not more than once in any given twelve (12)-month period.

37. **Severability**. If any clause or provision of this Lease is illegal, invalid or unenforceable under present or future laws, then and in that event, it is the intention of the parties hereto that the remainder of this Lease shall not be affected thereby. It is also the intention of the parties to this Lease that in lieu of each clause or provision of this Lease that is illegal, invalid or unenforceable, there be added, as a part of this Lease, a clause or provision as similar in effect to such illegal, invalid or unenforceable clause or provision as shall be legal, valid and enforceable.

38. **EV Charging Stations**. Landlord shall not unreasonably withhold, delay or condition its consent to Tenant's written request to install one or more electric vehicle car charging stations ("**EV Stations**") in the parking areas serving the Premises; provided, however, that Tenant complies with all reasonable requirements, standards, Rules and regulations which may be imposed by Landlord, at the time Landlord's consent is granted, in connection with Tenant's installation, maintenance, repair and operation of such EV Stations, which may include, without limitation, Landlord's designation of the location of Tenant's EV Stations, and Tenant's payment of all costs to the extent reasonable and actually incurred by Landlord or Tenant in connection with the installation, maintenance, repair and operation of each Tenant's EV Station(s). Nothing contained in this paragraph is intended to increase the number of parking spaces which Tenant is otherwise entitled to use at the Premises pursuant to the Terms of this Lease nor impose any additional obligations on Landlord pursuant to this Lease.

39. **Force Majeure.** Landlord and Tenant shall not be responsible or liable for delays in the performance of its respective obligations hereunder, and no failure to perform such obligations as a result of such delays shall constitute a default hereunder, when caused by, related to, or arising out of acts of God, sinkholes or subsidence, strikes, lockouts, or other labor disputes, embargoes, quarantines, weather, national, regional, or local disasters, calamities, or catastrophes, inability to obtain labor or materials (or reasonable substitutes therefor) at reasonable costs to the extent not avoidable with advanced planning or inability to obtain utilities necessary for performance, governmental restrictions, orders, limitations, regulations, or controls, national emergencies, local, regional or national epidemic or pandemic, delay in issuance or revocation of permits, enemy or hostile governmental action, terrorism, insurrection, riots, civil disturbance or commotion, fire or other Casualty, and other causes or events that are beyond the reasonable control of the party obligated to perform ("**Force Majeure**"), except with respect to Landlord's obligation to reimburse Tenant for costs as required pursuant to the Lease or Tenant's obligations to pay Rent hereunder unless the national banks in the United States are closed as a result of Force Majeure in which case payment of Rent may be delayed until the national banks reopen for business. Any party claiming Force Majeure shall give the other party hereto written notice within five (5) days that the claiming party becomes aware of the delay caused by such Force Majeure event, explaining the nature or cause of the delay and stating the period of time the delay is expected to continue, if such delay can be reasonably determined. The claiming party shall use diligent, good-faith efforts to end the failure or delay and minimize the effects of such Force Majeure event. The claiming party shall resume the performance of its obligations as soon as reasonably practicable after the termination of the Force Majeure event.

40. **Roof Equipment**. As long as Tenant is not in default under this Lease, Tenant shall have the exclusive right at its sole cost and expense, subject to compliance with all applicable Laws and all covenants, conditions and restrictions affecting the Land, to install, maintain, and remove on the top of the roof of the Building one or more satellite dishes, communication antennae, or other equipment (all of which having a diameter and height acceptable to Landlord) for the transmission or reception of communication of signals as Tenant may from time to time desire (collectively, the "**Roof Equipment**") on the following terms and conditions:

40.1 Requirements. Tenant shall submit to Landlord (i) the plans and specifications for the installation of the Roof Equipment, (ii) copies of all required governmental and quasi-governmental permits, licenses, and authorizations that Tenant will and must obtain at its own expense, with the cooperation of Landlord, if necessary for the installation and operation of the Roof Equipment, and (iii) an insurance policy or certificate of insurance evidencing insurance coverage as required by this Lease and any other insurance as reasonably required by Landlord for the installation and operation of the Roof Equipment. Landlord shall not unreasonably withhold or delay its approval for the installation and operation of the Roof Equipment; *provided*, *however*, that Landlord may reasonably withhold its approval if the installation or operation of the Roof Equipment (A) may damage the Building Structure or the structural integrity of the Building, (B) may void, terminate, or invalidate any applicable roof warranty, or (C) is not properly screened from the viewing public.

40.2 No Damage to Roof. If installation of the Roof Equipment requires Tenant to make any roof cuts or perform any other roofing work, such cuts shall only be made in the manner designated in writing by Landlord; and any such installation work (including any roof cuts or other roofing work) shall be performed by Tenant, at Tenant's sole cost and expense by a roofing contractor designated by Landlord. In the event Tenant requests Landlord's approval for any roof cuts or to perform other roofing work, Landlord shall use commercially reasonable efforts to promptly respond with providing the designated manner for the cuts to be made and shall provide such response in no event later than ten (10) business days following receipt of the request. If Tenant or its agents shall otherwise cause any damage to the roof during the installation, operation, and removal of the Roof Equipment such damage shall be repaired promptly at Tenant's expense and the roof shall be restored in the same condition it was in before the damage. Landlord shall not charge Tenant additional Rent for the installation and use of the Roof Equipment. If, however, Landlord's insurance premium or tax assessment increases as a result of the Roof Equipment, Tenant shall pay such increase as Rent within thirty (30) days after receipt of a reasonably detailed invoice from Landlord. Tenant shall not be entitled to any abatement or reduction in the amount of Rent payable under this Lease if for any reason Tenant is unable to use the Roof Equipment. In no event whatsoever may the installation, operation, maintenance, or removal of the Roof Equipment by Tenant or its agents void, terminate, or invalidate any applicable roof warranty. Upon the occurrence of any such void, termination, or invalidation of any roof warranty due to any actions regarding Roof Equipment, Landlord may elect, at its option, to make Tenant responsible for the maintenance, repair, and replacement of the roof, notwithstanding Landlord's obligations pursuant to Section 8 above, or to claim an Event of Default hereunder.

40.3 Protection. The installation, operation, and removal of the Roof Equipment shall be at Tenant's sole risk. Tenant shall indemnify, defend, and hold Landlord harmless from and against any and all claims, costs, damages, liabilities and expenses (including, but not limited to, attorneys' fees) of every kind and description that may arise out of or be connected in any way with Tenant's installation, operation, or removal of the Roof Equipment.

40.4 Removal. At the expiration or earlier termination of this Lease or the discontinuance of the use of the Roof Equipment by Tenant, Tenant shall, at its sole cost and expense, remove the Roof Equipment from the Building unless Landlord has instructed Tenant to allow the Roof Equipment to remain. If Tenant removes the Roof Equipment, Tenant shall leave the portion of the roof where the Roof Equipment was located in good order and repair, reasonable wear and tear excepted. If Tenant is obligated to but does not so remove the Roof Equipment, Tenant hereby authorizes Landlord to remove and dispose of the Roof Equipment and charge Tenant as Rent for all costs and expenses incurred by Landlord in such removal and disposal. Tenant agrees that Landlord shall not be liable for any Roof Equipment or related property disposed of or removed by Landlord.

40.5 Access. Landlord grants to Tenant the right of ingress and egress on a twenty-four (24) hour, seven (7) day per week basis to install, operate, and maintain the Roof Equipment.

40.6 Appearance. If permissible by applicable Laws and reasonably practical, the Roof Equipment shall be painted the same color as the Building so as to render the Roof Equipment virtually invisible from ground level.

40.7 No Assignment. The right of Tenant to use and operate the Roof Equipment shall be personal to Ionis Pharmaceuticals, Inc. and, upon any permitted sublease of more than fifty percent (50%) of the Premises or assignment pursuant to a Permitted Transfer, to such sublessee or assignee. No other person or entity shall have any right to use or operate the Roof Equipment, and Tenant shall not assign, convey, or otherwise transfer to any person or entity any right, title, or interest in all or any portion of the Roof Equipment or the use and operation thereof except as set forth herein.

41. **Right of First Offer to Lease**. Tenant has a right of first offer (the "**Right of First Offer**") to lease all or part of any comparable, industrial space within the Project owned by Landlord (as the case may be, the "**ROFO Space**") as and when the same becomes available. Provided no Event of Default exists, Landlord shall notify Tenant in writing (the "**ROFO Lease Notice**") before marketing the ROFO Space or entering into negotiations for the lease of the ROFO Space with any third party, or upon Landlord's receipt of an offer to lease ROFO Space. Landlord's notice must reflect the material terms upon which Landlord is willing to lease the ROFO Space, including without limitation, base rent, term, options to extend, rental abatement, and tenant improvement allowance. Tenant will have seven (7) business days after receipt of such notice to respond in writing as to whether or not Tenant elects to lease the ROFO Space upon the terms set forth in the ROFO Lease Notice, without modification or condition. If Tenant elects to lease the ROFO Space, then within thirty (30) days thereafter, Landlord shall prepare an amendment to this Lease and Tenant shall have the right to approve or provide proposed revisions. The parties shall thereafter proceed diligently and in good faith to execute a mutually agreeable amendment to this Lease to add the ROFO Space upon the terms and conditions set forth in the ROFO Lease Notice. Landlord will deliver the ROFO Space in the same condition as required of the original Premises under the Work Letter unless the parties agree otherwise in the amendment. If (i) Tenant elects not to lease, or (ii) Tenant does not exercise its Right of First Offer within the seven (7) business day time period specified above, or (iii) Tenant timely elects to lease the ROFO Space but the parties do not execute an amendment within thirty (30) days after Tenants' receipt of the proposed amendment, despite both parties proceeding diligently and in good faith to do so, then Landlord may lease the ROFO Space upon the same terms and conditions in the ROFO Lease Notice. In the event the Landlord elects to offer the ROFO Space upon economics that are materially better from what was offered to Tenant, Landlord must first offer the ROFO Space to Tenant upon such terms and conditions and in accordance with the requirements of this Section 41. Once the ROFO Space or any portion thereof becomes available again, Tenant's Right of First Offer will apply and Landlord will be required to offer the ROFO Space to Tenant pursuant to this Section 41 before leasing such space to any third party.

42. **Approvals**. Each party hereto represents and warrants that it and the person executing this Lease on such party's behalf has full authority and is duly authorized to enter into this Lease.

[Signatures on the following page]

IN WITNESS WHEREOF, the parties have executed this Lease as of the Effective Date.

LANDLORD:

SUDBERRY DEVELOPMENT, INC.,
a California corporation

By: /s/Colton T. Sudberry
Name: Colton T. Sudberry
Its: President

TENANT:

IONIS PHARMACEUTICALS, INC.,
a Delaware corporation

By: /s/Elizabeth L. Hougen
Name: Elizabeth L. Hougen
Its: Executive Vice President and Chief Financial Officer

EXHIBIT A

[***]

Exhibit A

EXHIBIT "A"
LEGAL DESCRIPTION

THAT PORTION OF PARCEL 1 OF CERTIFICATE OF COMPLIANCE NO. PLA-10-00002 RECORDED OCTOBER 24, 2011 AS DOC. NO. 2011-0557725, OF OFFICIAL RECORDS, SHOWN AS A REMAINDER OF EL CORAZON, ACCORDING TO MAP THEREOF NO. 16455 FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY ON JUNE 9, 2021, BEING A PORTION OF LOT 7 OF RANCHO DEL ORO-MASTER SUBDIVISION WEST, ACCORDING TO MAP THEREOF NO. 11410 FILED IN THE OFFICE OF SAID COUNTY RECORDER DECEMBER 27, 1985, IN THE CITY OF OCEANSIDE, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

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WO 2425-0009 9/26/22

COMMENCING AT THE NORTHERLY TERMINUS OF THAT CERTAIN COURSE IN THE WESTERLY SIDELINE OF “AA" STREET AS SHOWN ON SAID MAP NO. 16455 AS N00°31’10”E, 382.05 FEET; THENCE ALONG SAID WESTERLY SIDELINE SOUTH 00°31’10” WEST, 382.05 FEET TO THE BEGINNING OF A 20.00 FOOT RADIUS CURVE CONCAVE NORTHWESTERLY; THENCE SOUTHWESTERLY THROUGH THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 64°39’32’', A DISTANCE OF 22.57 FEET TO THE BEGINNING OF A 116.00 FOOT RADIUS CURVE CONCAVE EASTERLY, A RADIAL LINE TO SAID POINT BEARS NORTH 24°49’18” WEST; THENCE SOUTHERLY THROUGH THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 80°01'53”, A DISTANCE OF 162.03 FEET; THENCE LEAVING SAID WESTERLY SIDELINE RADIAL TO SAID CURVE SOUTH 75°08’49” WEST, 14.50 FEET TO THE **TRUE POINT OF BEGINNING**, BEING THE BEGINNING OF A NON-TANGENT 130.50 FOOT RADIUS CURVE CONCAVE NORTHEASTERLY, A RADIAL LINE TO SAID POINT BEARS SOUTH 75°08’49" WEST; THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 43°27'44" A DISTANCE OF 98.99 FEET TO THE BEGINNING OF A 11.00 FOOT RADIUS REVERSE CURVE CONCAVE SOUTHWESTERLY, A RADIAL LINE TO SAID POINT BEARS NORTH 31º41'05” EAST; THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 58°52'55" A DISTANCE OF 11.30 FEET; THENCE SOUTH 00°34'00" WEST, 84.92 FEET; THENCE SOUTH 18°26'00" WEST, 5.57 FEET TO THE BEGINNING OF A 115.00 FOOT RADIUS CURVE CONCAVE NORTHWESTERLY; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 25°15'00" A DISTANCE OF 50.68 FEET; THENCE SOUTH 43°41'00" WEST, 85.66 FEET; THENCE SOUTH 40°17'00" WEST, 45.01 FEET; THENCE SOUTH 38º39'00" WEST, 46.19 FEET TO THE BEGINNING OF A 18.00 FOOT RADIUS CURVE CONCAVE NORTHWESTERLY; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 37°37'00" A DISTANCE OF 11.82 FEET; THENCE SOUTH 76°16'00" WEST, 17.00 FEET TO THE BEGINNING OF A 18.00 FOOT RADIUS CURVE CONCAVE NORTHERLY; THENCE WESTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 38°30'15" A DISTANCE OF 12.10 FEET TO THE BEGINNING OF A 280.00 FOOT RADIUS REVERSE CURVE CONCAVE SOUTHERLY, A RADIAL LINE TO SAID POINT BEARS NORTH 24°46'15’' EAST; THENCE WESTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 18°59'15" A DISTANCE OF 92.79 FEET; THENCE NORTH 84°13'00" WEST, 6.48 FEET; THENCE SOUTH 15°56'12" WEST, 31.30 FEET TO THE BEGINNING OF A NON-TANGENT 328.0 FOOT RADIUS CURVE CONCAVE SOUTHERLY, A RADIAL LINE TO SAID POINT BEARS NORTH 15°56'12" EAST; THENCE WESTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 02°27'58" A DISTANCE OF 14.12 FEET TO THE BEGINNING OF A NON-TANGENT 383.00 FOOT RADIUS CURVE CONCAVE SOUTHERLY, A RADIAL LINE TO SAID POINT BEARS NORTH 12°02'14" EAST; THENCE WESTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 13°03'58" A DISTANCE OF 87.34 FEET TO THE BEGINNING OF A NON-TANGENT 327.50 FOOT RADIUS CURVE CONCAVE SOUTHERLY, A RADIAL LINE TO SAID POINT BEARS NORTH 01°48'37" WEST; THENCE WESTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 20°40'35" A DISTANCE OF 118.19 FEET TO THE BEGINNING OF A 432.50 FOOT RADIUS REVERSE CURVE CONCAVE NORTHERLY, A RADIAL LINE TO SAID POINT BEARS SOUTH 22°29’12" EAST; THENCE WESTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 03°33'52" A DISTANCE OF 26.91 FEET; THENCE SOUTH 13°00'46" EAST, 17.59 FEET TO THE BEGINNING OF A NON-TANGENT 450.0 FOOT RADIUS CURVE CONCAVE NORTHERLY, A RADIAL LINE TO SAID POINT BEARS SOUTH 18°41'30" EAST; THENCE WESTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 07°17'25" A DISTANCE OF 57.26 FEET; THENCE SOUTH 78°35'55" WEST, 322.29 FEET TO THE BEGINNING OF A 50.00 FOOT RADIUS CURVE CONCAVE NORTHERLY; THENCE WESTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 09°35'57" A DISTANCE OF 8.38 FEET; THENCE SOUTH 88°11‹52" WEST, 100.54 FEET TO THE BEGINNING OF A 50.00 FOOT RADIUS CURVE CONCAVE SOUTHERLY; THENCE WESTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 09°35'57" A DISTANCE OF 8.38 FEET; THENCE SOUTH 78°35'55" WEST, 371.15 FEET TO THE BEGINNING OF A 50.00 FOOT RADIUS CURVE CONCAVE SOUTHEASTERLY; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 25°46'30" A DISTANCE OF 22.49 FEET; THENCE SOUTH 52°49'25" WEST, 152.61 FEET; THENCE NORTH 37°10‹35ⁿ WEST, 43.03 FEET; THENCE NORTH 45°00'00" EAST, 11.14 FEET TO THE BEGINNING OF A 180.00 FOOT RADIUS CURVE CONCAVE NORTHWESTERLY; THENCE NORTHEASTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 26°05'00" A DISTANCE OF 81.94 FEET; THENCE NORTH 18°55'00" EAST, 9.47 FEET; THENCE NORTH 11 °24'00" WEST, 64.00 FEET; THENCE NORTH 19°05'00" EAST, 179.00 FEET; THENCE NORTH 49°20'00" EAST, 126.00 FEET; THENCE NORTH 58°08'00" EAST, 251.00 FEET; THENCE NORTH 78°37'00" EAST, 162.00 FEET; THENCE NORTH 85°41'00" EAST, 48.00 FEET; THENCE NORTH 78°37'00" EAST, 200.00 FEET; THENCE NORTH 71°15'00" EAST, 47.0 FEET; THENCE NORTH 78°36'00" EAST, 220.00 FEET; THENCE SOUTH 11°24’00" EAST, 2.00 FEET; THENCE NORTH 78°36'00" EAST, 17.50 FEET TO THE BEGINNING OF A 21.0 FOOT RADIUS CURVE CONCAVE SOUTHWESTERLY; THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 76°13'05" A DISTANCE OF 27.94 FEET; THENCE NORTH 78°36'00" EAST, 64.50 FEET; THENCE SOUTH 74°00'00" EAST, 4.00 FEET; THENCE NORTH 78°55'00" EAST, 29.00 FEET; THENCE SOUTH 84°56'00" EAST, 198.50 FEET; THENCE NORTH 88°34'00" EAST, 41.53 FEET TO THE BEGINNING OF A 35.00 FOOT RADIUS CURVE CONCAVE SOUTHWESTERLY; THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 76°34'49" A DISTANCE OF 46.78 FEET TO THE **TRUE POINT OF BEGINNING.**

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THE HEREINABOVE DESCRIBED PARCEL OF LAND CONTAINS 13.10 ACRES, MORE OR LESS.

9/26/22

DOUGLAS B. STROUP P.L.S. 8553

HUNSAKER & ASSOCIATES SAN DIEGO, INC.

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EXHIBIT A-1

SITE PLAN

[***]

EXHIBIT A-2

PROJECT

[***]

EXHIBIT B

WORK LETTER

This "**Work Letter**" is and shall constitute Exhibit B to the Lease to which it is attached (the "**Lease**"), by and between Landlord and Tenant for the Premises. The terms and conditions of this Work Letter are hereby incorporated into and are made a part of the Lease. Capitalized terms used, but not otherwise defined, in this Work Letter have the meanings ascribed to such terms in the Lease.

1. Construction Representatives. Landlord appoints Landlord's Representative (identified below) to act for Landlord and Tenant appoints Tenant's Representative (identified below) to act for Tenant in all matters covered by this Work Letter. All inquiries, requests, instructions, authorizations, and other communications with respect to the matters covered by this Work Letter will be made to Landlord's Representative or Tenant's Representative, as the case may be. Tenant will not make any inquiries of or request to, and will not give any instructions or authorizations to, any other employee or agent of Landlord, including Landlord architect, engineers, and contractors or any of their agents or employees, with regard to matters covered by this Work Letter, and any such instruction or authorization will, at Landlord's election, be of no force or effect. Either party may change its designated Representative under this Work Letter at any time upon three (3) business days' prior written notice to the other party.

1.1	Tenant's Representative:	Wayne Sanders
1.2	Landlord's Representative:	Charles Abdi and Mark Radelow
1.3	Landlord's Work Designer:	SCA Architecture, 13280 Evening Creek Drive S., Suite 125, San Diego, CA 92128 Tel: (858) 793-4777 Email: [***]
1.4	Tenant Improvement Designer:	Clark, Richardson and Biskup Consulting Engineers, Inc. 3207 Grey Hawk Ct., Suite 150 Carlsbad, CA 92010 [***]
1.5	General Contractor:	
	As to Landlord's Work:	Fluor Enterprises, Inc. 611 Gateway Blvd. Suite 950 South San Francisco, CA 9400 Attn: Francisco J. Irizarry Email: [***]
	As to Tenant's Work:	Clark, Richardson and Biskup Consulting Engineers, Inc. 3207 Grey Hawk Ct., Suite 150 Carlsbad, CA 92010 [***]

2. Landlord's Work.

2.1 Subject to the terms, provisions, and conditions of this Work Letter, Landlord shall cause the construction of the Building shell and core and the related exterior areas of the Premises (the "**Landlord's Work**") to be completed in general accordance with (i) the site plan attached hereto as Schedule 1, (ii) the Building Plans (as defined below), and (iii) Landlord's standard tenant finishes and materials for the Building as modified by the approved tenant improvement plans and specifications (the "**TI Plans**" as further defined below), as modified by Change Orders (as defined below) approved pursuant to Section 4 below. The term "**Landlord Delay**" shall mean only an actual delay in the completion of the Landlord's Work or TI Work which is caused by (a) the failure of Landlord to provide a written response within the time period set forth in this Work Letter (or if no time is expressly stated, within ten (10) business days after receipt of the request for approval), (b) the failure by Landlord to pay the TI Work Allowance when due under this Work Letter, or (c) the gross negligence or willful misconduct in the performance of any work or activity in the Premises or Project by Landlord, its agents, employees, or contractors. Notwithstanding anything to the contrary contained herein, Landlord Delay shall not include any of the foregoing delays to the extent caused by the acts, omissions, or misconduct of Tenant or any Tenant Parties. Landlord shall deliver written notice of any Tenant Delay to Tenant within ten (10) days of Landlord becoming aware of any Tenant Delay and its effect on Landlord's obligations under the Lease or this Work Letter.

2.2 The current design review package for the Landlord's Work, a copy of which have previously been provided to Tenant, is based on Landlord's Project-standard build-out practices and the drawings, plans, and specifications for the Project previously submitted to the City of Oceanside. Such package, to the extent it includes any Landlord's standard finishes located within the interior of the Premises are subject to modification as part of the TI Work (as defined in Section 3 below) if included in the approved TI Plans. The above-referenced package, as well as any other drawings, plans, and specifications submitted to Tenant prior to the Effective Date and all construction drawings which are the natural progression thereof and consistent therewith constitute the "**Building Plans**" upon which the Landlord will cause the General Contractor to complete the Landlord's Work. Changes to the Building Plans (and correspondingly the Landlord's Work) necessitated by the permitting process or the requirements of any governmental agency, or other changes made in the ordinary course of the build-out of the Project (such as value engineering changes), which do not materially and adversely affect the appearance of the Building or the functionality of the Building for the Permitted Use may be made by Landlord without Tenant's consent provided, however, Landlord shall provide written notice of any such changes to Tenant. If, however, Landlord desires to make changes to the Landlord's Work which will materially and adversely affect the appearance of the Building or the functionality of the Building for the Permitted Use, or delay Tenant's occupancy of the Premises on the Lease Commencement Date, Landlord shall first obtain Tenant's consent to such change; which consent may not unreasonably be conditioned or withheld. Any failure by Tenant to reasonably disapprove any such change within three (3) business days of Landlord's written request for such consent (which may be delivered via e-mail and must state in bold all capital letters, **FAILURE TO RESPOND WITHIN 3 BUSINESS DAYS WILL RESULT IN DEEMED CONSENT**), will constitute Tenant's deemed consent. Any such request for consent may be made in writing to either Tenant, pursuant to the notice provisions of this Lease, or to Tenant's Representative (who shall have the right to act for and bind Tenant). If Tenant disapproves any such materially-adverse change, Landlord may either (i) eliminate such change, (ii) eliminate the materially-adverse effect thereof, (iii) modify the change and then seek Tenant's consent to such modified change, as provided herein, or (iv) notify Tenant in writing that it is unwilling to modify or eliminate such change. If Landlord elects to proceed pursuant to clause (iv), above, Tenant shall have five (5) business days from the date of Landlord's written notice to elect to either waive its prior disapproval or terminate this Lease by written notice to Landlord within such five (5)-day period; provided, however, if Tenant elects to terminate this Lease, Landlord may, within three (3) business days, invalidate such termination notice by withdrawing its prior decision to proceed in accordance with clause (iv), above. Landlord shall have no right to invalidate the termination notice after the expiration of such three (3)-day period.

2.3 The Landlord's Work shall be completed by the General Contractor in a first-class and workmanlike manner in accordance with the Building Plans and in compliance with all applicable laws, codes, ordinances, and other governmental requirements then-applicable to the Premises and the Building. Subcontracting work of the major trades shall be competitively bid consistent with Landlord's standard practice. Tenant shall have the ability to recommend subcontractors, and Landlord shall not unreasonably withhold, condition or delay its consent to requesting bids from such recommended subcontractors. The cost of Landlord's Work, including both hard and soft costs, will be Landlord's responsibility, subject to inclusion of all such costs as Actual Costs; provided, however, in no event shall any costs for work required to be performed as a result of Landlord's own gross negligence (including that of its agents or employees) or any defects in the construction of the Building or Landlord's Work be included as Actual Costs.

2.4 Subject to the terms and conditions of the Lease, on or before the Estimated Commencement Date, Landlord shall have Substantially Completed the Landlord's Work and shall deliver possession of the Premises to Tenant (subject to Landlord's reserved rights hereunder), in broom clean condition and with all Building Systems in good working order, water-tight, structurally sound and with a temporary certificate of occupancy (or equivalent such as a signed building permit card) for the Premises in place.

2.4.1 For purposes of this Lease, the term "**Substantially Complete**" (and its grammatical variations, such as Substantial Completion) when used with reference to Landlord's Work, will mean (i) that Landlord's Work is complete under the terms of this Lease, after issuance of a temporary certificate of occupancy (or equivalent such as a signed building permit card), except for items identified in a written, detailed "punch-list" of excepted items agreed to by the parties on or before the Commencement Date (the "**Punch-List**"), which items will be finally completed within sixty (60) days and without material interference to Tenant's occupancy and use of the Premises, or (ii) the date when the Landlord's Work would have been finally completed but for (a) delays which result from Tenant's requested changes in the Landlord's Work after such work has been approved by Tenant pursuant to Section 2.2, above, or Tenant's request for materials, components, finishes, or improvements which are not available in a commercially-reasonable time (and Tenant does not elect to use alternatives Landlord suggests that will not cause a delay) given the Estimated Commencement Date, (b) delays due to the failure of Tenant to pay when due any amount payable pursuant to this Lease or the Work Letter, (c) Tenant's failure to timely approve any matter requiring Tenant's approval provided that such delay is not a result of Landlord's failure to timely approve any matter requiring Landlord's approval, (d) a breach by Tenant of the terms of this Work Letter or the Lease, or (e) other action or omission by Tenant or Tenant's Parties that interferes with or delays, directly or indirectly, the Substantial Completion of the Landlord's Work (any such delay, a "**Tenant Delay(s)**"). Tenant shall pay any actual costs or expenses actually incurred by Landlord as a result of any Tenant Delays. Landlord shall deliver written notice of any Tenant Delay to Tenant within ten (10) days of Landlord becoming aware of any Tenant Delay and its effect on Landlord's obligations under the Lease or this Work Letter. Nothing in the foregoing sentence shall imply that Landlord has any obligation to make any changes to Landlord's Work or delay Landlord's Work at Tenant's request except in the event Landlord's Work does not comply with the terms of this Work Letter and the exhibits hereto. Neither Landlord nor Tenant shall unreasonably withhold their agreement on the Punch-List.

3. **Tenant's Work**. Subject to the terms, provisions, and conditions of this Work Letter, Tenant shall cause (i) the build-out and construction of the Premises and certain Tenant improvements (the "**TI Work**"), to be completed by the General Contractor in general accordance with (a) the description of Tenant's responsibilities for the TI Work described on Schedule 1 attached hereto (the "**Tenant TI Work Responsibilities**"), (b) the TI Plans, and (ii) the installation of all furniture, fixtures, and equipment necessary to ready the Premises for Tenant's Permitted Use (collectively, with the TI Work, the "**Tenant's Work**"). The TI Plans (once approved as provided below, are sometimes referred to herein as the "**Approved Plans**") will be developed as follows:

3.1 Promptly following the Effective Date, Tenant shall cause the Tenant Improvement Designer to prepare complete, detailed working plans and specifications (consistent with the Tenant TI Work Responsibilities) sufficient to enable subcontractors to bid on the work, to obtain the necessary building permits, and to then fully complete the TI Work, including without limitation, electrical requirements, telephone requirements, special HVAC requirements, plumbing requirements, and all interior and special finishes (once approved by Landlord, the "**TI Plans**"). The TI Plans must reflect all of the TI Work to be performed by or on behalf of Tenant. Any work not so included will not constitute part of Tenant's Work and will require separate approval from Landlord as an Alteration. The TI Plans may be produced in phases reflecting the phases of construction. Tenant shall provide the first phase of the TI Plans in their then current state of completion to Landlord within ten (10) days after the Closing. Landlord shall, within ten (10) business days following its receipt of the TI Plans, either approve such TI Plans or provide Tenant with the reasons that Landlord is withholding such approval—which reasons must be reasonable. If Landlord does not approve the TI Plans, Tenant shall immediately meet with the Tenant Improvement Designer to have the TI Plans revised, in a manner acceptable to Tenant and consistent with Landlord's comments, and then resubmitted to Landlord for approval (with such subsequent approvals/disapprovals being provided by Landlord within three (3) business days of the complete submittal of the revised TI Plans). Notwithstanding the foregoing, if Landlord fails to respond to any TI Plans within ten (10) business days of receipt thereof, and provided that such TI Plans included a cover notice that stated, in bold, capitalized letters, **FAILURE TO RESPOND WITHIN 10 BUSINESS DAYS WILL RESULT IN DEEMED CONSENT**, Landlord will be deemed to have approved the TI Plans.

3.2 Simultaneously with submission of the TI Plans to Landlord for approval, Tenant shall submit the TI Plans to the appropriate Governmental Authorities for issuance of applicable building permits necessary to allow the General Contractor to commence construction of the TI Work; provided, however, in no event shall Tenant submit the TI Plans for a second round of approval to the applicable Governmental Authorities prior to receipt and incorporation of any comments from Landlord, which must be provided by Landlord no later than the date Tenant receives comments from the applicable Governmental Authority. Once Landlord has approved the TI Plans, no changes, modifications, or alterations in the TI Plans or the TI Work may be made without the prior, written consent of Landlord, provided that Landlord may withhold its approval thereof based on the reasons for disapproval set forth in Section 4.2 below.

3.3 The Tenant's Work shall be completed by Tenant through the General Contractor in a first-class and workmanlike manner in accordance with the Landlord-approved TI Plans, this Work Letter, and in compliance with all applicable laws, codes, ordinances, and other governmental requirements then applicable to the Premises and the Building. Except to the extent Landlord and Tenant agree otherwise (e.g. for specialized trades where competitive bids are not practical), subcontracting work of the major trades shall be competitively bid by at least three subcontractors. Tenant and Landlord shall each have the ability to recommend subcontractors, and Tenant shall request bids from such recommended subcontractors. The cost of the TI Work, including both hard and soft costs, will be Tenant's sole responsibility, subject to application of the TI Work Allowance (as defined below), as provided below.

3.4 Commencing on the date that Landlord commences Landlord's Work and subject to approval by the City of Oceanside, Landlord shall allow Tenant access to the applicable portion of the Premises for the sole purpose of Tenant performing the Tenant's Work in the applicable portion of the Premises and without the obligation to pay Rent until the Rent Commencement Date. Landlord and Tenant shall cooperate and Tenant will proceed in good faith to avoid causing any delays or disruptions. Tenant further acknowledges and agrees that except as caused by the gross negligence or willful misconduct of Landlord, Landlord shall not be liable for any injury, loss or damage which may occur to any of Tenant's Work made in or about the Premises in connection with such entry or to any property placed therein prior to the Lease Commencement Date, the same being at Tenant's sole risk and liability. Tenant shall be liable to Landlord for any damage to any portion of the Premises, including the TI Work, caused by Tenant or any of Tenant's employees, agents, contractors, subcontractors, consultants, workmen, mechanics, suppliers and invitees.

3.5 Tenant acknowledges and agrees that, at Tenant's request, Landlord took certain actions and incurred certain costs prior to the Effective Date in connection with the TI Work, including without limitation, the preparation of those design documents, site plan and elevations by SCA Architecture in an amount not exceeding $300,000 (the "**Early Start Action Costs**"). While the Early Start Action Costs have been included as part of the Allowable Costs (as defined below), in the event of any early termination of the Lease which is not as a result of Landlord's actions (including but not limited to Landlord's failure to timely deliver the Premises pursuant to Section 2 of the Lease), Tenant shall reimburse Landlord for fifty percent (50%) of the Early Start Action Costs within ten (10) days of Tenant's receipt of Landlord's written statement (including invoices, as applicable) of the Early Start Action Costs. Such obligation shall survive such early termination of the Lease.

3.6 Tenant shall pay Landlord a construction management fee in connection with the TI Work in the amount of $12,000 per month, beginning upon the commencement of construction of Landlord's Work and continuing to be due on the first day of each month thereafter until the earlier of (1) expiration of twenty-four (24) months, or (2) termination of the Lease.

3.7 Tenant shall enter into the TI Work Contract (as defined below) as and when required by Section 7.1.2, below, unless Landlord approves otherwise in writing. The satisfaction of such obligation is and shall be a condition precedent to Landlord's obligation to commence the Landlord's Work, and any failure thereof shall constitute a Tenant Delay unless otherwise approved in writing.

4. Modifications to Landlord's Work.

4.1 Tenant may request changes in the Landlord's Work following approval of the TI Plans or during construction, only by written request from Tenant's Representative to Landlord's Representative on a form reasonably approved by Landlord. All such changes shall be subject to Landlord's prior written approval in accordance with this Section 4. Landlord may also propose, subject to Tenant's approval as set forth below, changes to the Landlord's Work following approval of the Approved Plans if required by any Governmental Authority or required by changing circumstances or events beyond Landlord's reasonable control. Prior to commencing any changes, Landlord shall prepare and deliver to Tenant, for Tenant's approval, a change order (the "**Change Order**") setting forth the reason for the change, the estimated additional time required to perform the change and the total cost of such change, which will include associated architectural, engineering, and construction contractor's fees, delay costs (including Rent which would be payable, but for such delay) and additional coordination costs. If Tenant fails to approve a Change Order requested by Tenant within three (3) business days after delivery thereof by Landlord, Tenant shall be deemed to have withdrawn the proposed Change Order and Landlord shall not proceed to perform the subject change. If Tenant fails to approve or reject any Change Order proposed by Landlord within three (3) business days after delivery thereof by Landlord, Landlord shall not proceed to perform the subject change, and Landlord shall have the right to modify and re-submit such Change Order for Tenant's review. Upon Landlord's receipt of Tenant's approval of a Change Order, the General Contractor shall proceed to perform the change, with any Landlord's Work Excess Cost (as defined below) to be paid as set forth in Section 5 below, and any TI Work Excess Amount (as defined below) to be paid as set forth in Section 6 below. All construction and completion dates for Landlord's Work which are affected by the Change Order, including without limitation, the Estimated Commencement Date, shall be revised accordingly, and in no event shall such changes be considered a Tenant Delay. The cost of preparing any Tenant-requested Change Order, whether or not such change is ultimately approved, will be deducted from the TI Work Allowance.

4.2 Landlord may, among other reasons, withhold its approval of any Tenant-requested revision or change pursuant to Section 4.1 above, if such revision or change would require work which: (i) exceeds or affects the structural integrity of the Building or systems serving the Project; (ii) is not approved (if such approval is required) by the holder of any deed of trust encumbering the Premises at the time the work is proposed or is to be undertaken, despite Landlord's commercially-reasonable efforts to obtain such approval; (iii) violates any agreement which affects the Premises or which binds Landlord; (iv) Landlord reasonably believes will materially increase the cost of operation or maintenance of the Building or the Project unless Landlord provides Tenant with an estimate of such increase and Tenant agrees to be responsible for such additional costs; (v) Landlord reasonably believes will materially reduce the market value of the Building or the Project; (vi) does not conform to applicable building codes or is not approved by any Governmental Authority with jurisdiction over the Premises and/or the Building; (vii) does not conform to Landlord's Project-standard Tenant finish (as modified by the approved TI Plans) or improvement specifications; or (viii) Landlord reasonably believes will result in more than a five (5)-business day delay in the completion of Landlord's Work, or result in a material increase in the cost of Landlord's Work unless Landlord provides Tenant with an estimate of such increase and Tenant agrees to reimburse Landlord for such additional costs or unless Tenant agrees for the TI Work Allowance to be applied to such increase.

5. [Intentionally Omitted].

6. TI Work Allowance. Tenant shall be responsible for bearing all costs and expenses of completing the TI Work and the Tenant's Work, except that Landlord will provide Tenant with a tenant improvement allowance (to be applied only against the cost of the TI Work) up to a maximum amount of $150.00 per rentable square foot of the Premises (the "**TI Work Allowance**"). Additionally, if Landlord does not use all of the contingency allocated for Landlord's Work upon Substantial Completion thereof, any such unused amount shall be added to the TI Work Allowance. All costs and expenses of the TI Work in excess of the TI Work Allowance shall be Tenant's sole responsibility and expense and shall be payable in accordance with the provisions of this Section 6. The TI Work Allowance may be referred to as an "**Allowance**". Upon the occurrence of an Event of Default under the Lease, Landlord shall have the right, notwithstanding anything to the contrary in the Lease or this Work Letter, to withhold payment of all or any portion of an Allowance. In connection with the foregoing, Landlord may, in its discretion, suspend or cease all other obligations of Landlord under the terms of this Work Letter until such time as such Event of Default is cured, without affecting any other rights or remedies of Landlord in connection therewith.

6.1 Landlord and Tenant acknowledge that the cost of the TI Work is likely to exceed the amount of the TI Work Allowance (any such excess, the "**TI Work Excess Amount**"). Following commencement of Landlord's Work, Landlord may notify Tenant that, within five (5) business days of receipt of Landlord's written notice, Tenant shall deposit an amount not to exceed the equivalent of the TI Work Allowance (the "**Secured Portion**") in an escrow or other account, or provide such other evidence of funds (such as, but not limited to, segregated escrow accounts), or provide security for the payment (such as, but not limited to, a bond, letter of credit) of the Secured Portion, or otherwise secure in a manner reasonably acceptable to Landlord and its lender, the Secured Portion for application toward the costs of the TI Work. For purposes of clarification, the parties acknowledge that only the costs of the TI Work shall be used to determine any TI Work Excess Amount, and no other costs of Tenant's Work, including without limitation, the costs of any Tenant's business personal property, furniture, furnishings, trade or business fixtures, cabling, and equipment, shall be included in the calculation of determining the TI Work Excess Amount at any time. Any failure by Tenant to pay, deposit funds, or provide security as may be required, within five (5) business days following receipt of Landlord's written notice: (i) will constitute a default under this Lease, and (ii) may, in addition, be treated by Landlord as: (a) a Tenant Delay excusing Landlord from commencing/continuing with the Landlord's Work (until Tenant pays such amount), or (b) Tenant's irrevocable deemed election to pay the Secured Portion by increasing the Base Rent under this Lease by an amount sufficient to fully amortize the Secured Portion over the Term plus interest at 15 percent per annum (notwithstanding any contrary written election by Tenant). Upon completion of the TI Work in accordance with this Lease, Landlord shall credit any unused Secured Portion against Rent next coming due under this Lease. In the event this Lease is terminated and except to the extent such termination is due to an Event of Default by Tenant, within ten (10) business days following such termination, any unused Secured Portion shall be immediately released.

6.2 If Landlord elects to treat Tenant's failure to timely pay the Secured Portion as a deemed election to amortize the Secured Portion through an increase to Base Rent (pursuant to clause (b) of Section 6.1, above), this Lease will be automatically amended to reflect such increase and the Landlord shall provide Tenant with a written memorandum memorializing such amendment.

6.3 The TI Work Allowance may be applied by Tenant only against all reasonable hard costs incurred by Tenant in connection with the design, permitting, constructing and completion of the TI Work, such as labor, material, and other similar construction costs, the Tenant's Contractor's Fee (as defined below) and general conditions relating to the TI Work, and costs of all inspections and engineering services. The cost of TI Work does not include, and the TI Work Allowance will not be applied towards, the cost of Tenant's furniture, fixtures, and/or equipment, or other items of personal property, all of which will be treated as a part of Tenant's Work and will be Tenant's sole responsibility and expense. The TI Work Allowance also may not be applied towards (i) the cost of any of the Tenant's Work other than the TI Work, (ii) Tenant's exterior signage costs, or (iii) any payments to Tenant or its affiliates; or (iv) soft costs such as costs of space planning, architectural work, costs of the preparation of the TI Plans, permits, blueprints, and reimbursables, all of which items will be Tenant's sole responsibility and expense. In addition, none of the TI Work Allowance may be applied toward construction management costs.

6.4 Subject to Section 5 above and the provisions of Section 6, the TI Work Allowance shall be funded to Tenant or at Tenant's election, the person ultimately entitled to receive such funds, upon Tenant's submittal to Landlord of a monthly Request for Payment subject to the requirements set forth in this Work Letter. Landlord shall pay invoices within thirty-five (35) days of receipt of a complete submission from Tenant (as set forth below), directly to the applicable vendor as requested by Tenant or to Tenant (to the extent Tenant has paid such requisitioned costs) on a progress payment basis, subject to the pari passu process above and approval and conditions imposed by Landlord's lender. With respect to any portion of the TI Work Allowance that is disbursed by Landlord to pay for applicable costs that were incurred by Tenant (such as costs for the architect and other costs directly incurred by Tenant), as a condition to Landlord's disbursement of any portion of the TI Work Allowance for such costs, Tenant shall provide Landlord with (A) appropriate paid or unpaid receipts or invoices for the amount requested to be paid from the TI Work Allowance, (B) partial lien waivers for such work from all persons or entities that could file mechanics' or materialmen's liens against the Building or the Project with respect to all work performed or services or materials provided through the date of each such invoice (subject only to receipt of the requisitioned amount) and final lien waivers for final payments, as applicable, for any contracts greater than Twenty-Five Thousand and No/100 Dollars ($25,000.00), (C) written authorization from Tenant to disburse the portion of the TI Work Allowance being requisitioned, and (D) such other documentation as may be reasonably requested by Landlord or its lender**.** Tenant may not make a requisition for application of the TI Work Allowance more frequently than once a month. Tenant shall deliver each requisition (and accompanying documentation as required herein) to Landlord no later than the 25th of each month. The final Request for Payment and release of any retainage shall be accompanied by paid invoices in at least the amount of the TI Work Allowance, and Tenant's full satisfaction of each of the following requirements:

6.4.1 Tenant must have completed the TI Work in accordance with the Landlord-approved TI Plans and have commenced the payment of Rent following the Rent Commencement Date.

6.4.2 A Notice of Completion must have been properly recorded for the TI Work and thirty-five (35) days have elapsed since the date of such recording with no mechanics' or materialmen's liens having been filed (or such filed liens shall have been released).

6.4.3 Tenant has submitted a complete set of "as built" plans and specifications to Landlord reflecting all of the TI Work and generally conforming to the TI Plans.

6.4.4 Tenant has provided to Landlord copies of all insurance certificates required under this Lease.

6.4.5 A temporary certificate of occupancy or its equivalent for the Premises has been issued by the appropriate governmental agency.

6.4.6 Tenant has provided Landlord with all material and labor lien releases from Tenant's Contractor and all first-tier material suppliers and subcontractors involved in the TI Work contingent upon payment only. Once the final Request for Payment has been disbursed, Tenant can provide final unconditional lien releases.

6.4.7 Tenant has provided Landlord with copies of all construction warranties and guarantees in connection with construction of Tenant's Work along with a written assignment satisfactory to Landlord of all such warranty and guaranty rights under the contract with the Tenant's Contractor.

6.4.8 Landlord has inspected and approved the TI Work and is satisfied that the TI Work has been performed in a good and workmanlike manner in accordance with the approved TI Plans; provided, however, no such inspection shall impose any liability upon Landlord, nor absolve Tenant or the Tenant's Contractor from liability for any defect or failure to comply with the requirements hereof.

6.4.9 Tenant has provided Landlord with such information as Landlord or its lender may reasonably request.

7. Allowable Costs; Determination of Base Rent.

7.1 Total Project Cost Estimate. The parties hereby acknowledge and agree that Base Rent is intended to be determined based on a 7.9% return on Landlord's costs and expenses to acquire, design, develop and construct the Building shell and core and related areas of the Premises for Tenant's Permitted Use. In connection therewith, prior hereto, Landlord provided to Tenant, and Tenant approved, that certain itemized estimate of the Allowable Costs, which estimate is attached hereto as Schedule 3 (the "**Cost Estimate**"). The Cost Estimate is subject to adjustment for costs attributable to approved Change Orders and Tenant Delays as well as to update the Cost Estimate based on the Construction Contracts, to the extent applicable.

7.1.1 "**Allowable Costs**" means actual costs incurred by Landlord for the design and construction of the Landlord's Work, including without limitation, design fees or costs (including both engineering and architectural/planning fees and costs, blueprints, and reimbursables and also including such fees and costs as Landlord incurred prior to the Effective Date at Tenant's request), and all third-party labor (i.e. excluding employees of Landlord or an Affiliate of Landlord), materials, and construction costs; supervision/construction management fees; the general contractor's fee and general conditions; costs of all inspections, all applicable taxes, permit fees and development impact fees required by the City of Oceanside or other governmental agencies with jurisdiction over the construction of the Landlord's Work; the cost of utilities as necessary and reasonable to construct and install the Landlord's Work; financing, real estate taxes, professional fees (including without limitation legal and brokerage), and other soft costs incurred in connection with Landlord's Work and all other fees and expenses contemplated by the Lease or this Work Letter incurred by Landlord in connection with the design and construction of Landlord's Work and the TI Work. The Allowable Costs shall also include: (w) the amount of the TI Work Allowance and costs associated therewith, (x) a development fee in the amount of 5.0% of the hard-shell construction costs set forth in the Cost Estimate, (y) a construction management fee in the amount of 1.0% of such hard-shell construction costs, and (z) the value of the Land as set forth in the Cost Estimate. Notwithstanding the foregoing, Allowable Costs will not include the following: (i) any entertainment costs, and costs of transportation, meals and lodging not directly related to the construction of the Landlord's Work; (ii) the costs, including fines, penalties, and legal fees or costs, of curing violations of applicable building codes or other applicable laws (it being agreed, however, that compliance with directives from field or plan inspectors will not be treated as costs to cure violations); (iii) any amounts paid to subsidiaries or Affiliates of Landlord for any services or supplies or other materials to the extent amounts incurred are in excess of those which would have been incurred if such supplies or services were obtained from unrelated third parties; (iv) intentionally omitted; (v) any Allowable Costs to the extent Landlord receives reimbursement from Tenant, any insurance companies or other third parties; (vi) amounts represented by any claims, defenses, credits or offsets that Landlord actually receives under the Construction Contract (defined below) or other contracts for goods and/or services that would otherwise qualify as Allowable Costs; or (vii) costs incurred as a result of any Landlord Delays.

7.1.2 Construction Contract. Landlord shall enter into a construction contract with the General Contractor for the construction of the Building (the "**Building Work Contract**"), and Tenant shall enter into a construction contract with the General Contractor for the TI Work (the "**TI Work Contract**"), each of which shall be subject to approval by the other party hereto, which approval shall not be unreasonably withheld, conditioned or delayed, and approval of its Mortgagee, if required. Each of the Building Work Contract and the TI Work Contract (each, a "**Construction Contract**" and collectively, the "**Construction Contracts**") will be on a "cost plus, with a guaranteed maximum price" basis. Each Construction Contract will provide: (i) that retainage on all payments (except for General Conditions Costs (as defined below)) shall be no less than 10% (or the amount required by law) until 50% of the work covered by such Construction Contract (as the case may be, the "**Contract Work**") is completed, after which the retainage shall be no less than 5% (or the amount required by law), but in no case shall the retainage ever be less than 5% of the contract price or the amount of retainage required by law (the "**Retainage**") until the Contract Work is completed to Landlord's and Tenant's reasonable satisfaction in accordance with this Lease, with releases of Retainage attributable to any particular subcontract subject to: (A) satisfactory completion of all work required under such subcontract, and (B) receipt of lien waivers reasonably acceptable to Landlord and Tenant; (ii) that Tenant and Landlord must approve any changes to the Building Plans and the Approved Plans as required by and in accordance with this Lease; (iii) that General Contractor shall provide a credit associated with any deductive change order (which will include a corresponding decrease in Contractor's Fee; (iv) that General Contractor shall work with Landlord and Tenant to assess the various options available to reduce costs throughout the completion of the Contract Work; (v) that General Contractor shall, to the extent permitted by law, indemnify, defend and hold Landlord, the Landlord Parties, Tenant and the Tenant Parties harmless from and against any and all losses, liabilities, damages, costs and expenses (including reasonable attorneys' fees) resulting from actual or threatened claims by third parties arising in connection with the completion of the Landlord's Work, the TI Work, and General Contractor's activities on or about the Premises, except to the extent caused by the party to be indemnified; (vi) that the total amount of General Contractor's compensation for its overhead and profit, and for expenses that are not a direct cost of the Contract Work, shall not exceed five percent (5%) of the total amount of the Construction Contract ("**Contractor's Fee**"), and any change orders that affect the Cost Estimate, including additions and reductions, will result in proportionate changes to the Contractor's Fee, both upward and downward, calculated on the same stipulated percentage; (vii) that any subcontractor or supplier fee as compensation for its overhead and profit, and for expenses that are not a direct cost of the Contract Work ("**Subcontractor's Fee**") for a change order requested by Tenant, shall not exceed fifteen percent (15%) of such increased cost; (viii) that General Contractor shall provide Landlord and Tenant with a detailed itemization of the types, categories and amounts of costs to be included in General Contractor's general conditions costs, which shall be a stipulated amount or rate (the "**General Conditions Costs**"); (ix) intentionally omitted; (x) that, at Tenant's option, General Contractor will require each first (1st) tier subcontractor to provide lien waivers in a form and substance reasonably acceptable to Landlord, as to the construction of the Building, and Tenant, as to the TI Work, as a condition to such subcontractor's right to receive its final payment relating to such Contract Work, as the case may be; (xi) that Tenant is an intended third-party beneficiary of the Building Work Contract, and Landlord is an intended third-party beneficiary of the TI Work Contract; (xii) that any work for construction of the Building performed on a cost-plus basis shall be subject to the requirement that any and all costs and expenses, including insurance premiums, shall be commercially-reasonable and substantiated with detailed documentation to be provided to Landlord and Tenant upon request; and (xiii) will secure Landlord's and Tenant's rights to audit all costs under the Construction Contracts. Promptly upon request and in any event within ninety (90) days after the Effective Date, Landlord shall provide Tenant with a copy of the executed Building Work Contract, together with all schedules, exhibits, and any amendments, and Tenant shall provide Landlord with a copy of the executed TI Work Contract, together with all schedules, exhibits, and any amendments. Until each Construction Contract has been executed, each party shall, upon request by the other party hereto, provide the requesting party with a copy of the latest draft of its respective Construction Contract. Subject to Section 4 above, Landlord shall not amend or modify the Building Work Contract without Tenant's prior written consent if the amendment or modification would (w) make the Construction Contract's provisions inconsistent with the requirements set forth above in this Section 7, (x) adversely affect any potential savings on the Cost Estimate, or (y) delay the Lease Commencement Date. Tenant may withhold its consent to any such amendment or modification in Tenant's reasonable discretion.

7.1.2.1 Landlord hereby assigns to Tenant all warranties and guaranties by the General Contractor or any subcontractor relating to the TI Work or any other portion of the Landlord Work to be maintained by Tenant pursuant to the Lease. In the event of any TI Work or approved Alterations modifying any Building Systems, Landlord shall use commercially-reasonable efforts to obtain assurances from the applicable issuing parties that applicable warranties as to the affected Building Systems will not be voided by such modifications, provided such work is performed by Landlord's contractors and in compliance with reasonable conditions associated therewith.

7.2 Actual Cost. Within sixty (60) days after Substantial Completion of Landlord's Work, Landlord will determine the final actual Allowable Costs ("**Actual Cost**" or "**Actual Costs**"). Landlord will provide written notice to Tenant of its determination of Actual Costs ("**Actual Cost Notice**"), which notice will specify any amounts payable by Tenant. In the event that Tenant, following a review of Landlord's calculations of the Actual Cost and the open book records as set forth in this Work Letter, disagrees with Landlord's determination of the Actual Costs, then within thirty (30) days of receipt of Landlord's Actual Cost Notice, Tenant will provide written notice to Landlord of its questions, objections or alternative determination of the Actual Costs. Following Tenant's delivery of its determination of the Actual Cost and delivery of written notice thereof to Landlord, Landlord will agree or disagree in writing within sixty (60) days of receipt of Tenant's notice, or the parties will mutually agree in writing on the amount of the Actual Cost. Landlord and Tenant agree to cooperate with each other in good faith to resolve any disputes with regard to the Actual Cost. If the parties are unable to mutually agree on the Actual Cost within one hundred eighty (180) days of the Actual Cost Notice, then either party may elect to have the matter submitted to the Expedited Arbitration Process (as defined below). Each of Landlord and Tenant will submit to the arbitrator its proposed Actual Cost. The arbitrator, in good faith, will select which Actual Cost is correct, but the arbitrator will have no other authority to bind the parties. In no event will the Cost Estimate or the Actual Cost include any costs that do not constitute Allowable Costs.

If, notwithstanding Landlord's diligent and good-faith efforts, Landlord is not able to or does not obtain an Actual Cost in time to reflect such Actual Cost on the Actual Cost Notice, Landlord may, within one (1) year after Substantial Completion and notwithstanding the final determination of Actual Cost pursuant to the preceding paragraph, deliver written notice of such Actual Cost to Tenant, and Tenant shall pay such Actual Cost to Landlord within thirty (30) days of receipt of such notice.

7.3 Audit. Landlord's performance of the Landlord's Work will be administered on an "open book" arrangement relative to its costs. Landlord will keep, and cause General Contractor to keep, detailed records of the progress of the Landlord's Work performed, administration, and management of the Construction Contract (and any subcontracts), and the cost of the Landlord's Work as may be necessary for proper financial management under this Work Letter and to substantiate all costs incurred (the "**Work Records**"). Such Work Records will be preserved until expiration of the Audit Period (as defined below), or for such longer period as may be required by applicable laws. Landlord will provide, and cause General Contractor to provide, Tenant with access to and the right to inspect and copy the Work Records. Landlord will keep full and detailed accounts and exercise such controls as may be reasonably necessary for proper financial management, using accounting and control systems in accordance with GAAP. Tenant will be permitted to review and audit (at its sole expense) the Work Records for a period of the longer of (i) twelve (12) months following completion of the Landlord's Work, or (ii) the period set forth in the Construction Contract (the "**Audit Period**").

7.4 Monthly Rent. The first installment(s) of Base Rent shall be based on the Cost Estimate, and the parties shall reconcile such amount once the Actual Cost is determined pursuant to Section 7.2 above. After the determination of the Actual Cost occurs pursuant to Section 7.2 above, Landlord and Tenant will enter into a lease amendment to set forth a Base Rent schedule based on Base Rent for the first twelve (12) months of the Term in the amount that is equal to 7.9% of the Actual Costs; such Base Rent shall thereafter be subject to increases as set forth in Section 5 of the Lease. Any underpayment or overpayment in the first installment(s) of Base Rent which was based on the Cost Estimate will be reconciled through the next payment of Base Rent due after the determination of the Actual Costs.

8. Construction of Tenant's Work and Alterations. Tenant shall perform no Tenant's Work except through the General Contractor and in strict accordance with this Work Letter. Any Alterations shall be performed only by a contractor reasonably approved by Landlord and subject to Section 7 of the Lease. The contractor performing any work or Alterations on behalf of Tenant shall, for purposes of this Work Letter be referenced as the "**Tenant's Contractor**." In no event shall Tenant be permitted to perform Tenant's Work prior to providing all information reasonably requested by Landlord relating thereto. Failure by Tenant to provide any information reasonably requested by Landlord, including but not limited to evidence of Tenant's and Tenant's Contractor's compliance with all of the insurance requirements hereof, shall constitute a default under this Lease in the event Tenant proceeds with such work. Violations of Landlord's rules, regulations, and requirements as set forth herein or as otherwise established by Landlord shall constitute a default under this Lease if not corrected by Tenant and/or Tenant's Contractor within forty-eight (48) hours of notice, either written or oral, by Landlord to Tenant. Landlord shall have the right to post a notice of non-responsibility at a prominent location within the Premises. Any such work will be subject to all of the provisions of this Work Letter including, specifically, and without limitation, this Section (and the subsections hereof) and Section 9 below. It shall be the responsibility of Tenant to enforce the following requirements of Tenant's Contractor, and all subcontractors of Tenant's Contractor, at every level:

8.1 Tenant's Contractor shall be responsible for the repair, replacement, and clean-up of any damage by it to other contractor's work that specifically includes access ways to the Premises that may be concurrently used by others. Fire lanes, sidewalks, and access to other tenants' suites may not be blocked or obstructed at any time.

8.2 Tenant's Contractor shall contain its storage of materials and its operations within the Premises and such other space as it may be reasonably assigned by Landlord. Should it be assigned space outside of the Premises, it shall move to such other space as Landlord shall reasonably direct from time to time to avoid interference or delays with other work. Tenant's Contractor shall park construction vehicles in areas reasonably designated by Landlord.

8.3 All trash and surplus construction materials shall be maintained or stored within the Premises and shall be promptly removed from the Premises on a regular basis consistent with first-class project practices. Tenant's Contractor shall not use common area trash enclosures or waste bins for disposal of trash or surplus construction material and shall be responsible for the proper disposal, off-site, of all such trash and surplus construction material.

8.4 For any work reasonably anticipated to last for more than three (3) days, Tenant's Contractor shall provide temporary utilities, portable toilet facilities and portable drinking water as required for its work within the Premises.

8.5 Noise shall be kept to a minimum at all times, and shall not be permitted to materially or unreasonably interfere with the conduct of other tenant's business, or the general operation of the Project. Tenant's Contractor shall notify and obtain approval from Landlord's Representative of any planned work to be done on Sundays.

8.6 Tenant and Tenant's Contractor are responsible for compliance with all applicable codes and regulations of duly-constituted authorities having jurisdiction as far as the performance of the Tenant's Work is concerned and for all applicable safety regulations established by the Landlord, OSHA, Cal-OSHA or other regulatory agencies, and Tenant further agrees to indemnify, defend, and save and hold Landlord harmless for claims arising from Tenant's Work. Prior to commencement of construction, Tenant shall submit to Landlord evidence of insurance as required by this Lease (including, if applicable, course of construction coverage) and evidence of insurance for Tenant's Contractor reasonably satisfactory to Landlord.

8.7 Tenant's Contractor shall not post signs on any part of the Project nor on the Premises, without Landlord's prior written approval.

8.8 Tenant shall be responsible for and shall obtain and record a Notice of Completion following completion of Tenant's work.

8.9 All required permits and approvals, including but not limited to Planning, Building, Fire, and Health department permits, must be obtained and all necessary calculations, including, but not limited to, those required under Title 24, must be submitted to the local governing agencies for all work to be performed by Tenant or Tenant's Contractor in the Premises.

8.10 No modifications to the exterior of the Building shall be permitted without Landlord's approval. No romex wiring or asbestos-containing materials shall be allowed, nor shall water lines be placed in slabs, unless approved by Landlord prior to installation. All equipment placed upon the roof as a result of the Tenant's Work, and all roof penetrations shall be approved by Landlord prior to the commencement of work.

8.11 Landlord, in Landlord's reasonable discretion, may from time to time establish such other reasonable non-discriminatory rules and regulations for protection of property and the general safety of occupants and invitees of the Project. Such rules and regulations shall be provided to Tenant in writing and shall apply to Tenant and Tenant's Contractor as though established upon the execution of the Lease; provided, however, in no event shall such rules cause a material increase in Tenant's costs, cause any delays in the completion of Landlord's Work or TI Work or otherwise interfere with Tenant's access to the site or completion of the TI Work.

9. **Coordination of Construction**. Tenant covenants and agrees that Tenant and Tenant's Contractor shall not destroy or in any way damage any portion of the Building or the Project. Further, Tenant covenants and agrees that Tenant and Tenant's Contractor shall coordinate the Tenant's Work with any construction schedule for any work being performed by or on behalf of Landlord or any other tenant, and that the performance of the Tenant's Work shall not materially interfere with Landlord's construction activities. If there be such material interference or conflict, notice thereof shall be given to Tenant, and immediately after receipt of such notice the Tenant agrees to cease or cause to be terminated such material interference or conflict. Further, should Tenant delay Landlord's work at the Premises or any other area of the Building or Project due to the construction of Tenant's Work, Tenant shall be responsible to Landlord for any lost rents due to the delay of the commencement of any lease for premises within the Project. Tenant further covenants and agrees that Tenant and Tenant's Contractor shall comply with all rules and regulations promulgated by Landlord, or its agent, and all directives of Landlord governing construction or installation activities, including but not limited to, permissible hours for construction or installation activities, storage of equipment and responsibility for cleaning of work areas, provided that all such rules or directives shall be provided to Tenant in writing. If Tenant or Tenant's Contractor shall fail to comply with the provisions of this Section any costs actually incurred by Landlord as a result of such failure shall be at Tenant's sole and exclusive expense, payable upon demand. Tenant shall indemnify, defend, and hold Landlord harmless from and against any and all actions, claims, costs, demands, expenses, and liabilities arising out of or relating to, directly or indirectly, any work undertaken by Tenant or on Tenant's behalf at the Project.

10. **Limitation on Landlord's Liability**. Landlord shall not be liable for any loss, cost, damage, or expense incurred or claimed by Tenant or any other person or party on account of the construction or installation of the Tenant's Work or any other improvements to the Premises made by Tenant. Tenant hereby acknowledges and agrees that the compliance of the Tenant's Work, or other Alterations made to the Premises by the Tenant and any plans therefor, with all applicable governmental laws, codes, and regulations shall be solely Tenant's responsibility. Landlord assumes no liability or responsibility resulting from the failure of the Tenant to comply with all applicable governmental laws, codes, and regulations or for any defect in any of the Tenant's Work or other Alteration to the Premises made by Tenant. Tenant further agrees to indemnify, defend, and hold harmless Landlord from any loss, cost, damage or expense incurred, claimed, asserted, or arising in connection with any of the foregoing.

11. **Expedited Arbitration Process**. "**Expedited Arbitration Process**" means arbitration according to the then-current Expedited Procedures under the Commercial Arbitration Rules and Mediation Procedures of the American Arbitration Association ("**AAA**"), modified as follows: (a) there will be one arbitrator who is selected utilizing the then-current AAA process and who has at least ten (10) years of relevant experience; (b) the arbitration will be conducted through document submission without a hearing; and (c) the arbitrator will issue a final decision within thirty (30) days after confirmation of the appointment of the arbitrator. The arbitrator will have no decision-making authority other than to select either the determination or recommendation of Landlord or Tenant as final and conclusive after due consideration of the factors to be taken into account under the applicable provisions of this Lease. The arbitrator's determination will be binding upon the parties. The costs and fees of the arbitrator will be shared equally by Tenant and Landlord. All deadlines for obligations by either Tenant or Landlord shall be tolled for such period as an Expedited Arbitration Process is proceeding until the arbitrator issues a final decision.

12. **Time of Essence**. Time is of the essence with regard to every provision of this Work Letter.

13. **Miscellaneous**. This Work Letter constitutes both a part of the Lease and a separate binding contract between Landlord and Tenant.

EL CORAZON OBC

BUILDING A (PHARMA-X) LANDLORD-TENANT RESPONSIBILITY MATRIX

Revised following discussions on 3/3/22 and Developer's Conference Comments from City on 3/23/2022

Revised 10/5/2022 and noted in RED

BASE BUILDING and STRUCTURE - See attached exhibits. GROSS BUILDING SF - 251,600 SF (Including all mezzanine and second floor)							
	Exhibit 1 - Site Scope of Work	**Dated 09/13/2022**	**Attached under separate cover**				
	Exhibit 2 - Shell building design parameters	**Dated 06/09/2022**	**Attached under separate cover**				
	Exhibit 3 - Site / Shell building Utilities	**Dated 09/20/2022**	**Attached under separate cover**				
	Exhibit 4 - Electric House and Tenant Meters	**Dated 09/27/2022**	**Attached under separate cover**				
EXHIBIT 1	**EXHIBIT 2**	**EXHIBIT 3**		**EXHIBIT 4**			
	[***]						
	DESCRIPTION	**RESPONSIBILITY**			**SCA COMMENTS**	**SUDBERRY COMMENTS**	**TENANT REQUESTED CHANGES**
		LANDLORD COST Provided by LL as part of Lease Cost (include in Shell design documents)"	**TENANT COSTS (in Tenant Improvements design documents) subject to payment from Landlord's Contribution and/or the Moving Allowance, and subject to caps on FF&E Costs & the Moving Allowance"**	**SHELL COST BUT TI BUILT (Treated as a Shell Cost but constructed under the TI permit)**	**IN BLUE BELOW**	**IN ORANGE BELOW**	**IN MAGENTA BELOW**

Type IA Structure(West Building) 103,000 SF footprint w/ 42,600 SF mezzanine (Includes approx. 95,900 sf R&D, 15,100 sf Warehouse and 34,600 sf unoccupied mechanical mezz)							**5/25: Mezz SF revised to 42,600 SF**
CODE REQUIREMENTS FOR FIRE RATING	**Fire Rating Requirements for Building Elements (code):** Primary Structural Frame - 3 hour Roof construction - 1.5 hour Exterior bearing walls - 3 hours Interior bearing walls - 3 hours Floor construction (including mezzanines) - 2 hours					Agree	
	Design Parameters (West Building):						
PRIMARY STRUCTURAL FRAME	Primary Structural frame: a. Steel structure w/ 3-hour monokote. b. Wide flange section proposed due to anticipated loads and requirements for fireproofing"	**X**				Agree	
EXTERIOR BEARING WALLS	Exterior Bearing Walls: Concrete tilt walls - minimum 6.5"" thick for 3 hour rating	**X**				Agree	
	~~Design and construct the pop-out loading areas on north and south to be removeable in the future~~						
	Openings for man doors, roll-up doors and louvers.	**X**					
MEZZANINE (UNOCCUPIED, MECHANICAL EQUIPMENT ONLY)"	Mezzanine Floor deck: a. Metal deck w/3.25"" lt.wt. concrete over flutes for 2 hour rating b. Mezzanine / second level shall be for mechanical equipment only and classified as unoccupied space. Assume 125 lbs./sf live load, minimum c. Major openings in floor shall be coordinated with TI d. Interior shear walls or brace frames as needed at mezzanine	**X**			TI architect shall provide locations of major floor openings		
	Include (2) metal stairs at mezzanine	**X**			Confirmed. (2) Stairs for mezz egress shall be part of shell / LL scope		
	One elevator, freight / passenger, (2-stop) rated for 10,000 lbs. to mezzanine	**X**			Confirmed. Dimensions shall be coordinated with TI		
	UPDATE: Specs Received from CRB on 8/17/2022: Passenger Elevator Capacity: 4000 lbs. Cab: 9'-0”D by 9'-0””H by 7'-0””W Door: Same width and depth as cab / front Stops: 2 - first and second floor"	**X**					
	One elevator, freight / passenger, (3-stop) rated for 10,000 lbs. to mezzanine and roof (TI architect to confirm capacity)	**X**					7/28/2022: Elevator added

	UPDATE: Specs Received from CRB on 8/17/2022: Maintenance Elevator Capacity: 4000 lbs. min., prefer higher capacity if in budget Cab: 9'-0”D by 10'-0”H by 7'-0”W Door: Same width and depth as cab / front and rear Stops: 3 - first floor, equipment platform, and roof	**X**					
ROOF CONSTRUCTION	Roof deck: a. Metal deck w/3.25"" lt. wt. concrete over flutes for 1.5 hour rating b. Design to accommodate HVAC loading including strobic fans and equipment screening. c. Assume minimum 15 lbs./sf misc. loads for equipment, ceiling support, etc."	**X**			Locations and size of concrete roof pads shall be coordinated with TI. Roof screens shall be 12-feet tall max.	Rooftop will need to accommodate PV system as required by City CAP. If adequate space is not available on the roof for CAP required photovoltaics, an energy portfolio comprising of at least 75% renewable, emissions-free energy may be purchased for the remainder, subject to City approval.	
	Concrete pads for major tenant equipment: Include structural roof pad for equipment with normal weight concrete and roof screens."	**X**					
	Roofing: Rigid insulation over concrete with single ply roofing	**X**					
HEIGHTS	Interior clear height of 35-feet to lowest structure at roof	**X**			From Tenant: Currently need minimum of 35ft to bottom of structure. Too early to know, but expect piping and duct may drive this up an additional 2ft. We can coordinate with structural engineer during Design Development. However, the El Corazon Specific Plan limits maximum building height to 50-feet (top of parapet) We cannot exceed this height.		

	Interior clear height reduced in locations of 72-inch deep structural members per discissions with CRB						
	Minimum 21-feet floor to floor at mezzanine	**X**					
FLOOR SLAB	6" slab ~~except 8" at high pile storage Assume 30,000 sf of 8" slab~~	**X**			TI architect to identify location of high pile storage		
	~~Leavcouts for TI underground~~						
	Floor drains and underground plumbing		**X**				
	Recessed slab areas		**X**				
SHAFT OPENINGS	Shaft openings for major Tenant utility risers coordinated with TI.	**X**	**X**		TI architect to provide locations and dimensions		
Type IIB Structure (East Building) 70,000 SF footprint w/ 36,000 sf second floor (includes approx. 75,250 sf Office and 30,750 sf R&D)							5/25: Mezz SF revised to 36,000 SF
CODE REQUIREMENTS FOR FIRE RATING	**Fire Rating Requirements for Building Elements (code):** Primary Structural Frame - none Roof construction - none (propose 1.5 hr. for future Type 1A) Exterior bearing walls - none Interior bearing walls - none Floor construction (including mezzanines) - none"					Agree	
	Design Parameters (East Building):						
PRIMARY STRUCTURAL FRAME	Primary Structural frame: Steel structure. Wide flange sections proposed instead of trusses due to anticipated loads and requirements for future conversion to a manufacturing space and Type IA construction (fireproofing required)"	**X**				Agree	
EXTERIOR BEARING WALLS	Exterior Bearing Walls: Concrete tilt walls - minimum 6.5" thick	**X**				Agree	
SECOND FLOOR (OFFICE USE)"	Mezzanine Floor deck: a. Metal deck w/3.25"" lt.wt. concrete over flutes. b. Assume all office spaces ~~c. Mezzanine shall be designed to be removed in the future~~ d. Interior shear walls or brace frames as needed at second floor e. Openings in floor coordinated with TI	**X**			Per discussions this shall be a second floor integrated into structure. Ability to remove in the future is no longer required		
	Include (2) metal stairs at second floor	**X**			Confirmed		
	Include (1) passenger elevator (2-stop, side acting) rated for 5,000 lbs.	**X**			Confirmed		

	UPDATE: Specs Received from CRB on 8/17/2022: Passenger Elevator Capacity: 2500 lbs. Cab: Sized to allow for stretcher Door: Standard size / front Stops: 2 - first and second floor	**X**					
	Include (1) passenger / freight elevator (2-stop) rated for 10,000 lbs. to roof in Chiller Room (TI Architect to confirm capacity)	**X**					7/28/2022: Elevator added
	UPDATE: Specs Received from CRB on 8/17/2022: Maintenance Elevator Capacity: 4000 lbs. min., prefer higher capacity if in budget Cab: 9'-0""D by 10'-0""H by 7'-0""W Door: Same width and depth as cab / front and rear Stops: 2 - first floor and roof"	**X**					
ROOF CONSTRUCTION	Roof deck: Allow for future manufacturing space and Type IA construction: a. Metal deck w/3"" lt. wt. concrete over flutes for 1.5 hour rating b. Design to accommodate HVAC units, exhaust for labs and office and equipment screening. c. Assume minimum 15 lbs./sf misc. loads for equipment, ceiling support, etc. for future manufacturing	**X**				Rooftop will need to accommodate PV system as required by City CAP. If adequate space is not available on the roof for CAP required photovoltaics, an energy portfolio comprising of at least 75% renewable, emissions-free energy may be purchased for the remainder, subject to City approval.	
	Concrete pads for major tenant equipment: Include structural roof pads for equipment with normal weight concrete and roof screens.	**X**			Locations and size shall be coordinated with TI. From Tenant: Confirmed that equipment (w/curbs) and roof stacks are less than 12-feet		
	Single large approx.100-foot long skylight on the roof.	**X**			This will limit space available for PV, rooftop equipment		
	Additional (3) skylights **if** adequate space is available for rooftop PV equipment. To be evaluated.	**X**					7/28/2022: Three (3) additional skylights requested. To be evaluated if this is feasible.
	Roofing: Rigid insulation over concrete with single ply roofing	**X**					
HEIGHTS	Interior clear height of 31-feet to lowest structure at roof	**X**			Confirmed		
	Minimum 18-feet from floor to floor at mezzanine	**X**					
	Minimum clearance on second level at 13-feet	**X**					

FLOOR SLAB	6" slab	**X**					
	Recessed slab areas coordinated with TI. TI architect to provide locations and dimensions.	**X**					
ROOFING (West and East Buildings)							
	Single Ply TPO roofing proposed	**X**					
	Industry standard roof warranty covering newly installed roofing	**X**			20 year warranty	Agree.	
	Major roof openings for Tenant Improvement equipment	**X**			No base building equipment and systems. Tenant shall provide locations and sizes of major roof openings	Will include in shell design if information is provided in a timely manner	
	Roof penetrations for Tenant equipment		**X**				
UTILITIES (Shell design to extend to site POCs, approx. 5' outside of building)							
WATER	4" domestic water service (two 2" meters) to the building	**X**			Meet city requirements	Agree subject to City approval	6/7/2022: Water service upsized to 4" from 3"
	Reclaimed water for landscaping	**X**				City currently doesn't have reclaimed water here but we can install purple pipe.	
WASTE	Landlord to provide 6" site sewer with (1) POC to West building and (1) POC to East building. Minimum invert elevation at East POC shall be 13-feet below finish floor	**X**			LL will provide a single sewer POC on site as noted on Exhibit 3. Sewer invert at 13-feet below FF		
	6" domestic waste lines internal to building		**X**				
	6" industrial waste lines internal to building with sample port exterior to building		**X**				
	6" process waste line internal to building and process waste neutralization system		**X**				

DRY UTILITIES	5 psig/ 36,700 cfh natural gas service to exterior of building	**X**				Agree	7/22/2022: Gas load increased from 35,000 cfh to 36,700 cfh
	8,000 A power at 480V electrical utility (two services to two 4000A transformers) with conduit to electrical switchgear within SDGE room.	**X**			SDGE room shall be sized in coordination with TI architect. Space will be provided for sub-panels, disconnect and other equipment associated with PV system. Battery storage, if required, will be in exterior equipment yard and LL cost. This room will require (2) exit doors. Recommend exterior access only, no access from building interior.	Agree SDGE Room will have house panel for site lighting, EV chargers.	
	UPDATE: Third service requested by CRB: 4,000A service and switchgear to be located at equipment yard	**X**				UPDATE: House and Tenant Meter Setup: See Exhibit 4	9/13/2022: Third service at equipment yard added
	UPDATE 10/3/2022: Fourth service requested by Landlord for common site areas. Service size and location on site TBD	**X**					
	UPDATE 10/3/2022: UGPS, Switchgear, Panels and Breakers for all (3) services	**X**					10/3/2022: Breakers added to electric service
	Tel / Data conduit sweeps into building MPOE room	**X**			Tenant to provide conduit size and number of conduits. Provider as available in the area	Agree.	

FIRE RISERS	Two fire risers minimum, one for each building	**X**			<u>Shell will include:</u> (1) fire riser at west building and (1) fire riser at east building. Fire risers shall be designed to handle an ESFR system. Fire riser room shall be sized in coordination with TI architect If City approves all fire sprinkler distribution shall be deferred to TI to avoid rework of any piping installed for cold shell.		
	<u>UPDATE:</u> Third Fire riser in equipment yard added to TI scope	**X**					<u>9/30/22:</u> Third Fire riser in equipment yard added
	ESFR at high pile storage				See note above		
	Extra Hazard at Lab and Mfg., Ordinary Hazard at office space				See note above		
SITEWORK							
	Landlord shall deliver all site utilities, access drives and a certified pad. Includes onsite and offsite work required for Building A delivery	**X**					
	Soil prep as determined / directed by Landlord. Any increased construction costs attributable to soil conditions shall be borne exclusively by Landlord	**X**				Additional sitework costs related to moving building west to be borne by tenant.	
	Exterior Amenity Area	**X**				Agree but Tenant needs to state requirements, i.e., shade structures, furniture, decorative concrete, etc.	

DOCKS AND SPILL CONTAINMENT	Concrete paving at loading docks and incline on south side of building for spill containment	**X**			Standard thickness as recommended by Geotech for trucks delivering chemicals		
	Spill containment devices and treatment		**X**				
EV CHARGERS	EV chargers to meet City of Oceanside CAP requirements with electrical sized to accommodate future chargers. City CAP requires 15% of parking spaces to be designated EV spaces and Level 2 chargers to be installed for 50% of the EV spaces.	**X**					
MISC SITE STRUCTURES	Refuse enclosures	**X**					
	Truck dock screen walls at south and north side of dock	**X**			14-feet high screen	Agree	
	30 yard compactor at south dock		**X**		Per Tenant: OK to lose (1) truck space		
	Retaining walls on site perimeter as indicated on site plan	**X**				Agree	
	Monument Sign	**X**				Tenant shall provide design including power / lighting requirements. Design shall be in compliance with signage design approved for Overall El Corazon OBC	
EQUIPMENT YARD AND ENCLOSURE	Screen walls w/ 21-feet screen walls with gates for truck access Tenant shall provide maximum height of proposed tanks to confirm that the wall provides adequate screening as required by City	**X**			From Tenant: Maximum Heights of the tanks in the exterior equipment yard a. Bulk solvent and waste tanks in NE of yard are 16ft tall. Required roof structure will be 30ft tall. b. Leased nitrogen tanks in SW of yard are planned to be 19ft tall. ~~No roof over these.~~ Roof is required over these tanks		
	Slab with large retention pits for secondary containment			**X**		Shell cost but installed by Tenant	

	Canopies over equipment		**X**		Confirmed the 30-foot canopy over equipment will be TI scope		
HAZMAT REPORTS AND SIGNAGE	Exterior Hazardous material storage enclosure, relevant signage, Hazardous Material Business Plan (HMBP) as required by City for submission to AHJ and code compliance improvements		**X**				
STORMWATER TREATMENT	Underground detention system	**X**			Project will have underground detention. Modular wetland units for stormwater quality will be in the parking lot, both east and west of building		
PARKING	Parking to comply with City of Oceanside requirements	**X**					
	No canopies over parking				See comments for PV system		
PHOTOVOLTAICS							
	City of Oceanside Climate Action Plan requires building to include renewable energy facilities that supply at least 50-percent of forecasted electricity demand	**X**			See comment above. System size and location TBD		
CORE AREAS							
	Main Electrical Room - Includes conduit sweeps, main switchgear in and gyp board in room. Distribution beyond main electrical room not included	**X**				Agree	
	MPOE Room - Includes conduit sweeps only. IDF closets not included	**X**				Agree	
	Drywall at tenant side of core partitions (elevator, stairwell, main electrical room and MPOE rooms)	**X**				Agree	
	Electrical distribution rooms beyond main electrical room		**X**				
	IDF closets connected to MPOE		**X**				
	Finished lobby with Class A finishes at building entry only		**X**				
	New restrooms, finishes and their associated utilities for the Premises		**X**				
	Janitor's closets		**X**				
	Code required bicycle storage		**X**				
	Code required signage for base building rooms		**X**				
PERMITS AND FEES							
	Building Site, Core and Shell Permit and Fees	**X**					

	All Tenant Improvement related Permits and Fees		**X**			Impact fees - water, sewer, fire by Tenant	
TENANT AREAS							
	Drywall at inside of exterior walls		**X**				
	Finishes at inside face of exterior walls		**X**				
	Electrical closets within Tenant Premises		**X**				
	Tel / data rooms within Tenant Premises		**X**				
	Fixed casework		**X**				
	All specialty equipment required by Tenant		**X**				
	Fixtures, Furniture, Equipment (FF&E)		**X**				
	Laboratory Equipment including, but not limited to biosafety cabinets, autoclaves, glasswashers, bioreactors, recirculating chillers, high vac dry-down stations & associated steam generators		**X**				
	Chemical Fume Hoods, bench fume hood, lab casework		**X**				
	Appliances		**X**				
	All non-code required interior signage for Tenant Premises		**X**				
PLUMBING							
	Domestic water main riser & isolation valves	**X**				Agree	
	Domestic water branch laterals within Tenant Premises		**X**				
	Core restroom plumbing fixtures compliant with accessibility requirements		**X**				
	Domestic hot water to restrooms		**X**				
	Sanitary waste and vent service for core areas		**X**				
	Sanitary waste and vent distribution serving Tenant Premises		**X**				
	Industrial waste system		**X**				
	Industrial waste and vent pipe distribution serving Tenant Premises		**X**				
	Air compressor system		**X**				
	Compressed air pipe distribution in Tenant Premises to points of use		**X**				
	RO/DI water system		**X**				
	RO/DI water vertical pipe riser		**X**				
	DI water pipe distribution in Tenant Premises for specific points of use		**X**				
	Manifolds, piping, and other requirements including cylinders, not specifically mentioned above (i.e. Argon, Nitrogen, CO2)		**X**				
HEATING, VENTILATION, AIR CONDITIONING							
	Electric room ventilation system for main Electrical Room as shown in the Core and Shell Construction Documents	**X**				Agree	

	Electric room ventilation system for electrical closets within Tenant Premises		**X**				
	Central water-cooled chilled water plant		**X**				
	Chilled water pipe risers		**X**				
	Condenser water capacity		**X**				
	Condenser water pipe distribution from Chiller to Cooling Tower		**X**				
	Central gas-fired condensing boiler plant		**X**				
	House steam system		**X**				
	Heating Hot water pipe risers		**X**				
	Heating Hot water pipe distribution within Tenant Premises		**X**				
	Reheat coils within core areas		**X**				
	Reheat coils within Tenant Premises		**X**				
	Expandable Building Automation System (BAS) for base building infrastructure and Tenant Premises		**X**				
	Air handling units, served by emergency power system		**X**				
	Vertical supply air duct distribution		**X**				
	Supply air duct distribution, air valves, VAV terminals, reheat coils, equipment connections, insulation, air terminals, dampers, hangers, etc. within Tenant Premises		**X**				
	Roof-mounted exhaust fans		**X**				
	Vertical exhaust air duct risers		**X**				
	Exhaust air duct distribution, air valves, equipment connections, insulation, air terminals, dampers, hangers, etc. within Tenant Premises		**X**				
	Sound attenuation for Tenant equipment		**X**				
	Additional / dedicated cooling for Tenant requirements		**X**				
ELECTRICAL							
	Shell area life safety emergency lighting / signage as shown in the Core and Shell Construction Documents	**X**			Shell area life safety emergency lighting for exterior of building and main electrical room only. Assume TI will commence immediately after so no shell building interior emergency lighting will be required by City. SCA to confirm with City		
	Lighting and power distribution for site lighting as shown in the Core and Shell Construction documents	**X**				Agree, to house panel in electric room	

	Two 1.5MW emergency generators, ATS and conduit as required		**X**				
	Uninterruptable Power System (UPS)		**X**				
	Distribution, devices and fixtures for Tenant Premises		**X**				
	Lighting and power distribution for lobby and restroom areas		**X**				
	Lighting and power distribution for Tenant Premises		**X**				
	Tenant Premises life safety emergency lighting/signage		**X**				
	Tenant panels, transformers, and distribution equipment		**X**				
FIRE PROTECTION							
	Building shell: fire risers	**X**					
SHELL BUILDING FIRE PROTECTION	Main distribution piping and sprinkler heads		**X**		Subject to City approval all mains, branches and drops to be in the Tenant Improvement. This would be the most effective approach so that the shell distribution does not get installed and then modified when Tenant Improvements are installed. SCA to confirm with City		
	All lateral piping, drops and ceiling sprinkler heads within Tenant Premises		**X**				
	Pre-action dry-pipe or chemical systems (if required in any areas)		**X**				
	Fire extinguisher cabinets and extinguishers at core areas, excluding the Premises		**X**				
	Fire extinguisher cabinets and extinguishers at Tenant Premises		**X**				
FIRE ALARM							
	Base building Fire Alarm system as required for completion of Core & Shell, with devices at elevators & core areas		**X**		Subject to City approval, all Fire Alarm systems to be designed and installed under the Tenant Improvements	Agree	
	Fire alarm sub panels and devices for Tenant Premises with integration into base building system		**X**				

TELEPHONE / DATA							
	Tenant tele/data rooms		**X**				
	Tel/Data pathways from MPOE room to Tenant tele/data rooms		**X**				
	Tel/Data cabling from MPOE room to Tenant tele/data rooms		**X**				
	Fiber optic service for Tenant use		**X**				
	Tel/data infrastructure including, but not limited to, servers, computers, phone systems, switches, routers, MUX panels, equipment racks, ladder racks, etc.		**X**				
	Provision of circuits and service from service providers		**X**				
	Audio visual systems and support		**X**				
	Station cabling from Tenant tel/data room to all Tenant locations, within the suite and exterior to the suite, if needed		**X**				
	Tenant tele/data rooms		**X**				
	Tel/Data pathways from MPOE room to Tenant tele/data rooms		**X**				
	Tel/Data cabling from MPOE room to Tenant tele/data rooms		**X**				
	Fiber optic service for Tenant use		**X**				
	Tel/data infrastructure including, but not limited to, servers, computers, phone systems, switches, routers, MUX panels, equipment racks, ladder racks, etc.		**X**				
	Provision of circuits and service from service providers		**X**				
	Audio visual systems and support		**X**				
	Station cabling from Tenant tel/data room to all Tenant locations, within the suite and exterior to the suite, if needed		**X**				
SECURITY							
	Card access serving main building entry points and restricted access areas on Tenant-installed and managed system		**X**				
	Video camera coverage on Tenant-installed and managed system		**X**				
	Manned security station in lobby		**X**				
	Card access serving main building entry points and restricted access areas on Tenant-installed and managed system		**X**				
	Video camera coverage on Tenant-installed and managed system		**X**				
	Manned security station in lobby		**X**				

SCHEDULE 2 TO EXHIBIT B

INTENTIONALLY OMITTED

SCHEDULE 3 TO EXHIBIT B

COST ESTIMATE

Pharma X - El Corazon
Estimate of Cost Summary
September 8.2022

Land	21,952,700
Hard Costs	111,778,605
Soft Costs	28,118,530
Total Costs	161,849,835

Note: Soft costs above do not includc any costs of Mezzanine Financing which may be required when the financing capital stack is finalized

EXHIBIT C

ENVIRONMENTAL QUESTIONNAIRE

Environmental Questionnaire
for Leases to Environmentally Sensitive Industries (ESI)

The purpose of this questionnaire is to provide information upon which the Lessor will rely as part of the lease application review. Information provided will be for Lessor use only.

Does your company engage in any of the following activities and operate facilities associated with the following?

	Yes	No	Comment
Underground Storage Tanks	☐	☐	
Above Ground Storage Tanks	☐	☐	
Wasteviater treatment systems	☐	☐	
Storage and use of Hazardous or Toxic Chemicals or Materials	☐	☐	
Auto, truck or other vehicle maintenance or repair	☐	☐	
Manufacture, mixing and/or distribution of chemicals	☐	☐	
Oil and or natural gas wells	☐	☐	
Retail sale of gasoline	☐	☐	
Dryc leaning	☐	☐	
Historic use of chlorinated solvents	☐	☐	
Air quality emissions for which permits are required	☐	☐	
Asbestos liability	☐	☐	
Cleanup liability for properties owned or occupied by Company	☐	☐	
Cleanup liability for properties not owned or occupied by Company	☐	☐	
Hazardous waste transportation, transfer or disposal	☐	☐	
Solid waste transportation, transfer or disposal	☐	☐	

If all the above are answered "No", proceed to end of Questionnaire and sign on behalf or your company. Otherwise complete the following questions. Provide backup documentation and use additional pages for answers as necessary.

	Yes	No	Comment
ENVIRONMENTAL MANAGEMENT			
Does the Company operate under the guidance of a published corporate-wide environmental policy?	☐	☐	
Does the company perform internal environmental audits of facilities? If so, how often?	☐	☐	
Does the company publish an annual environmental report or include environmental reporting other documents? If so, provide copies.	☐	☐	
Does the Company have an environmental officer operating at the company-wide level?	☐	☐	
OPERATIONS			
Do your operations require anyofthe followinq?			
● EPA Hazardous Waste Generator ID	☐	☐	
● Material Safety Data Sheets (attach a list of chemicals and quantities.	☐	☐	
● NPDES Permit	☐	☐	
● Hazardous Waste Treatment Storage and Disposal Facility (TSDF) Permit.	☐	☐	
● Underqround Storaqe Tank Use Permit	☐	☐	
● Air Pollution Control/Emission Permit	☐	☐	
● Emergency Hazardous Materials Management Plan or Contingency Plan	☐	☐	
● Asbestos Operations and Maintenance Plan	☐	☐	

	Yes	No	Comment
Have any citations been issued to your facility for permit violations or non-compliance which require corrective action? If yes, describe and attach a copy. What is the projected "cost to cure" the above compliance issue?	☐	☐	
Are any facility upgrades or capital improvements required or planned to maintain, or renew any environmental permits or meet compliance standards? If yes, describe the projected costs and time frame.	☐	☐	
Is your company accruing any monies to address current or anticipated future permit and compliance issues? If yes, describe.	☐	☐	
ENVIRONMENTAL LIABILITY			
Has the company ever owned and/or operated any facilities that are now federal, state or provincial Superfund sites (include equivalent for non-US facilities)? If Yes provide a list of sites, projected contribution and timing of expenditures. Documentation can refer to Phase 1 ESAs beinq obtained for specific properties.	☐	☐	
Has the company or any of its subsidiaries been named as a potentially responsible party (PRP) for any non-owned state, provincial or federal Superfund Site? If Yes, provide list of sites, projected contribution and timing of expenditures.	☐	☐	
Have any state, provincial or local regulatory agencies issued any citations, violations or any soil/groundwater cleanup orders at any of the facilities? If Yes, please list them and provide projected timeframes and remediation costs.	☐	☐	
Is the company involved with any outstanding litigation wth third parties relative to environmental contamination or compliance? If Yes, please provide descriptions of issues and potential outcomes.	☐	☐	
Does the company obtain indemnifications for environmental problems from sellers of acquired facilities, especially major acquisitions? If Yes, list and describe any ongoing environmental issues at owned facilities being handled by other parties.	☐	☐	
Is your business/corporation (or subsidiary thereof) subject to any personal injury asbestos related litigation brought by parties alleging injury through exposure to products or premises or other causes of action related to asbestos? If Yes, complete the asbestos-specific questionnaire provided by your Bank of America Client Manager.	☐	☐	

Prepared by: _____ **Corporate Title:** _____

(print name)

On behalf of: _____ **Date:** _____

(applicant)

EXHIBIT D

SIGNS

None at this time.

EXHIBIT E

GOVERNING DOCUMENTS

None

EXHIBIT F

TENANT'S SECURITY REQUIREMENTS

[***]

CONFIDENTIAL

EXHIBIT G

REMOVAL OBLIGATIONS

[***]

Exhibit 10.24

CERTAIN CONFIDENTIAL PORTIONS OF THIS EXHIBIT HAVE BEEN OMITTED AND REPLACED WITH "[***]". SUCH IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THIS EXHIBIT BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL.

PURCHASE AND SALE AGREEMENT

Between

IONIS GAZELLE, LLC

"Seller"

and

2850 2855 & 2859 GAZELLE OWNER (DE) LLC

"Buyer"

with Escrow Instructions for

FIRST AMERICAN TITLE INSURANCE COMPANY

"Escrow Holder"

PROPERTY NAME: IONIS GAZELLE CARLSBAD OAKS NORTH BUSINESS PARK CAMPUS

LOCATION: CARLSBAD, CALIFORNIA

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EXHIBITS

PURCHASE AND SALE AGREEMENT

This **PURCHASE AND SALE AGREEMENT** (as the same may be amended, modified, or supplemented from time to time in accordance with the terms hereof, this "**Agreement**"), dated effective for all purposes as of October 20, 2022, is by and between **IONIS GAZELLE, LLC**, a Delaware limited liability company ("**Seller**"), and **2850 2855 & 2859 GAZELLE OWNER (DE) LLC**, a Delaware limited liability company (together with its successors and/or assigns, collectively, "**Buyer**").

Article I
CERTAIN DEFINITIONS

Section 1.1 Definitions. The parties hereby agree that the following terms shall have the meanings hereinafter set forth, such definitions to be applicable equally to the singular and plural forms, and to the masculine and feminine forms, of such terms:

"**Additional Purchase Price**" shall have the meaning set forth in Section 2.2(b).

"**Affiliate**" means any Person that directly, or indirectly through one or more intermediaries, controls, is controlled by or is under common control with Buyer or Seller, as the case may be. For the purposes of this definition, "control" means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a Person, whether through the ownership of voting securities, by contract or otherwise, and the terms "controlling" and "controlled" have the meanings correlative to the foregoing.

"**Agreement**" shall have the meaning set forth in the preamble.

"**Anti-Corruption Laws**" means all anti-bribery and anti-corruption laws, regulations or ordinances applicable to Seller, its affiliates and their respective operations from time to time, including without limitation (i) the FCPA, (ii) the Global Magnitsky Act, (iii) the Bribery Act 2010 (U.K.), (iv) legislation adopted in furtherance of the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, (v) the United States Bank Secrecy Act , as amended by the Anti Money Laundering Act of 2020; (vi) the Proceeds of Crime (Money Laundering) and Terrorist Financing Act (Canada), (vii) the Corruption of Foreign Public Officials Act (Canada), (viii) the U.K. Bribery Act, (ix) the Canadian Corruption of Foreign Public Officials Act, and (x) the Freezing Assets of Corrupt Foreign Public Officials Act (Canada), in each case as the same may be amended from time to time and including all rules, regulations, decrees, administrative orders, circulars, or instructions implementing or interpreting the same.

"**Anti-Money Laundering, Anti-Terrorism, and Sanctions Laws**" means all anti-money laundering-related laws, regulations, and codes of practice applicable to Seller, its affiliates and their operations from time to time, including without limitation (i) the U.S. Money Laundering Control Act of 1986, (ii) the United States Bank Secrecy Act, as amended by the Anti Money Laundering Act of 2020, (iii) the United States International Money Laundering Abatement and Anti-Terrorist Financing Act of 2001, (iv) the United States Trading with the Enemy Act, and the regulations promulgated thereunder in 31 CFR Subtitle B, Chapter 5, as amended, (v) the International Emergency Economic Powers Act and the regulations promulgated thereunder in 31 CFR Subtitle B Chapter 5, as amended, (vi) the regulations of OFAC and The Financial Enforcement Network (FINCEN) or any enabling legislation or executive order relating thereto, (vii) the EU Anti-Money Laundering Directives, (viii) the Patriot Act and (ix) the applicable financial recordkeeping and reporting requirements of the U.S. Currency and Foreign Transaction Reporting Act of 1970, as amended, in each case as the same may be amended from time to time and including all rules, regulations, decrees, administrative orders, circulars, or instructions implementing or interpreting the same.

"**APP Escrow Agreement**" shall mean the Post-Closing Escrow Agreement by and among Buyer, Seller and Escrow Holder in the form attached hereto as Exhibit M.

"**Assignee**" shall have the meaning set forth in Section 10.16.

"**Assignment**" shall have the meaning set forth in Section 9.3(d).

"**Assignor**" shall have the meaning set forth in Section 10.16

"**Bankruptcy Laws**" shall have the meaning set forth in Section 10.16

"**Basket**" shall have the meaning set forth in Section 6.2.

"**BTS Closing**" shall mean the "Closing" as defined in the BTS Purchase Agreement.

"**BTS Parcel**" shall mean Lots 21 and 22, Carlsbad, California, as more particularly described on Exhibit A to the BTS Purchase Agreement.

"**BTS Purchase Agreement**" shall mean that certain Purchase and Sale Agreement dated as of the date hereof by and between Ionis Pharmaceuticals, Inc., as seller, and Oxford I Asset Management USA Inc., as buyer, with respect to the BTS Parcel.

"**Business Day**" shall mean any day other than a Saturday, Sunday or other day on which banks are authorized or required by applicable law to be closed in the States of California.

"**Buyer**" shall have the meaning set forth in the preamble.

"**Buyer Designated Person**" shall have the meaning set forth in Section 6.3(b).

"**Buyer Parties**" means, collectively, Buyer, any Affiliates of Buyer, and their actual and potential investors, lenders, representatives, contractors (including, without limitation, any engineers, architects, bankers, contractors, and other professionals), employees and agents of Buyer or any Affiliate of Buyer.

"**Buyer-Seller Lease**" means that certain Lease Agreement between Buyer and Seller in the form attached hereto as **Exhibit N** and to be entered into and dated as of the Closing Date, whereby Seller shall lease all of the Property from Buyer.

"**CERCLA**" shall have the meaning set forth in the definition of "Environmental Laws."

"**Claims**" means any and all losses, damages, claims, causes of action, liens, judgments, damages, costs and expenses, including reasonable third-party attorneys' fees and court costs.

"**Close of Escrow**" shall have the meaning set forth in Section 9.2.

"**Closing**" shall have the meaning set forth in Section 9.2.

"**Closing Date**" means the Effective Date.

"**Closing Document**" shall have the meaning set forth in Section 3.2(c).

"**Closing Statement**" shall have the meaning set forth in Section 9.2.

"Closing Tax Year" shall have the meaning set forth in Section 9.8.

"**Code**" shall have the meaning set forth in Section 5.2

"**Confidential Information**" shall have the meaning set forth in Section 3.2(b).

"**Contracts**" shall have the meaning set forth in Section 6.1(j)

"**Control**" means, with respect to any Person, the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such Person, through the ownership of voting securities or through holding a majority of seats on the board of directors (or its functional equivalent), by contract or otherwise, and the terms "Controlled", "Controlling" and "Common Control" shall have correlative meanings; provided, that a Person shall not be deemed to lack Control based solely on the fact that certain decisions may be subject to customary "major decision" consent or approval rights in favor of another Person.

"**Costs**" shall have the meaning set forth in Section 10.8.

"**Data Room**" shall have the meaning set forth in Section 3.1(a)

"**Declarations**" shall have the meaning set forth in Section 10.16

"**Deed**" shall have the meaning set forth in Section 9.3(a).

"**Disclosure Items**" shall mean those items set forth on **Exhibit C** attached hereto.

"**Due Diligence Items**" shall have the meaning set forth in Section 3.1(a).

"**Effective Date**" means the date this Agreement is executed and delivered by the last of Buyer and Seller.

"**Environmental Laws**" means any applicable federal, state and local laws, statutes, ordinances, rules, and regulations, as well as common law, relating to protection of human health, natural resources or the environment in effect on the Effective Date. The term "Environmental Laws" includes, but is not limited to, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended ("**CERCLA**"), 42 U.S.C. §9601 et seq.; the Toxic Substance Control Act, 15 U.S.C. §2601 et seq.; the Hazardous Materials Transportation Act, 49 U.S.C. §5101 et seq.; the Resource Conservation and Recovery Act, 42 U.S.C. §6901, et seq.; the Clean Water Act, 33 U.S.C. §1251 et seq.; the Safe Drinking Water Act, 42 U.S.C. §300f et seq.; the Clean Air Act, 42 U.S.C. §7401 et seq.; Federal Water Pollution Control Act, 33 U.S.C. §§ 1251 et seq.; Clean Air Act, 42 U.S.C. §§ 7401 et seq.; Emergency Planning and Community Right-To-Know Act, 42 U.S.C. §§ 11001 et seq.; Occupational Safety and Health Act, 29 U.S.C. §§ 65 et seq.; Occupational Safety and Health Act, 29 U.S.C. §§ 65 et seq.; California Hazardous Substance Account Act, California Health & Safety Code §§ 25300 et seq.; California Asbestos Notification Laws, California Health & Safety Code §§ 25915 et seq.; California Hazardous Waste Control Law, California Health & Safety Code §§ 22100 et seq.; California Hazardous Materials Release Response Plans and Inventory Act, California Health & Safety Code §§ 25500 et seq.; California Clean Air Act, California Health & Safety Code §§ 39608 et seq.; California Toxic Pits Cleanup Act, California Health & Safety Code §§ 25208 et seq.; California Pipeline Safety Act, California Government Code §§ 51010 et seq.; California Toxic Air Contaminants Law, California Health & Safe Code §§ 39650 et seq.; California Porter-Cologne Water Quality Act, California Water Code §§ 13000 et seq.; California Toxic Injection Well Control Act, California Health & Safety Code §§ 25159.10 et seq.; California Underground Storage Tank Act, California Health & Safety Code §§ 25280 et seq.; California Occupational Carcinogens Control Act, California Labor Code §§ 9000 et seq., and all other applicable federal, state and local laws, regulations, ordinances, rules and orders that are equivalent or similar to the laws recited above, or otherwise relate to human health, natural resources or the environment, in each case together with their implementing regulations, guidelines, rules or orders, and all state, regional, county, municipal and other local laws, regulations, ordinances, rules or orders that are equivalent or similar to the federal and state laws recited above.

"**Escrow Holder"** means First American Title Insurance Company, with an address of 4380 La Jolla Village Drive, Suite 110, San Diego, CA 92122, Attention: Lynn Graham, **lgraham@firstam.com**.

"**Excluded Claim**" shall have the meaning set forth in Section 3.2(f).

"**Excluded Property**" means (a) any documents, materials or information which are subject to attorney/client, work product or similar privilege, which constitute attorney communications, or which are subject to a confidentiality agreement or that Seller is legally required to not disclose, (b) all cash on hand or on deposit in any operating account or other account maintained in connection with the ownership, operation or management of the Real Property, (c) all Trade Fixtures, (d) furniture and equipment located on the Real Property (other than Fixtures), (e) all other personal property placed in the Real Property by Seller and used in connection with Seller's trade or business and not otherwise necessary for the operation of the Real Property, (f) any licenses, permits and authorizations presently or hereafter issued to or for the benefit of Seller or its Affiliates in connection with Seller's operation as a going concern and not otherwise necessary for the operation of the Real Property, (g) any intangible property whatsoever related to Seller or its Affiliates as a going concern, and (h) any Intellectual Property whatsoever owned or licensed by Seller or its Affiliates. The Excluded Property shall not include plans and specifications for the Improvements owned by Seller.

"**Fixtures**" means personal property which is located at and affixed to the Real Property, and any replacement thereof as of the Closing Date.

"FIRPTA Certificate" shall have the meaning set forth in Section 9.3(e).

"Grantee" shall have the meaning set forth in Section 10.16.

"Grantor" shall have the meaning set forth in Section 10.16.

"**Governmental Entity**" means the various federal, state and local governmental and quasi-governmental bodies or agencies having jurisdiction over Seller, the Real Property or any portion thereof.

"**Hazardous Materials**" means (a) any and all substances (whether solid, liquid or gas) defined, listed or otherwise classified or regulated as "hazardous wastes," "hazardous materials," "hazardous substances," "toxic substances," "pollutants," "contaminants," "radioactive materials", "toxic pollutants", "solid wastes," or other similar designations in, or otherwise subject to regulation under the Environmental Laws, and (b) any other substances, constituents or wastes that are subject to Environmental Law, now or hereafter in effect, including but not limited to (A) petroleum, (B) refined petroleum products, (C) waste oil, (D) waste aviation or motor vehicle fuel and their byproducts, (E) asbestos, (F) lead in water, paint or elsewhere, (G) radon, (H) Polychlorinated Biphenyls (PCBs), (I) urea formaldehyde, (J) volatile organic compounds (VOC), (K) total petroleum hydrocarbons (TPH), (L) benzine derivative (BTEX), (M) poly- and perfluoroalkyl substances, and (N) petroleum byproducts.

"**Improvements**" means the buildings, structures, appurtenances, and other improvements located on the Land.

"**Indemnification Cap**" shall have the meaning set forth in Section 6.2.

"**Intellectual Property**" means with respect to any Person, collectively, (a) all copyright rights, copyright applications, copyright registrations and like protections in each work of authorship and derivative work thereof, whether published or unpublished and whether or not the same also constitutes a trade secret, (b) any trademark and service mark rights, whether registered or not, applications to register and registrations of the same and like protections, and all goodwill connected with and symbolized by such trademarks, (c) all patents, patent applications and like protections including without limitation improvements, divisions, continuations, renewals, reissues, extensions and continuations-in-part of the same, (d) any and all trade secrets and trade secret rights, including, without limitation, any rights to unpatented inventions, know-how and operating manuals, (e) any and all source code, (f) any and all design rights which may be available to such Person, (g) any and all claims for damages by way of past, present and future infringement of any of the foregoing, with the right, but not the obligation, to sue for and collect such damages for said use or infringement of the Intellectual Property rights identified herein, and (h) all amendments, renewals and extensions of any of the foregoing.

"**Known Environmental Condition**" means any Hazardous Materials at, on, under or migrating to or from, or have migrated to or from, the Property as of or prior to the Closing as described or referenced in the Due Diligence Items, Disclosure Items or in reports or other documents otherwise publicly available.

"**Land"** means those certain parcels of land and appurtenances thereto more particularly described on attached **Exhibit A** and which are commonly known as 2850, 2855 and 2859 Gazelle Court, Carlsbad, California, and including but not limited to any easements, appurtenances, license, privileges, rights of way and other rights appurtenant thereto pursuant to the Title Commitment.

"**Leases**" means all unexpired leases, subleases, licenses, occupancy agreements, and any other agreements, written or oral, for the use, possession, or occupancy of any portions of the Real Property or otherwise relating thereto, together with any renewals, extensions, amendments, modifications or supplements thereto and guarantees thereof and all prepaid rent, tenant security deposits and other deposits, if any, thereunder; provided, however, the Leases shall not include the Buyer-Seller Lease.

"**Licenses and Permits**" means, collectively, all licenses, permits approvals, density rights, development rights, certificates, consents, exemptions, decisions, actions, approvals, variances, entitlements, certificates of occupancy, dedications, sewer rights, subdivision maps and entitlements now or hereafter issued, approved or granted by any Governmental Entity in connection with the Real Property and operation at the Property, including, without limitation, all curb cut and street opening permits required for vehicular access to and from the Real Property, together with all renewals and modifications thereof.

"**Lien**" means any lien, mortgage, pledge, encumbrance, charge, security interest, adverse claim, liability, interest, charge, priority, transfer restriction (other than restrictions under the Securities Act and state securities laws), encroachment, tax, order, equitable interest, option, warrant, right of first refusal, easement, license, servitude, right of way, or zoning restriction.

"**Natural Hazard Expert**" shall have the meaning set forth in Section 4.3.

"**Obligations**" shall have the meaning set forth in Section 10.16

"**OFAC**" means the U.S. Department of the Treasury's Office of Foreign Assets Control.

"**OFAC List**" means any list of prohibited countries, individuals, organizations and entities that is administered or maintained by OFAC, including: (i) Section 1(b), (c) or (d) of Executive Order No. 13224 (September 23, 2001) issued by the President of the United States (Executive Order Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism), any related enabling legislation or any other similar executive orders; (ii) the List of Specially Designated Nationals and Blocked Persons maintained by OFAC, and/or on any other similar list maintained by OFAC pursuant to any authorizing statute, executive order or regulation; or (iii) a "Designated National" as defined in the Cuban Assets Control Regulations, 31 C.F.R. Part 515.

"**Owner's Affidavit**" shall have the meaning set forth in Section 9.3(g).

"**Patriot Act**" means the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act (USA PATRIOT ACT) of 2001, as the same was restored and amended by Uniting and Strengthening America by Fulfilling Rights and Ensuring Effective Discipline Over Monitoring Act (USA FREEDOM Act) of 2015 and as the same may be further amended, extended, replaced or otherwise modified from time to time, and any corresponding provisions of future laws.

"**Permitted Exceptions**" shall have the meaning set forth in Section 4.2.

"**Person**" means any individual, partnership, corporation, limited liability company, limited liability partnership, trust, or other entity.

"**Preliminary Report**" shall have the meaning set forth in Section 4.1.

"**Property**" means all of the Real Property, and all of Seller's right, title and interest in and to all tangible and intangible assets solely relating to the Real Property, including, without limitation, (a) all warranties, claims, and causes of action, (b) all claims and causes of action arising out of or in connection with the Real Property after the Closing Date (but excluding any claims or causes of action of Seller after the Closing arising from its rights under this Agreement or any documents to be delivered at the Closing), (c) the Licenses and Permits, (d) signage rights, utility and development rights and privileges, (e) site plans, surveys, environmental and other physical reports, plans and specifications pertaining to the foregoing, and (f) all licenses, covenants and other rights appurtenant to the Land, including, but not limited to, Seller's right, title and interest in and to all development, density and similar rights, rights-of-way, open or proposed streets, alleys, easements, strips or gores of land adjacent to, in front of, abutting, or adjoining the Land; provided, however, that "Property" shall not include the Excluded Property.

"**Purchase Price**" shall have the meaning set forth in Section 2.2(a).

"**Real Property**" means the Land, the Improvements, and the Fixtures.

"**Referee Sections**" shall have the meaning set forth in Section 10.11.

"**Reporting Person**" shall have the meaning set forth in Section 5.2(a).

"**Sanctions**" means the sanctions laws, regulations, embargoes or restrictive measures administered, enacted or enforced by any Sanctions Authority.

"**Sanctions Authority**" means each of: (i) the United States; (ii) the United Nations; (iii) the European Union; (iv) the United Kingdom; (v) Singapore; (vi) Canada; (vii) the respective governmental institutions and agencies of any of the foregoing, including, without limitation, OFAC, the United States Department of State, and Her Majesty's Treasury; and (viii) all other similar governmental bodies with regulatory authority over Buyer or its affiliates issuing, administering, enacting or enforcing economic sanctions laws, regulations, embargoes or restrictive measures of the nature set out above, from time to time.

"**Sanctioned Person**" means a Person that is: (i) the subject of Sanctions, (ii) located in or organized under the laws of a country or territory which is the subject of country-wide or territory-wide Sanctions (including without limitation Cuba, Iran, North Korea, Sudan, Syria, or the Crimea region of the Ukraine), or (iii) directly or indirectly Controlled by or under common Control with any of the foregoing.

"**Seller**" shall have the meaning set forth in the preamble.

"**Seller Control Affiliate**" means any Person that directly or indirectly Controls, is Controlled by or is under common Control with Seller, other than any Person that acquires indirect Control of Seller through the transfer of publicly-traded securities.

"**Seller Knowledge Party"** shall have the meaning set forth in Section 6.3(a).

"**Seller Parent**" shall have the meaning set forth in Section 10.16.

"**Seller Significant Owner**" means any Person that directly or indirectly holds an interest of twenty percent (20%) or more in Seller.

"**Seller's Required Removal Items**" shall have the meaning set forth in Section 4.2.

"**Service Contracts**" shall have the meaning set forth in Section 10.16.

"**SRO**" means a self-regulatory organization.

"**Survey**" means a new ALTA survey of the Land and Improvements.

"**Surviving Obligations**" shall mean any obligations of Buyer or Seller hereunder that expressly state they will survive (a) termination of this Agreement and/or (b) Closing.

"**Title Commitment**" shall have the meaning set forth in Section 4.1.

"**Title Company**" means First American Title National Commercial Services

"**Title Documents**" shall have the meaning set forth in Section 4.1.

"**Title Policy**" shall have the meaning set forth in Section 4.4.

"**Trade Fixture**" means a piece of equipment placed on the Real Property which is used in Seller's trade or business.

"**Transferor**" shall have the meaning set forth in Section 10.16.

"**Unknown Environmental Condition**" means any Hazardous Materials at, on, under or migrating to or from, or having migrated to or from, the Property as of or prior to the Closing and not a Known Environmental Condition.

"**Warranties**" shall have the meaning set forth in Section 6.1(s).

"**Warrantor**" shall have the meaning set forth in Section 8.2.

"**Warranty Assignment Package**" shall have the meaning set forth in Section 8.2.

Section 1.2 Rules of Construction. Article and section captions used in this Agreement are for convenience only and shall not affect the construction of this Agreement. All references to "Article" or "Section" without reference to a document other than this Agreement, are intended to designate articles and sections of this Agreement, and the words "herein," "hereof," "hereunder," and other words of similar import refer to this Agreement as a whole and not to any particular article or section, unless specifically designated otherwise. The use of the term "including" means in all cases "including but not limited to," unless specifically designated otherwise. No rules of construction against the drafter of this Agreement shall apply in any interpretation or enforcement of this Agreement, any documents or certificates executed pursuant hereto, or any provisions of any of the foregoing.

ARTICLE II
PURCHASE AND SALE AGREEMENT; PURCHASE PRICE

Section 2.1 Purchase and Sale Agreement. Seller agrees to sell, transfer, assign and convey to Buyer, and Buyer agrees to purchase, accept and assume, subject to the terms and conditions stated herein, all of the Property.

Section 2.2 Purchase Price.

(a) Initial Purchase Price. Buyer shall pay Seller the purchase price ("**Purchase Price**") in immediately available funds at Closing. The Purchase Price shall be equal to TWO HUNDRED FIFTY-EIGHT MILLION FOUR HUNDRED THOUSAND AND NO/100 DOLLARS ($258,400,000.00). The Purchase Price, together with such other funds as may be necessary to pay Buyer's required payments hereunder, subject to closing adjustments, shall be deposited with the Escrow Holder on or before 10:00 a.m. Pacific Time on the Closing Date in accordance with this Agreement. The Purchase Price shall be paid to Seller upon satisfaction of all conditions precedent to the Closing as described herein.

(b) Additional Purchase Price. If the BTS Closing occurs pursuant to the BTS Purchase Agreement, then the Purchase Price shall be increased by $5,000,000 (the "**Additional Purchase Price**"), such that the total Purchase Price shall be $ $263,400,000. Provided that the BTS Purchase Agreement is not terminated, Buyer shall be obligated to deposit the Additional Purchase Price with the Escrow Holder on or before 2:30 p.m. Pacific Time on the Closing Date and the Additional Purchase Price shall be held and disbursed in accordance with the APP Escrow Agreement. If the Additional Purchase Price is released to Seller in accordance with the APP Escrow Agreement, Seller and Buyer shall, for all purposes, treat the Additional Purchase Price as an adjustment to the Purchase Price including for tax purposes and shall prepare and file all tax returns, reports, and any other filings consistent with such treatment to the extent permitted by law. This Section 2.2(b) shall survive the Closing.

Section 2.3 Indivisible Economic Package. Buyer has no right to purchase, and Seller has no obligation to sell, less than all of the Property, it being the express agreement and understanding of Buyer and Seller that, as a material inducement to Seller and Buyer to enter into this Agreement, Buyer has agreed to purchase, and Seller has agreed to sell, all of the Property, subject to and in accordance with the terms and conditions hereof.

ARTICLE III
DUE DILIGENCE ITEMS

Section 3.1 Due Diligence Items.

(a) Prior to the Effective Date, Seller has delivered to Buyer, or made available to Buyer for inspection via an online due diligence data room relating to the Property (the "**Data Room**"), the items described on attached **Exhibit B** (the "**Due Diligence Items**"); provided, however, that Seller was and is not obligated to deliver any Excluded Property to Buyer or make any Excluded Property available for its review. Buyer acknowledges that any and all documents actually in such Data Room have been made available to Buyer. In addition to such items in the Data Room, Seller shall make available to Buyer (by electronic means) any such other documents in Seller's possession or control which relate to the Property, other than the Excluded Property, which Buyer shall reasonably request; provided, however, if Buyer requests information regarding the Excluded Property, then Seller shall, in good faith, consider whether it can make such information available to Buyer and make the same available to Buyer.

(b) All documents, materials, and information furnished to or made available to Buyer pursuant to this Section 3.1 are being furnished or made available to Buyer for information purposes only and without any representation or warranty by Seller with respect thereto, express or implied, except that, to Seller's knowledge, they are in all material respects true, correct and complete originals or copies of the version of such materials Seller has in its files, and except as may otherwise be expressly set forth in Article VI and elsewhere in this Agreement and any other document delivered at Closing by Seller to Buyer, and as limited by Section 6.2, and all such documents, materials, and information are expressly understood by Buyer to be subject to the confidentiality provisions of Section 3.2(e).

Section 3.2 Due Diligence Inspection.

(a) Due Diligence. The parties acknowledge and agree that Buyer had the opportunity to analyze the feasibility of its ownership, operation, and use of the Property prior to the Effective Date.

(b) Confidentiality. Buyer and Seller previously agreed that prior to the Closing Buyer and Seller were each (and Buyer was obligated to cause the Buyer Parties to) maintain in confidence all non-public information concerning the Property which Seller or its representatives disclosed or delivered to Buyer and/or the Buyer Parties, including, but not limited to, (i) any Due Diligence Items and information provided by Seller to Buyer or the Buyer Parties in the conduct of its due diligence or that was posted to the diligence website, and (ii) the results of any inspections of the Property conducted by Buyer prior to the Closing Date (collectively, the "**Confidential Information**"), and, shall not, without Seller's prior written consent, which may be withheld in Seller's sole and absolute discretion, deliver or disclose the same, or any part thereof, to any other Person or entity except as may be required by applicable law, regulation or legal process; provided, however, Buyer and Seller were able to disclose any such confidential information to its agents, attorneys, advisors, consultants, prospective lenders or investors, and employees involved in the review and inspection of the Property or as may be required by law or by any court or administrative order. For the avoidance of doubt, "Confidential Information" shall not include: (i) information already in Buyer's or any Buyer Parties' possession prior to its receipt thereof from Seller or its representative; (ii) information which is obtained by Buyer or any Buyer Parties from a third person who is not prohibited from disclosing such information to it by any contractual, legal or fiduciary obligation to Seller; (iii) information which is or becomes publicly disclosed through no fault of the Buyer or any Buyer Parties; or (iv) information which is required to be disclosed by a court of competent jurisdiction in connection with any litigation between the parties hereto. Notwithstanding the foregoing, Buyer was permitted to disclose and deliver Confidential Information to the Buyer Parties on a need to know basis. Buyer was neither allowed to use nor permit the Buyer Parties to use any of the Confidential Information for any purpose other than the evaluation of the Property and the transaction described herein. Notwithstanding anything to the contrary in this Agreement, neither Seller nor Buyer was permitted to release or permit to be released any press release or other similar communication relating to the transaction contemplated by this Agreement before the Effective Date without the prior written consent of the other party; provided that following the Effective Date and following the filing by Seller or its Affiliates of any filing required to be made by Seller or such Affiliate with the Securities and Exchange Commission with respect to the closing of the transaction, Buyer shall be permitted to issue a press release in the form attached hereto as Schedule 3.2(b). Nothing in this Section 3.2(b) shall be deemed to void, supersede, or modify any other confidentiality, nondisclosure or similar agreements entered into between Buyer and Seller prior to the Effective Date hereof. The provisions of this Section 3.2(b) shall survive the Closing.

(c) AS-IS. Buyer hereby acknowledges that except as is otherwise expressly provided in this Agreement and subject to Seller's representations and warranties expressly set forth herein, or in any other documents delivered to Buyer upon the Closing (each such document, a "**Closing Document**"), it is relying upon its own inspections, investigations and analyses of the Property in entering into this Agreement and, except as otherwise provided in this Agreement or in any Closing Document, and subject to Seller's covenants, representations and warranties expressly set forth herein and in any Closing Document, is not relying in any way upon any representations, statements, agreements, warranties, studies, reports, descriptions, guidelines or other information or material furnished by Seller or its representatives, whether oral or written, express or implied, of any nature whatsoever regarding any such matters, including, without limitation, as to the following:

(i) The condition, value, nature, or quality of the Property, including any construction on the Property and any materials or systems incorporated into the Property.

(ii) The soil, water or geology relating to the Property.

(iii) Any income to be derived from the Property.

(iv) The suitability of the Property for any activities or uses which Buyer may wish to conduct on or relating to the Property.

(v) The zoning or developability of the Property.

(vi) Compliance of the Property or its operation with any law, ordinance, rule, regulation, or the status of any permits or approvals relating to or required in connection with the Property, including without limitation the Americans with Disabilities Act, 42 U.S.C. §12101 et seq. (or any successor statute or similar state and local laws).

(vii) The presence or absence of any Hazardous Materials on or about the Property or in the vicinity of the Property or the compliance of the Property with Environmental Laws; and Buyer expressly acknowledges that the Property Documents constitute written notice to Buyer as may be required by California Health and Safety Code Section 25359.7.

Buyer specifically acknowledges and agrees that, to the extent Seller has made or in the future makes any information (including without limitation the Due Diligence Items) regarding any aspect of the Property available to Buyer, Seller has done or will be doing so only as an accommodation to Buyer and that, except as expressly provided elsewhere in this Agreement and in any Closing Document, and subject to Seller's express covenants, representations and warranties in this Agreement and the Closing Documents, Seller has not made, is not making, and shall make no representation or warranty of any nature concerning the accuracy or completeness of Seller's files or concerning the authenticity, source, accuracy or completeness of any information contained in them or furnished or to be furnished by Seller to Buyer (including without limitation the Due Diligence Items). As to certain of the materials furnished to Buyer from Seller's files, Buyer specifically acknowledges that they have been prepared by third parties with whom Seller has no privity and Buyer acknowledges and agrees that no warranty or representation, express or implied, has been made, nor shall any be deemed to have been made, to Buyer either by Seller or by any third parties that prepared the materials in question, except as otherwise provided in this Agreement and in any Closing Document and subject to Seller's express representations and warranties in this Agreement and the Closing Documents. Except as otherwise provided in this Agreement, in any Closing Document and subject to the Excluded Claims, Buyer waives any claim of any nature against Seller if any information, conclusion, projection, or other statement of any nature contained in any of those materials should prove not to be true, complete, or accurate for any reason. By its execution of this Agreement, Buyer acknowledges and agrees that a material inducement to Seller's decision to sell the Property to Buyer at the Purchase Price provided in this Agreement was Buyer's agreement to conduct its own feasibility studies and purchase the Property in an "AS-IS" condition, subject to the express covenants, representations and warranties of Seller set forth in this Agreement or in any Closing Document. Subject to the express covenants, representations and warranties of Seller set forth in this Agreement or in any Closing Document, Buyer acknowledges and agrees that it shall accept the Property in its condition as of the Closing.

(d) No Liability for Information. Buyer represents that it is a knowledgeable, experienced and sophisticated buyer of real estate, and that it is relying solely on the express representations and warranties of Seller made in this Agreement and any other Closing Document, its own expertise, and that of Buyer's consultants in purchasing the Property. ANY INFORMATION PROVIDED OR TO BE PROVIDED WITH RESPECT TO THE PROPERTY IS SOLELY FOR BUYER'S CONVENIENCE AND WAS OR WILL BE OBTAINED FROM A VARIETY OF SOURCES. SELLER HAS NOT MADE ANY INDEPENDENT INVESTIGATION OR VERIFICATION OF SUCH INFORMATION AND MAKES NO (AND EXPRESSLY DISCLAIMS ALL) REPRESENTATIONS AS TO THE ACCURACY OR COMPLETENESS OF SUCH INFORMATION (EXCEPT TO THE EXTENT EXPRESSLY SET FORTH IN THIS AGREEMENT AND THE CLOSING DOCUMENTS). EXCEPT TO THE EXTENT EXPRESSLY SET FORTH IN THIS AGREEMENT AND THE CLOSING DOCUMENTS AND THE EXCLUDED CLAIMS, SELLER SHALL NOT BE LIABLE FOR ANY MISTAKES, OMISSIONS, MISREPRESENTATION OR ANY FAILURE TO INVESTIGATE THE PROPERTY NOR SHALL SELLER BE BOUND IN ANY MANNER BY ANY VERBAL OR WRITTEN STATEMENTS, REPRESENTATIONS, APPRAISALS, ENVIRONMENTAL ASSESSMENT REPORTS, OR OTHER INFORMATION PERTAINING TO THE PROPERTY OR THE OPERATION THEREOF, FURNISHED BY (A) SELLER, (B) ANY PARTNERSHIP, LIMITED LIABILITY COMPANY, CORPORATION, TRUST OR OTHER ENTITY THAT HAS OR ACQUIRES A DIRECT OR INDIRECT INTEREST IN SELLER, (C) ANY DIRECT OR INDIRECT MEMBER, MANAGER, MANAGING MEMBER, PARTNER, ADVISOR, TRUSTEE, BENEFICIARY, DIRECTOR, OFFICER, SHAREHOLDER, EMPLOYEE, PARTICIPANT, REPRESENTATIVE OR AGENT IN OR OF SELLER OR OF ANY ENTITY THAT HAS OR ACQUIRES A DIRECT OR INDIRECT INTEREST IN SELLER, OR (D) ANY REAL ESTATE BROKER, AGENT, OR OTHER PERSON OR ENTITY ACTING ON SELLER'S BEHALF. EXCEPT TO THE EXTENT EXPRESSLY SET FORTH IN THIS AGREEMENT AND THE CLOSING DOCUMENTS, BUYER WILL ACQUIRE THE PROPERTY SOLELY ON THE BASIS OF ITS OWN PHYSICAL AND FINANCIAL EXAMINATIONS, REVIEWS AND INSPECTIONS AND THE TITLE INSURANCE PROTECTION AFFORDED BY THE TITLE POLICY. EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT OR THE CLOSING DOCUMENTS (INCLUDING, WITHOUT LIMITATION, SELLER'S REPRESENTATIONS AND WARRANTIES HEREIN AND THEREIN), SELLER SPECIFICALLY DISCLAIMS, AND NEITHER IT NOR ANY OTHER PERSON IS MAKING, ANY REPRESENTATION, WARRANTY OR ASSURANCE WHATSOEVER TO BUYER AND NO WARRANTIES OR REPRESENTATIONS OF ANY KIND OR CHARACTER, EITHER EXPRESS OR IMPLIED, ARE MADE BY SELLER OR RELIED UPON BY BUYER WITH RESPECT TO THE STATUS OF TITLE TO OR THE MAINTENANCE, REPAIR, CONDITION, DESIGN OR MARKETABILITY OF THE PROPERTY, OR ANY PORTION THEREOF, INCLUDING BUT NOT LIMITED TO (i) ANY IMPLIED OR EXPRESS WARRANTY OF MERCHANTABILITY, (ii) ANY IMPLIED OR EXPRESS WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, (iii) ANY IMPLIED OR EXPRESS WARRANTY OF CONFORMITY TO MODELS OR SAMPLES OF MATERIALS, (iv) ANY RIGHTS OF BUYER UNDER APPROPRIATE STATUTES TO CLAIM DIMINUTION OF CONSIDERATION, (v) ANY CLAIM BY BUYER FOR DAMAGES BECAUSE OF DEFECTS, WHETHER KNOWN OR UNKNOWN, WITH RESPECT TO THE IMPROVEMENTS OR THE PERSONAL PROPERTY, AND (vi) THE FINANCIAL CONDITION OR PROSPECTS OF THE PROPERTY, IT BEING THE EXPRESS INTENTION OF SELLER AND BUYER THAT, EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, THE PROPERTY WILL BE CONVEYED AND TRANSFERRED TO BUYER IN ITS PRESENT CONDITION AND STATE OF REPAIR, "AS IS" AND "WHERE IS", WITH ALL FAULTS. BUYER, WITH BUYER'S COUNSEL, HAS FULLY REVIEWED THE DISCLAIMERS, RELEASES AND WAIVERS SET FORTH IN THIS AGREEMENT, AND UNDERSTANDS THE SIGNIFICANCE AND EFFECT THEREOF. BUYER ACKNOWLEDGES AND AGREES THAT THE DISCLAIMERS, RELEASES, WAIVERS AND OTHER AGREEMENTS SET FORTH HEREIN ARE AN INTEGRAL PART OF THIS AGREEMENT, AND THAT SELLER WOULD NOT HAVE AGREED TO SELL THE PROPERTY TO BUYER FOR THE PURCHASE PRICE WITHOUT THE DISCLAIMERS, RELEASES, WAIVERS AND OTHER AGREEMENTS SET FORTH IN THIS AGREEMENT.

(e) Release by Buyer. Notwithstanding any other provisions contained herein, or in any Closing Document, to the contrary (including, without limitation, any language providing for survival of certain provisions hereof or thereof), Buyer hereby acknowledges and agrees that Seller shall, upon consummation of Closing, be deemed to have satisfied and fulfilled all of Seller's covenants, indemnities, and obligations contained in this Agreement which do not expressly survive Closing and the documents delivered pursuant hereto, and Seller shall have no further liability to Buyer or otherwise with respect to this Agreement, the Property, the transfers contemplated hereby, or any documents delivered pursuant hereto, except to the extent of any obligation or liability Seller may expressly have under this Agreement, the Closing Documents or with respect to any Excluded Claim. Except for the Excluded Claims or as otherwise provided in this Agreement or any of the Closing Documents, Buyer hereby waives its right to recover from, and fully and irrevocably releases Seller and its Indemnified Parties from any and all Claims other than the Excluded Claims that it may now have or hereafter acquire against any Seller or any of the Indemnified Parties arising from or related to any defects, errors, omissions or other conditions, latent or otherwise, affecting the Property. With respect to the release set forth in this Section 3.2, Buyer specifically waives the provision of California Civil Code Section 1542. Section 1542 provides as follows:

> "A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR OR RELEASING PARTY DOES NOT KNOW OR EXPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN TO HIM OR HER WOULD HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR OR RELEASED PARTY"

BUYER'S INITIALS: /s/ KB

(f) Excluded Claims. Notwithstanding anything to the contrary contained in this Section 3.2 or elsewhere in this Agreement, the parties acknowledge and agree that the waivers and releases by Buyer set forth in this Section 3.2 or elsewhere in this Agreement or any Closing Document shall not apply to, limit or affect, and the released Claims shall expressly not include, any Claims resulting or arising from any of the following (each, an "**Excluded Claim**") (i) a breach of any representation or warranty of Seller set forth in this Agreement or any of the Closing Documents, (ii) Seller's fraud or intentional misrepresentation, (iii) third party tort claims arising prior to the Closing Date, (iv) the Surviving Obligations of Seller including all of Seller's indemnity obligations set forth in this Agreement, or (v) obligations or matters under the Buyer-Seller Lease.

(g) Survival. The provisions of Sections 3.2(e)-(f) shall survive the Closing or any earlier termination of this Agreement and delivery of the Deed.

ARTICLE IV
TITLE AND SURVEY

Section 4.1 **Title to Real Property**. Buyer obtained (a) a commitment to issue an owner's policy of title insurance with respect to the Property issued by the Title Company in favor of Buyer (the "**Title Commitment**"), and (b) copies of all documents referred to on Schedule B of the Title Commitment as exceptions to coverage (the "**Title Documents**"). Buyer hereby acknowledges that it has received a preliminary title report ("**Preliminary Report**") with respect to the Property.

Section 4.2 **Objections and Certain Exceptions to Title**. Buyer agrees to accept title to the Real Property at Closing subject to the exceptions set forth on **Exhibit D** (the "**Permitted Exceptions**"). Notwithstanding anything to the contrary in this Agreement, Seller will be obligated to remove or cure on or before the Closing, in each case, exceptions to title to the Property which are (a) any mortgage liens or other monetary liens affecting the Property (except to the extent created by or arising from the acts or omissions of a Buyer Party), (b) mechanics' liens, materialmen's liens and claims of liens for labor materials furnished or supplied to the Property or any portion thereof by or on behalf of Seller or its property manager (if applicable), affecting the Property (except to the extent created by or arising from the intentional acts or omissions of a Buyer Party), (c) code violations and other violations with respect to the Property that can be satisfied by payment of a liquidated amount or bonding, (d) encumbrances that have been placed against the Property by, through or under Seller after the date of this Agreement without Buyer's prior written consent, (e) so called "standard" exceptions that can be removed from the Title Policy by Seller's delivery of the Owner's Affidavit, (f) tax liens for real property taxes and assessments which are due and payable or any judgment liens, and (g) any other voluntary or involuntary liens or utility liens created or suffered by Seller (not otherwise covered by clauses (a)-(f)) capable of being cleared from title by the payment of a sum certain (the liens described in clauses (a) through (g) are collectively referred to as, "**Seller's Required Removal Items**"). Except with respect to Seller's Required Removal Items, Seller shall have no obligation whatsoever to expend or agree to expend any funds, to undertake or agree to undertake any obligations or otherwise to cure or agree to cure any title objections.

Section 4.3 **Natural Hazard Expert**. Buyer and Seller acknowledge that Seller is required to disclose if any portion of the Property lies within a natural hazard area or zone. Buyer and Seller agree that Seller may employ the services of Escrow Holder, a company recommended by Escrow Holder, or an affiliate of Escrow Holder (as so employed, the "**Natural Hazard Expert**") to examine the maps and other information specifically made available to the public by government agencies for the purposes of enabling Seller to fulfill its disclosure obligations with respect to the natural hazards referred to above and to report the results of its examination to Buyer and Seller in writing. Prior to the Effective Date, Seller, at its sole cost and expense, provided Buyer with a Natural Hazard Disclosure Statement prepared by a Natural Hazard Expert.

Section 4.4 **Title Insurance**. At Closing, and as a condition thereto for Buyer's benefit, the Title Company shall issue to Buyer or be irrevocably committed to issue to Buyer a standard coverage ALTA owner's form title policy in the form of the Pro Forma (the "**Title Policy**"), in the amount of the Purchase Price, insuring that fee simple title to the Real Property is vested in Buyer subject only to the Permitted Exceptions.

ARTICLE V
ESCROW INSTRUCTIONS

Section 5.1 Escrow Instructions. The Escrow Holder joins in this Agreement to evidence its agreement to act in accordance with the terms and conditions of this Agreement. Further, the following provisions shall control with respect to the rights, duties, and liabilities of the Escrow Holder.

(a) The Escrow Holder acts hereunder as a depository only and is not responsible or liable in any manner whatsoever for the (i) sufficiency, correctness, genuineness, or validity of any written instrument, notice or evidence of a party's receipt of any instruction or notice which is received by the Escrow Holder, or (ii) identity or authority of any person executing such instruction notice or evidence.

(b) The Escrow Holder shall have no responsibility hereunder except for the performance by it in good faith of the acts to be performed by it hereunder, and the Escrow Holder shall have no liability except for its own willful misconduct or gross negligence.

(c) The Escrow Holder shall be reimbursed on an equal basis by Buyer and Seller for any reasonable expenses incurred by the Escrow Holder arising from a dispute with respect to the amount held in escrow, including the cost of any reasonable, out of pocket legal expenses and court costs incurred by the Escrow Holder, should the Escrow Holder deem it necessary to retain an attorney with respect to the disposition of the amount held in escrow.

(d) In the event of a dispute between the parties hereto with respect to the disposition of the amount held in escrow, the Escrow Holder shall be entitled, at its own discretion, to deliver such amount to an appropriate court of law pending resolution of the dispute.

(e) The Escrow Holder shall invest the amount in escrow in accounts which are federally insured, or which invest solely in government securities and shall belong to Buyer. Interest earned thereon shall be added to the funds deposited by Buyer.

Section 5.2 Designation of Reporting Person. In order to assure compliance with the requirements of Section 6045 of the Internal Revenue Code of 1986, as amended (for purposes of this Section 5.2, the "**Code**"), and any related reporting requirements of the Code, the parties hereto agree as follows:

(a) Provided the Escrow Holder shall execute a statement in writing (in form and substance reasonably acceptable to the parties hereunder) pursuant to which it agrees to assume all responsibilities for information reporting required under Section 6045(e) of the Code, Seller and Buyer shall designate the Escrow Holder as the person to be responsible for all information reporting under Section 6045(e) of the Code (the "**Reporting Person**"). If the Escrow Holder refuses to execute a statement pursuant to which it agrees to be the Reporting Person, Seller and Buyer shall agree to appoint another third party as the Reporting Person.

(b) Seller and Buyer hereby agree:

(c) to provide to the Reporting Person all information and certifications regarding such party, as reasonably requested by the Reporting Person or otherwise required to be provided by a party to the transaction described herein under Section 6045 of the Code; and

(d) to provide to the Reporting Person such party's taxpayer identification number and a statement (on Internal Revenue Service Form W-9 or an acceptable substitute form, or on any other form the applicable current or future Code sections and regulations might require and/or any form requested by the Reporting Person), signed under penalties of perjury, stating that the taxpayer identification number supplied by such party to the Reporting Person is correct.

Each party hereto agrees to retain this Agreement for not less than four (4) years from the end of the calendar year in which the Closing occurred, and to produce it to the Internal Revenue Service upon a valid request therefor.

ARTICLE VI
REPRESENTATIONS AND WARRANTIES OF SELLER

Section 6.1 Representations and Warranties of Seller. Subject to the provisions of Section 6.2, Seller makes the following representations and warranties with respect to the Property:

(a) Status. Seller is a limited liability company duly organized, validly existing and in good standing under the laws of the State of Delaware and is qualified to transact business in the State of California.

(b) Authority. The execution and delivery of this Agreement (and all ancillary documents delivered pursuant hereto including, without limitation, the Closing Documents) by Seller and the performance of its obligations hereunder and thereunder have been or will be duly authorized by all necessary action on the part of Seller, and this Agreement constitutes the legal, valid, and binding obligation of Seller, subject to equitable principles and principles governing creditors' rights generally.

(c) Non-Contravention. The execution and delivery of this Agreement by Seller and the consummation of the transactions by Seller contemplated hereby or in the other Closing Documents will not (i) violate any judgment, order, injunction, decree, regulation or ruling of any court or Governmental Entity, or (ii) conflict with, result in a breach of, or constitute a default under the organizational documents (including any amendments thereto) of Seller, any note or other evidence of indebtedness, any mortgage, deed of trust or indenture, or any lease or other material agreement or instrument to which Seller is a party or by which Seller may be bound.

(d) Suits and Proceedings. Except as set forth on attached **Exhibit C**, there are no legal actions, suits or similar proceedings at law, in equity, or otherwise pending and served or threatened in writing against Seller (with respect to the Property, as opposed to actions against Seller as a going concern) or the Property which would be reasonably likely to adversely affect, individually or in the aggregate, (i) the ability of Seller to perform its obligations hereunder, or (ii) the ownership or operation of the Property.

(e) Non-Foreign Entity. Seller is not a "foreign person" or "foreign corporation" as those terms are defined in the Internal Revenue Code of 1986, as amended, and the regulations promulgated thereunder.

(f) Consents. No consent, waiver, approval, or authorization is required from any Person (that has not already been obtained) in connection with the execution and delivery of this Agreement by Seller or the performance by Seller of the transactions contemplated hereby.

(g) Condemnation. Seller has no knowledge of and has not received any written notice of any pending or contemplated condemnation or action in eminent domain from a Governmental Entity with respect to all or part of the Property.

(h) Bankruptcy. Seller has not (i) commenced a voluntary case, or had entered against it a petition, for relief under any federal bankruptcy act or any similar petition, order or decree under any federal or state law or statute relative to bankruptcy, insolvency or other relief for debtors, (ii) caused, suffered or consented to the appointment of a receiver, trustee, administrator, conservator, liquidator or similar official in any federal, state or foreign judicial or non-judicial proceedings, to hold, administer and/or liquidate all or substantially all of its property, or (iii) made an assignment for the benefit of creditors.

(i) Governmental Notices. Except as set forth on attached **Exhibit C** or included in the Due Diligence Items made available on or prior to the Effective Date, Seller has no knowledge of and has not received written notice from any Governmental Entity of (i) any pending or threatened zoning, building, fire, or health code violations or violations of other governmental requirements, laws, policies or regulations with respect to the Property that have not previously been corrected, (ii) violations with respect to the Title Documents that have not previously been corrected, or (iii) violation of any applicable laws, ordinances, rules, requirements, regulations or codes of any governmental agency, body or subdivision thereof bearing on the Property.

(j) Contracts. Except as set forth on attached **Exhibit C** and any agreements expressly disclosed as exceptions on the Title Commitment (collectively, the "**Contracts**"), there are no property management contracts, real property service contracts, construction contracts, reciprocal easement agreements, or any other contracts related to the leasing, subleasing, ownership, operation, maintenance, construction or development of any part of the Real Property to which Seller is a party, or, to Seller's knowledge, to which any other Person is a party, which would be binding on Buyer or otherwise will affect the Property after Closing. Seller has provided Buyer with true, correct, and complete copies (including all amendments thereto) of the Contracts. Seller is not in default under the Contracts or the other agreements disclosed in the Title Commitment, and, to Seller's knowledge and except as set forth on attached **Exhibit C** or included in the Due Diligence Items made available prior to the Effective Date, no other party is in default under the Contracts or the other agreements disclosed in the Title Commitment, and no event has occurred which, with the giving of notice or passage of time or both, would constitute a default under the Contracts or the other agreements disclosed in the Title Commitment.

(k) Leases. Other than the Buyer-Seller Lease to be entered into at Closing, there are no Leases in effect granting any party the right to use or occupy any portion of the Property.

(l) Environmental. Except as set forth on attached **Exhibit C** or included in the Due Diligence Items made available on or prior to the Effective Date, Seller represents that Seller has not received written notice of nor is Seller actually aware of: (i) any actual or alleged violation of, or obligations or liability under, any applicable Environmental Laws with respect to the Property or operation at the Property; (ii) any existing, pending, anticipated, or threatened investigation of or pending, anticipated or threatened claims against Seller or the Property by any Governmental Entity or third party; (iii) the presence of Hazardous Materials on, under, above or emanating to or from, or having emanated to or from the Property or, to Seller's knowledge, in the vicinity of the Property; (iv) any remedial obligations with respect to Seller or the Property under any Environmental Laws; (v) any Known Environmental Condition or Unknown Environmental Condition; (vi) any noncompliance, anticipated noncompliance, or threatened noncompliance of the Property or its operation with any Environmental Law, including any Permits or Licenses; or (vii) any Permits or Licenses required with respect to the Property or operation at the Property. Seller has delivered or otherwise made available all material and final reports and correspondence with Governmental Entities in Seller's possession or control relating to the environmental condition of the Property.

(m) Anti-Money Laundering, Anti-Terrorism and Sanctions Laws.

(i) Seller is aware of, and acknowledges its obligations under, the Anti-Corruption Laws and Anti-Money Laundering, Anti-Terrorism and Sanctions Laws.

(ii) At all times while this Agreement is in effect, Seller shall comply with all applicable Anti-Corruption, Anti-Terrorism, Anti-Money Laundering and Sanctions Laws. Without limiting the foregoing, Seller covenants that it shall not use any amounts paid pursuant to this Agreement to lend, contribute or otherwise make available such proceeds to any Sanctioned Person or for any use in violation of applicable Anti-Corruption, Anti-Terrorism, Anti-Money Laundering or any Sanctions Laws.

(iii) Seller maintains, and covenants to continue to maintain during the term of this Agreement, compliance policies, procedures and internal controls designed to ensure compliance with applicable Anti-Corruption, Anti-Terrorism, Anti-Money Laundering and Sanctions Laws.

(iv) Neither Seller, any Seller Control Affiliate or, to Seller's knowledge, any Seller Significant Owner or Seller Representative: (i) is listed on any Government/Sanctions List; (ii) is a Sanctioned Person or otherwise the subject of any Sanctions; (iii) is or has been the subject of any investigation relating to Sanctions; (iv) has been found by a Sanctions Authority to have been engaged in sanctionable conduct under any Sanctions; (v) has directly or indirectly conducted, conducts or is otherwise involved with any business with or involving any sanctioned government (or any sub-division thereof), or any Person that is the subject of Sanctions or is located in any country that is the subject of Sanctions; (vi) directly or indirectly supports or facilitates, or plans to support or facilitate or otherwise become involved with, any such Person, government, entity or project; or (vii) has taken or failed to take any action that would cause it to be in non-compliance with any Anti-Corruption, Anti-Terrorism, Anti-Money Laundering or Sanctions Laws;

(v) No action, suit, investigation or proceeding relating to any Anti-Corruption, Anti-Terrorism, Anti-Money Laundering, or Sanctions Laws involving Seller or any Seller Control Affiliate is pending or, to Seller's knowledge, threatened. To Seller's knowledge, no action, suit, investigation or proceeding relating to any Anti-Corruption, Anti-Terrorism, Anti-Money Laundering, or Sanctions Laws involving any Seller Significant Owner or any Seller Representative is pending or threatened;

(n) Due Diligence Items. The Due Diligence Items delivered to Buyer are in all material respects true, correct and complete originals or copies of the versions of the Due Diligence Items. Seller has not received written notice from any Person that any information in the Due Diligence Items is not true, accurate or complete. To Seller's knowledge, Seller has delivered or made available to Buyer all of the Due Diligence Items in its possession or control that could be reasonably expected to have a material effect on the operations, use, condition, or value of the Property.

(o) Personal Property. The Fixtures are owned by Seller, will be free and clear of all Liens as of the Closing and all of the Fixtures are in good working condition and order.

(p) Tax Appeals. Seller has not filed any tax certiorari or other appeals with respect to the Property which remain outstanding.

(q) ROFOs/ROFRs. Neither Seller nor its direct or indirect owners have granted any outstanding exclusive negotiation period, purchase option, right of first refusal to purchase, right of first offer to purchase or similar right to purchase in connection with all or any portion of the Property (or any direct or indirect interests therein [other than with respect to indirect interests constituting publicly-traded securities]), except in favor of Buyer.

(r) Defaults. Seller is not in default and, to Seller's knowledge, no other party is in default under any declaration or covenant recorded against title to the Property, and no event has occurred which, with the giving of notice or passage of time or both, would constitute a default thereunder.

(s) Warranties. Attached hereto as Exhibit E is a true, complete, correct and complete list of all material warranties or guaranties issued in connection with the development, construction, operation, maintenance or repair of the Property, and all amendments and modifications thereto, which are currently in effect (collectively, the "**Warranties**"). True and correct copies of all of the Warranties have been delivered to Buyer. To Seller's knowledge, the Warranties are in full force and effect.

(t) Seller Knowledge Party. Seller represents and warrants that the Seller Knowledge Party is the most knowledgeable employee of Seller with respect to (i) the representations and warranties made by Seller under this Agreement, (ii) the Property, and (iii) the transaction contemplated by this Agreement.

Section 6.2 Limited Liability. The representations and warranties of Seller set forth in Section 6.1 of this Agreement will survive the Closing for a period expiring on the date that is nine (9) months after the Closing (unless Buyer has given written notice to Seller of a breach of any such representation or warranty (specifying the specific claim and breach) prior to the expiration of the nine (9) month period following Closing, in which event Buyer's right to recover amounts from Seller for such noticed breach of a representation or warranty shall survive such period). Buyer will not have any right to bring any action against Seller as a result of any untruth or inaccuracy of such representations and warranties unless and until the aggregate amount of all liability and losses arising out of any such untruth or inaccuracy exceeds One Hundred Thousand and 00/100 Dollars $100,000.00 (the "**Basket**") in which event Buyer may claim indemnification for the full amount of such claim(s) up to the Indemnification Cap (as defined below), and Seller's liability for any untruth or inaccuracy of such representations and warranties shall not exceed, in the aggregate, one percent (1%) of the Purchase Price (the "**Indemnification Cap**"); it being understood and agreed, however, that such Basket and Indemnification Cap shall not apply to and shall expressly exclude Seller's liabilities under Section 9.5 (Prorations and Closing Costs), Section 9.6 (Brokers) and Section 9.8 (Tax Protests; Tax Refunds and Credits). Seller shall have no liability with respect to any of Seller's representations, warranties and covenants herein if, prior to the Closing, Buyer is "deemed to know" of such breach of a representation, warranty or covenant of Seller herein and Buyer nevertheless consummates the transaction contemplated by this Agreement. Buyer shall be "deemed to know" of such a breach if: (i) it is disclosed in this Agreement or any Exhibit or Schedule hereto; (ii) it is disclosed in the Due Diligence Items or other information that is in the Data Room not less than two (2) business days before the Closing; (iii) it is disclosed in any written reports obtained by Buyer before the Closing; or (iv) it is within the actual knowledge of the Buyer Designated Person (as hereinafter defined) before the Closing. The provisions of this Section 6.2 shall survive the Closing or any earlier termination of this Agreement and delivery of the Deed.

Section 6.3 Knowledge Parties.

(a) If a representation, warranty or other statement is made in this Agreement or in any document or instrument to be delivered at Closing pursuant to this Agreement, on the basis of the "knowledge," "actual knowledge" or "best of knowledge" (or similar phrases) of Seller then such representation, warranty or other statement is made based on the actual, current, conscious express awareness of facts or other information of Elizabeth L. Hougen ("**Seller Knowledge Party**"), as distinguished from implied, imputed and/or constructive knowledge, as of the Effective Date, and without undertaking any special inquiry or investigation by such person(s). Seller is not under a duty of inquiry or investigation in order to make any such representation, warranty, or other statement.

(b) If a representation, warranty or other statement is made in this Agreement or in any document or instrument to be delivered at Closing pursuant to this Agreement, on the basis of the "knowledge," "actual knowledge" or "best of knowledge" (or similar phrases) of Buyer then such representation, warranty or other statement is made based on the actual, current, conscious express awareness of facts or other information of Tycho Suter ("**Buyer Designated Person**"), as distinguished from implied, imputed and/or constructive knowledge, as of the Effective Date and as of any time thereafter up to and including the Closing, and without undertaking any special inquiry or investigation by such person(s). Buyer represents and warrants to Seller that such individuals are the persons most knowledgeable in connection with the representations and warranties made by Buyer under this Agreement. Buyer is not under a duty of inquiry or investigation in order to make any such representation, warranty, or other statement.

Section 6.4 Liability of Representations and Warranties. The parties acknowledge that the individuals named above are named solely for the purpose of defining and narrowing the scope of Seller's and Buyer's knowledge, as applicable, and not for the purpose of imposing any liability on or creating any duties running from such individuals to the counterparty under this Agreement, as applicable. Each of Seller and Buyer covenants that it will bring no action of any kind against such individuals, as applicable, or related to or arising out of these representations and warranties.

ARTICLE VII
REPRESENTATIONS AND WARRANTIES OF BUYER

Section 7.1 Buyer's Representations and Warranties. Buyer represents and warrants to Seller the following:

(a) Status. Buyer is a limited liability company duly organized or formed, validly existing and in good standing under the laws of the State of Delaware and is qualified to transact business in the State of California.

(b) Authority. The execution and delivery of this Agreement and the performance of Buyer's obligations hereunder have been or will be duly authorized by all necessary action on the part of Buyer and this Agreement constitutes the legal, valid, and binding obligation of Buyer, subject to equitable principles and principles governing creditors' rights generally.

(c) Non-Contravention. The execution and delivery of this Agreement by Buyer and the consummation by Buyer of the transactions contemplated hereby will not violate any judgment, order, injunction, decree, regulation or ruling of any court or Governmental Entity or conflict with, result in a breach of, or constitute a default under the organizational documents (including any amendments thereto) of Buyer, any note or other evidence of indebtedness, any mortgage, deed of trust or indenture, or any lease or other material agreement or instrument to which Buyer is a party or by which it is bound.

(d) Consents. No consent, waiver, approval, or authorization is required from any Person (that has not already been obtained or, in the case of authorization by Buyer and its direct and indirect members, will be obtained prior to the Closing) in connection with the execution and delivery of this Agreement by Buyer or the performance by Buyer of the transactions contemplated hereby.

(e) Bankruptcy. Buyer has not (i) commenced a voluntary case, or had entered against it a petition, for relief under any federal bankruptcy act or any similar petition, order or decree under any federal or state law or statute relative to bankruptcy, insolvency or other relief for debtors, (ii) caused, suffered or consented to the appointment of a receiver, trustee, administrator, conservator, liquidator or similar official in any federal, state or foreign judicial or non-judicial proceeding, to hold, administer and/or liquidate all or substantially all of its property, or (iii) made an assignment for the benefit of creditors.

(f) Patriot Act. Buyer is in compliance with all applicable anti-money laundering and anti-terrorist laws, regulations, rules, executive orders and government guidance, including the reporting, record keeping and compliance requirements of the Bank Secrecy Act, as amended by The International Money Laundering Abatement and Financial Anti-Terrorism Act of 2001, Title III of the Patriot Act, and other authorizing statutes, executive orders and regulations administered by OFAC, and related Securities and Exchange Commission, SRO or other agency rules and regulations, and has policies, procedures, internal controls and systems that are reasonably designed to ensure such compliance.

(g) OFAC. None of: (i) Buyer, any direct Affiliate of Buyer nor any Person controlled by Buyer; nor (ii) any Person who owns a controlling interest in or otherwise controls Buyer; nor (iii) to the best of knowledge of Buyer, after making due inquiry, if Buyer is a privately held entity, any Person otherwise having a direct or indirect beneficial interest (other than with respect to an interest in a publicly traded entity or beneficiaries of a pension plan that holds indirect interests in Buyer) in Buyer; nor (iv) any Person for whom Buyer is acting as agent or nominee in connection with this investment, is a country, territory, Person, organization, or entity named on an OFAC List, nor is a prohibited country, territory, Person, organization, or entity under any economic sanctions program administered or maintained by OFAC.

ARTICLE VIII
OPERATING COVENANTS

Section 8.1 Buyer-Seller Lease. The parties acknowledge and agree that, pursuant and subject to the terms of the Buyer-Seller Lease, Seller, as tenant thereunder, shall occupy the Property from and after Closing without interruption. Seller shall have no obligation to remove any personal property or otherwise vacate or discontinue use of the Property upon or after Closing, or to make repairs or improvements to the Property before, upon or following Closing, except as expressly provided in this Agreement or in the Buyer-Seller Lease.

Section 8.2 Warranty Transfer. With respect to any Warranties in effect on the Closing Date, Seller shall: (i) deliver written notice to any party ("**Warrantor**") that is liable for each Warranty that is being assigned to Buyer pursuant to this Agreement that such Warranty is being assigned, (ii) use commercially reasonable efforts to cause the Warrantor to deliver to Seller all forms and other requirements for the assignment of the Warranty, if any ("**Warranty Assignment Package**"), and (iii) execute the necessary documents in the Warranty Assignment Package and take any other actions that are reasonably necessary to assign the respective Warranty in accordance with the procedures of the respective Warrantor. To the extent that any Warranty is not transferred to Buyer at the Closing as aforesaid, such failure shall not be deemed a default by Seller of this Agreement or otherwise entitle Buyer to terminate this Agreement, but Seller shall continue to use commercially reasonable efforts following the Closing to take actions reasonably necessary to assign the respective Warranty to Buyer and shall enforce any such Warranty on Buyer's behalf at the direction of Buyer. This Section 8.2 shall survive the Closing.

ARTICLE IX
CLOSING

Section 9.1 Escrow Instructions. Upon execution of this Agreement, the parties hereto shall deposit an executed counterpart of this Agreement with the Escrow Holder, and this Agreement shall serve as escrow instructions to the Escrow Holder as the escrow holder for consummation of the purchase and sale contemplated hereby. Seller and Buyer agree to execute such reasonable additional and supplementary escrow instructions as may be appropriate to enable the Escrow Holder to comply with the terms of this Agreement; provided, however, that in the event of any conflict between the provisions of this Agreement and any supplementary escrow instructions, the terms of this Agreement shall control.

Section 9.2 Closing. The closing hereunder ("**Closing**" or "**Close of Escrow**") shall be held and delivery of all items to be made at the Closing under the terms of this Agreement shall be made through escrow at Escrow Holder's office on the Closing Date. Prior to the Effective Date, Buyer requested that the Escrow Holder prepare and deliver to Buyer and Seller a preliminary closing statement (the "**Closing Statement**"). On the Closing Date, Buyer shall deposit in escrow with the Escrow Holder the Purchase Price (subject to adjustments described in Section 9.5), together with all other costs and amounts to be paid by Buyer at the Closing pursuant to the terms of this Agreement, by Federal Reserve wire transfer of immediately available funds to an account to be designated by the Escrow Holder. No later than 11:00 a.m. Pacific Time on the Closing Date and provided all conditions to Closing set forth in Section 9.2 have been satisfied, or waived or deemed waived by Buyer, (A) Buyer and Seller will authorize the Escrow Holder to (i) pay to Seller by Federal Reserve wire transfer of immediately available funds to an account designated by Seller, the Purchase Price (subject to adjustments described in Section 9.5, less any costs or other amounts to be paid by Seller at Closing pursuant to the terms of this Agreement and the Closing Statement, and (ii) pay all appropriate payees the other costs and amounts to be paid by Buyer at Closing pursuant to the terms of this Agreement, and (iii) record the Deed and distribute fully-executed copies of all Closing Documents to each of Buyer and Seller, and (B) to otherwise pay to the appropriate payees out of the proceeds of Closing payable to Seller all costs and amounts to be paid by Seller at Closing pursuant to the terms of this Agreement.

Section 9.3 Seller's Closing Documents and Other Items. At or before Closing, Seller shall deposit into escrow the following items:

(a) a duly executed and acknowledged Grant Deed in the form of attached **Exhibit F** (the "**Deed**");

(b) two (2) duly executed counterparts of the Buyer-Seller Lease, one (1) duly executed and acknowledged counterpart of a memorandum of the Buyer-Seller Lease and at least one (1) original of any other agreements, documents or instruments contemplated by the Buyer-Seller Lease to be executed and delivered by Seller, as tenant, in connection therewith;

(c) an executed California Form 593 Real Estate Withholding Certificate;

(d) two (2) duly executed counterparts of a Bill of Sale and Assignment and Assumption Agreement in the form of attached **Exhibit H** (the "**Assignment**");

(e) an affidavit pursuant to Section 1445(b)(2) of the Code, on which Buyer is entitled to rely, that Seller (or, if Seller is a disregarded entity for federal income tax purposes, the person treated as the owner of the Property for such purposes) is not a "foreign person" within the meaning of Section 1445(f)(3) of the Code in the form attached as **Exhibit L** ("**FIRPTA Certificate**");

(f) documentation to establish to the Title Company's satisfaction the due authority of Seller's disposition of the Property and Seller's delivery of the documents required to be delivered by Seller pursuant to this Agreement (including, but not limited to, the organizational documents of Seller, as they may have been amended from time to time, resolutions of Seller and incumbency certificates of Seller);

(g) a duly executed title affidavit in the form of **Exhibit K** (the "**Owner's Affidavit**");

(h) any consents then-obtained by Seller in order to transfer the Warranties to Buyer, subject to Section 8.2 above;

(i) a counterpart signature to the Closing Statement executed by Seller; and

(j) such other documents as may be reasonably required by the Title Company or as may be agreed upon by Seller and Buyer to consummate the purchase of the Property as expressly contemplated by this Agreement.

Section 9.4 Buyer's Closing Documents and Other Items. At or before Closing, Buyer shall deposit into escrow the following items:

(a) the balance of the Purchase Price, subject to prorations and adjustments set forth in this Agreement, and such additional funds as are necessary to close this transaction;

(b) two (2) duly executed counterparts of the Buyer-Seller Lease, one (1) duly executed and acknowledged counterpart of a memorandum of the Buyer-Seller Lease and at least one (1) original of any other agreements, documents or instruments contemplated by the Buyer-Seller Lease to be executed and delivered by Buyer, as landlord, in connection therewith;

(c) two (2) duly executed counterparts of the Bill of Sale and Assignment;

(d) documentation to establish to Title Company's reasonable satisfaction the due authority of Buyer's acquisition of the Property and Buyer's delivery of the documents required to be delivered by Buyer pursuant to this Agreement (including, but not limited to, the organizational documents of Buyer, as they may have been amended from time to time, resolutions of Buyer and incumbency certificates of Buyer);

(e) a counterpart signature to the Closing Statement executed by Buyer;

(f) a duly completed and signed Preliminary Change of Ownership Report (pursuant to California Revenue & Taxation Code Section 480.3) for the Property; and

(g) such other documents as may be reasonably required by the Title Company or as may be agreed upon by Seller and Buyer to consummate the purchase of the Property as contemplated by this Agreement.

Section 9.5 Prorations and Closing Costs.

(a) Real estate and personal property taxes, utilities and all other proratable items shall remain the responsibility of Seller pursuant to the Buyer-Seller Lease and all payments of the same that may be due and payable as of Closing shall remain Seller's responsibility; provided, however, that solely for accounting purposes, all such proratable items paid by Seller upon Closing but attributable to amounts accruing on and after of 12:01 a.m. Pacific Time on the Closing Date shall be credited to Seller's obligation to pay such expenses as the "tenant" under the Buyer-Seller Lease.

(b) Seller shall pay (a) one-half (1/2) of Escrow Holder's escrow fee, (b) the document-drafting and recording charges for the Deed, (c) all city and county documentary transfer taxes required by law, (d) the costs for all title insurance search fees and commitment fees, and all premiums for the Title Policy and costs of any curative endorsements to remove certain disapproved title matters thereto, and (e) the cost of any Seller's Required Removal Items. Buyer shall pay (i) one-half (1/2) of Escrow Holder's escrow fee, (ii) all document-drafting and recording charges for any loan documents for Buyer, (iii) the cost of all third party studies and reports obtained by Buyer in connection with Buyer's inspections and investigation, (iv) the cost for any Title Policy endorsements requested by Buyer, and (v) any other costs customarily charged Buyers in the City of Carlsbad. All other closing costs shall be allocated as is customary in the City of Carlsbad. Except as expressly set forth otherwise in this Agreement, each Party shall pay its own legal fees.

Section 9.6 Brokers. Buyer and Seller covenant and represent to each other that, to their knowledge, there is no party entitled to a real estate commission, finder's fee, cooperation fee, or other brokerage-type fee or similar compensation in connection with this Agreement and the transactions contemplated hereby other than CBRE, Inc. Each party agrees to defend, indemnify, and hold the other party, its employees, representatives and agents safe and harmless from and against any and all such Claims from any other broker, agent, individual or entity claiming by or though the indemnifying party.

Section 9.7 Expenses. Except as provided in Section 9.5 and Section 9.6, each party hereto shall pay its own expenses incurred in connection with this Agreement and the transactions contemplated hereby, including, without limitation in the case of Buyer, all third-party engineering and environmental review costs and all other due diligence costs.

Section 9.8 Tax Protests; Tax Refunds and Credits. Seller shall have the right to control the progress of and to make all decisions with respect to any contest of the real estate taxes and personal property taxes for the Real Property due and payable during all tax years through and including the tax year in which the Closing occurs (the "**Closing Tax Year**"); provided Seller shall keep Buyer fully informed regarding the status of any contest with respect to the taxes attributable to such period. To the extent any real estate or personal property tax refunds or credits are received after Closing with respect to the Property and such refunds or credits are attributable to real estate and personal property taxes paid for any tax year prior to and including the Closing Tax Year, Seller shall be entitled to the entirety of such refunds and credits. Any contest of the real estate taxes and personal property taxes for the Property due and payable for all years subsequent to the Closing Tax Year, and any real estate or personal property tax refunds or credits attributable to such period, shall be governed by the terms of the Buyer-Seller Lease.

ARTICLE X
MISCELLANEOUS

(a) **Amendment and Modification**. Subject to applicable law, this Agreement may be amended, modified, or supplemented only by a written agreement signed by the party against whom enforcement is sought.

(b) **Notices**. All notices required or permitted hereunder shall be in writing and shall be served on the parties at the following address(es):

If to Seller:	Ionis Pharmaceuticals, Inc. 2855 Gazelle Ct. Attention: General Counsel Email: [***]
with a copy to:	Cooley LLP 4401 Eastgate Mall San Diego, CA 92121 Attention: David Crawford Email: [***]
If to Buyer:	c/o Oxford Properties Group 125 Summer Street, 12th Floor Boston, MA 02110 Attn: Kristen Binck Email: [***]
With a copy to:	c/o Oxford Properties Group 450 Park Avenue, 9th Floor New York, NY 10022 Attn: Legal Department Email: [***]
With a copy to:	DLA Piper LLP (US) 33 Arch Street, 26th Floor Boston, MA 02110 Attn: John L. Sullivan, Esq. Email: [***]
If to Escrow Holder:	First American Title Insurance Company 4380 La Jolla Drive Suite 110 San Diego, CA 92122 Attn: [***]

Any such notices may be sent by (a) certified mail, return receipt requested, in which case notice shall be deemed delivered upon actual or attempted but refused delivery, (b) a nationally recognized overnight courier, in which case notice shall be deemed delivered upon actual or attempted but refused delivery, (c) personal delivery, in which case notice shall be deemed delivered upon actual or attempted but refused delivery, or (d) Email transmission. The above addresses and Email addresses may be changed by written notice to the other party; provided that no notice of a change of address or Email address shall be effective until actual receipt of such notice.

Section 10.2 Successors and Assigns. This Agreement will be binding upon and inure to the benefit of Seller and Buyer and their respective successors and assigns, and no other party will be conferred any rights by virtue of this Agreement or be entitled to enforce any of the provisions hereof. Whenever a reference is made in this Agreement to Seller or Buyer, such reference will include the successors and permitted assigns of such party under this Agreement.

Section 10.3 Governing Law and Consent to Jurisdiction. **THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF CALIFORNIA, WITHOUT REGARD TO ANY OTHERWISE APPLICABLE PRINCIPLES OF CONFLICTS OF LAWS. ANY ACTION ARISING OUT OF THIS AGREEMENT MUST BE COMMENCED BY BUYER OR SELLER IN THE STATE COURTS OF THE STATE OF CALIFORNIA OR IN U.S. FEDERAL COURTS HAVING JURISDICTION OVER THE STATE OF CALIFORNIA AND EACH PARTY HEREBY CONSENTS TO THE JURISDICTION OF THE ABOVE COURTS IN ANY SUCH ACTION AND TO THE LAYING OF VENUE IN THE STATE OF CALIFORNIA**.

Section 10.4 Counterparts; Electronic Signatures. This Agreement may be executed in counterparts, each of which shall be deemed an original, but such counterparts, when taken together, shall constitute one agreement. This Agreement may be executed by a Party's signature transmitted by email, and copies of this Agreement executed and delivered by means of emailed signatures shall have the same force and effect as copies hereof executed and delivered with original signatures. All parties hereto may rely upon emailed signatures (including signatures in Portable Document Format) as if such signatures were originals. All parties hereto agree that an emailed signature page may be introduced into evidence in any proceeding arising out of or related to this Agreement as if it were an original signature page.

Section 10.5 Entire Agreement. This Agreement and any other document (including, without limitation, non-disclosure agreements executed by Buyer and/or its Affiliates, investors, and other related parties with respect to the transactions contemplated by this Agreement) to be furnished pursuant to the provisions hereof embody the entire agreement and understanding of the parties hereto as to the subject matter contained herein. There are no restrictions, promises, representations, warranties, covenants, or undertakings other than those expressly set forth or referred to in such documents. This Agreement and such documents (including, without limitation, non-disclosure agreements executed by Buyer and/or its Affiliates, investors, and other related parties with respect to the transactions contemplated by this Agreement) supersede all prior agreements and understandings among the parties with respect to the subject matter hereof.

Section 10.6 Severability. Any term or provision of this Agreement that is invalid or unenforceable in any jurisdiction will, as to such jurisdiction, be ineffective to the extent of such invalidity or unenforceability without rendering invalid or unenforceable the remaining terms and provisions of this Agreement or affecting the validity or enforceability of any of the terms or provisions of this Agreement.

Section 10.7 Attorney Fees. If any action is brought by any party to this Agreement to enforce or interpret its terms or provisions, the prevailing party (whether by final judgment or out of court settlement) will be entitled to reasonable out of pocket third-party attorney fees and costs and expenses of suit incurred in connection with such action prior to and at trial and on any appeal therefrom. Any judgment or order entered in any final judgment shall contain a specific provision providing for the recovery of all costs and expenses of suit, including reasonable out of pocket third-party attorneys' fees (collectively "**Costs**") incurred in enforcing, perfecting and executing such judgment. For the purposes of this paragraph, Costs shall include, without limitation, reasonable out of pocket third-party attorneys' fees, costs and expenses incurred in (i) post-judgment motions, (ii) contempt proceeding, (iii) garnishment, levy, and debtor and third party examination, (iv) discovery, and (v) bankruptcy litigation.

Section 10.8 Payment of Fees and Expenses. Each party to this Agreement will be responsible for, and will pay, all of its own fees and expenses, including those of its counsel and accountants, incurred in the negotiation, preparation, and consummation of this Agreement and the transaction contemplated hereunder.

Section 10.9 No Joint Venture. Nothing set forth in this Agreement shall be construed to create a joint venture between Buyer and Seller.

Section 10.10 JUDICIAL REFERENCE. IT IS THE DESIRE AND INTENTION OF THE PARTIES TO AGREE UPON A MECHANISM AND PROCEDURE UNDER WHICH CONTROVERSIES AND DISPUTES ARISING OUT OF THE AGREEMENT, AS AMENDED, OR RELATED TO THE PROPERTY WILL BE RESOLVED IN A PROMPT AND EXPEDITIOUS MANNER. ACCORDINGLY, ANY ACTION, PROCEEDING OR COUNTERCLAIM BROUGHT BY EITHER PARTY HERETO AGAINST THE OTHER (AND/OR AGAINST ITS OFFICERS, DIRECTORS, EMPLOYEES, AGENTS OR SUBSIDIARIES OR AFFILIATED ENTITIES) ON ANY MATTERS WHATSOEVER ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS AGREEMENT, AS AMENDED, ANY CLAIM OF INJURY OR DAMAGE, WHETHER SOUNDING IN CONTRACT, TORT, OR OTHERWISE, SHALL BE HEARD AND RESOLVED BY A REFEREE UNDER THE PROVISIONS OF THE CALIFORNIA CODE OF CIVIL PROCEDURE, SECTIONS 638 — 645.1, INCLUSIVE (AS SAME MAY BE AMENDED, OR ANY SUCCESSOR STATUTE(S) THERETO) (THE "**REFEREE SECTIONS**"). ANY FEE TO INITIATE THE JUDICIAL REFERENCE PROCEEDINGS AND ALL FEES CHARGED AND COSTS INCURRED BY THE REFEREE SHALL BE PAID BY THE PARTY INITIATING SUCH PROCEDURE (EXCEPT THAT IF A REPORTER IS REQUESTED BY EITHER PARTY, THEN A REPORTER SHALL BE PRESENT AT ALL PROCEEDINGS WHERE REQUESTED AND THE FEES OF SUCH REPORTER – EXCEPT FOR COPIES ORDERED BY THE OTHER PARTIES – SHALL BE BORNE BY THE PARTY REQUESTING THE REPORTER); PROVIDED HOWEVER, THAT ALLOCATION OF THE COSTS AND FEES, INCLUDING ANY INITIATION FEE, OF SUCH PROCEEDING SHALL BE ULTIMATELY DETERMINED IN ACCORDANCE WITH THIS SECTION. THE VENUE OF THE PROCEEDINGS SHALL BE IN THE COUNTY IN WHICH THE PROPERTY IS LOCATED. WITHIN TEN (10) DAYS OF RECEIPT BY ANY PARTY OF A WRITTEN REQUEST TO RESOLVE ANY DISPUTE OR CONTROVERSY PURSUANT TO THIS SECTION 10, THE PARTIES SHALL AGREE UPON A SINGLE REFEREE WHO SHALL TRY ALL ISSUES, WHETHER OF FACT OR LAW, AND REPORT A FINDING AND JUDGMENT ON SUCH ISSUES AS REQUIRED BY THE REFEREE SECTIONS. IF THE PARTIES ARE UNABLE TO AGREE UPON A REFEREE WITHIN SUCH TEN (10) DAY PERIOD, THEN ANY PARTY MAY THEREAFTER FILE A LAWSUIT IN THE COUNTY IN WHICH THE PROPERTY IS LOCATED FOR THE PURPOSE OF APPOINTMENT OF A REFEREE UNDER THE REFEREE SECTIONS. IF THE REFEREE IS APPOINTED BY THE COURT, THE REFEREE SHALL BE A NEUTRAL AND IMPARTIAL RETIRED JUDGE WITH SUBSTANTIAL EXPERIENCE IN THE RELEVANT MATTERS TO BE DETERMINED, FROM JAMS, THE AMERICAN ARBITRATION ASSOCIATION OR SIMILAR MEDIATION/ARBITRATION ENTITY. THE PROPOSED REFEREE MAY BE CHALLENGED BY ANY PARTY FOR ANY OF THE GROUNDS LISTED IN THE REFEREE SECTIONS. THE REFEREE SHALL HAVE THE POWER TO DECIDE ALL ISSUES OF FACT AND LAW AND REPORT HIS OR HER DECISION ON SUCH ISSUES, AND TO ISSUE ALL RECOGNIZED REMEDIES AVAILABLE AT LAW OR IN EQUITY FOR ANY CAUSE OF ACTION THAT IS BEFORE THE REFEREE, INCLUDING AN AWARD OF ATTORNEYS' FEES AND COSTS IN ACCORDANCE WITH THIS AGREEMENT, AS AMENDED. THE REFEREE SHALL NOT, HOWEVER, HAVE THE POWER TO AWARD PUNITIVE DAMAGES, NOR ANY OTHER DAMAGES WHICH ARE NOT PERMITTED BY THE EXPRESS PROVISIONS OF THE AGREEMENT, AS AMENDED, AND THE PARTIES HEREBY WAIVE ANY RIGHT TO RECOVER ANY SUCH DAMAGES. THE PARTIES SHALL BE ENTITLED TO CONDUCT ALL DISCOVERY AS PROVIDED IN THE CALIFORNIA CODE OF CIVIL PROCEDURE, AND THE REFEREE SHALL OVERSEE DISCOVERY AND MAY ENFORCE ALL DISCOVERY ORDERS IN THE SAME MANNER AS ANY TRIAL COURT JUDGE, WITH RIGHTS TO REGULATE DISCOVERY AND TO ISSUE AND ENFORCE SUBPOENAS, PROTECTIVE ORDERS AND OTHER LIMITATIONS ON DISCOVERY AVAILABLE UNDER CALIFORNIA LAW. THE REFERENCE PROCEEDING SHALL BE CONDUCTED IN ACCORDANCE WITH CALIFORNIA LAW (INCLUDING THE RULES OF EVIDENCE), AND IN ALL REGARDS, THE REFEREE SHALL FOLLOW CALIFORNIA LAW APPLICABLE AT THE TIME OF THE REFERENCE PROCEEDING. THE PARTIES SHALL PROMPTLY AND DILIGENTLY COOPERATE WITH ONE ANOTHER AND THE REFEREE AND SHALL PERFORM SUCH ACTS AS MAY BE NECESSARY TO OBTAIN A PROMPT AND EXPEDITIOUS RESOLUTION OF THE DISPUTE OR CONTROVERSY IN ACCORDANCE WITH THE TERMS OF THIS SECTION. IN THIS REGARD, THE PARTIES AGREE THAT THE PARTIES AND THE REFEREE SHALL USE BEST EFFORTS TO ENSURE THAT (A) DISCOVERY BE CONDUCTED FOR A PERIOD NO LONGER THAN SIX (6) MONTHS FROM THE DATE THE REFEREE IS APPOINTED, EXCLUDING MOTIONS REGARDING DISCOVERY, AND (B) A TRIAL DATE BE SET WITHIN NINE (9) MONTHS OF THE DATE THE REFEREE IS APPOINTED. IN ACCORDANCE WITH SECTION 644 OF THE CALIFORNIA CODE OF CIVIL PROCEDURE, THE DECISION OF THE REFEREE UPON THE WHOLE ISSUE MUST STAND AS THE DECISION OF THE COURT, AND UPON THE FILING OF THE STATEMENT OF DECISION WITH THE CLERK OF THE COURT, OR WITH THE JUDGE IF THERE IS NO CLERK, JUDGMENT MAY BE ENTERED THEREON IN THE SAME MANNER AS IF THE ACTION HAD BEEN TRIED BY THE COURT. ANY DECISION OF THE REFEREE AND/OR JUDGMENT OR OTHER ORDER ENTERED THEREON SHALL BE APPEALABLE TO THE SAME EXTENT AND IN THE SAME MANNER THAT SUCH DECISION, JUDGMENT, OR ORDER WOULD BE APPEALABLE IF RENDERED BY A JUDGE OF THE SUPERIOR COURT IN WHICH VENUE IS PROPER HEREUNDER. THE REFEREE SHALL IN HIS/HER STATEMENT OF DECISION SET FORTH HIS/HER FINDINGS OF FACT AND CONCLUSIONS OF LAW. THE PARTIES INTEND THIS GENERAL REFERENCE AGREEMENT TO BE SPECIFICALLY ENFORCEABLE IN ACCORDANCE WITH THE CODE OF CIVIL PROCEDURE. NOTHING IN THIS SECTION SHALL PREJUDICE THE RIGHT OF ANY PARTY TO OBTAIN PROVISIONAL RELIEF OR OTHER EQUITABLE REMEDIES FROM A COURT OF COMPETENT JURISDICTION AS SHALL OTHERWISE BE AVAILABLE UNDER THE CODE OF CIVIL PROCEDURE AND/OR APPLICABLE COURT RULES.

Section 10.11 Time of Essence. Time is of the essence of this Agreement. If the deadline for performance of any act hereunder shall fall on a day that is not a Business Day, the deadline for such performance shall be deemed to be the next Business Day following such day.

Section 10.12 No Waiver. No waiver of any of the provisions of this Agreement shall be deemed, or shall constitute, a waiver of any other provision, whether or not similar, nor shall any waiver constitute a continuing waiver, nor shall a waiver in any instance constitute a waiver in any subsequent instance. No waiver shall be binding unless executed in writing by the Party making the waiver.

Section 10.13 Not an Offer. The preparation or distribution of drafts hereof by one party to the other shall not be deemed to constitute an offer and this Agreement shall only become binding and enforceable upon execution hereof by both parties.

Section 10.14 No Third Party Beneficiaries. Nothing in this Agreement is intended to benefit any third party, or create any third party beneficiary.

Section 10.15 Exculpation. Except as expressly set forth in this Agreement or in the Joinder by Seller Parent attached hereto, (a) Seller's shareholders, partners, members, the partners or members of such partners or members, the shareholders of such partners or members, and the trustees, officers, directors, employees, agents and security holders of Seller and the partners or members of Seller assume no personal liability for any obligations entered into on behalf of Seller and its individual assets shall not be subject to any claims of any person relating to such obligations, (b) Buyer's shareholders, partners, members, the partners or members of such partners or members, the shareholders of such partners or members, and the trustees, officers, directors, employees, agents and security holders of Buyer and the partners or members of Buyer assume no personal liability for any obligations entered into on behalf of Buyer and their individual assets shall not be subject to any claims of any person relating to such obligations. The foregoing shall govern any direct and indirect obligations of Seller under this Agreement. The provisions of this Section 10.16 shall survive the Closing or any termination of this Agreement.

[**Balance of Page Intentionally Left Blank; signatures follow**]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed as of the day and year first above written.

SELLER:

IONIS GAZELLE, LLC, a Delaware limited liability company

By: /s/ Elizabeth L. Hougen
Name: Elizabeth L. Hougen
Title: Authorized Person

BUYER:

2850 2855 & 2859 GAZELLE OWNER (DE) LLC, a Delaware limited liability company

By: /s/Brian Barriero
Name: Brian Barriero
Title: Vice President, Operations

By: /s/Kristen E. Binck
Name: Kristen E. Binck
Title: Vice President

JOINDER BY ESCROW HOLDER:

The Escrow Holder is executing this Agreement to evidence its agreement to act as escrow agent in accordance with the terms and conditions of this Agreement.

FIRST AMERICAN TITLE INSURANCE COMPANY

By:/s/Lynn Graham
Name: Lynn Graham
Its: Escrow Agent

JOINDER BY SELLER PARENT

1. In consideration of Buyer's execution of that certain Purchase and Sale Agreement dated as of the date hereof to which this Joinder is attached (the "**Agreement**") the undersigned ("**Seller Parent**"), hereby absolutely, unconditionally and irrevocably agrees, to fulfill the post-Closing obligations of Seller that expressly survive the Closing under the Agreement (collectively, the "**Obligations**"), in each case, in accordance with the terms of, and subject to the limitations set forth in, the Agreement. Capitalized terms used in this Joinder by Seller Parent and not otherwise defined herein shall have the same meanings as set forth in the Agreement.

2. Seller Parent acknowledges that Seller Parent is an affiliate of Seller and that Seller Parent will derive substantial benefits from the execution of the Agreement and the transactions contemplated thereby, and that Seller Parent's execution of this Joinder by Seller Parent is a material inducement and condition to Buyer's execution of the Agreement.

3. Notwithstanding anything to the contrary contained in this Joinder by Seller Parent, the obligations and liabilities of Seller Parent under this Joinder by Seller Parent are subject to all limitations applicable to Seller's obligations and liabilities under the Agreement and all such limitations are incorporated herein by this reference as if set forth in full herein.

4. Seller Parent does hereby waive each of the following: (a) any and all notices and demands of every kind which may be required to be given by any statute, rule or law, (b) any and all subrogation, contribution, indemnity and reimbursement rights against Seller until the Obligations have been paid, performed and fully satisfied in full; or (c) any other defense available to a surety under applicable law. In the event of any failure on the part of Seller to fulfill the Obligations, a separate action or actions may be brought and prosecuted against Seller Parent whether or not Seller is joined therein or a separate action or actions are brought against Seller.

5. Seller Parent's liability shall not be impaired, modified, changed, released or limited in any manner whatsoever by any impairment, modification, change, release or limitation of liability of Seller or of any remedy for the enforcement thereof, resulting from the operation of any present or future provision of the Federal Bankruptcy Code, or any similar law or statute of the United States or any state thereof covering insolvency, bankruptcy, rehabilitation, liquidation or reorganization (collectively, "**Bankruptcy Laws**"), it being the intention of Seller Parent that Seller Parent's liability hereunder shall be determined without regard to any Bankruptcy Laws which may relieve Seller of any obligations.

6. If a suit, action arbitration, mediation or other action is instituted to interpret or enforce this Joinder by Seller Parent, or otherwise concerning this Joinder by Seller Parent or the transactions contemplated hereby, the prevailing party (regardless of whether such party prevails on substantive or procedural grounds) shall be entitled to recover from the other party all costs and expenses of any such action, including, but not limited to, attorneys' fees and expenses, including all such costs and expenses incurred in any trial, on any appeal, in any bankruptcy proceeding (including the adjudication of issues peculiar to bankruptcy law) and in any petition for review. Each party also shall have the right to recover its costs and attorneys' fees incurred in collecting any sum or debt owed to it by the other party, with or without litigation, if such sum or debt is not paid within fifteen (15) days after written demand.

7. The provisions of this Joinder by Seller Parent shall survive the Closing

8. The Obligations of Seller Parent shall not be affected, modified or diminished by reason of any modification of the Agreement by Seller and Buyer. This Joinder by Seller Parent shall not be modified without the prior written consent of Buyer.

9. This Joinder by Seller Parent shall be governed by, interpreted under and construed and enforced in accordance with, the laws of the State of California, without reference to conflicts of laws principles. EACH OF SELLER PARENT AND BUYER HEREBY IRREVOCABLY WAIVE ALL RIGHTS TO A TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM ARISING OUT OF OR RELATING TO THIS JOINDER BY SELLER PARENT. THIS WAIVER IS A MATERIAL INDUCEMENT FOR SELLER PARENT AND BUYER TO ENTER INTO AND ACCEPT THIS JOINDER BY SELLER PARENT. Any action brought hereunder shall be brought in a court of law located in the State of California.

IONIS PHARMACEUTICALS, INC.,
a Delaware corporation

By: /s/ Elizabeth L. Hougen
Name: Elizabeth L. Hougen
Title: EVP and CFO

SCHEDULE 3.2(B)

Oxford Properties Expands its San Diego Life Science Presence with Purchase and Lease Back of Ionis Campus

- Deal grows Oxford's San Diego Life Science Business to 900,000 square feet across 16 buildings -

SAN DIEGO, CA – October 24, 2022: Oxford Properties Group ("Oxford"), a leading global real estate investor, asset manager and business builder today announced the purchase and long-term lease back of Ionis Pharmaceuticals' ("Ionis") 18.4-acre life science campus and corporate headquarters. Located in the established San Diego life science submarket of Carlsbad, the campus features approximately 250,000 square feet of existing life science and office space. As part of the transaction, Ionis will lease the properties for a minimum of 15 years.

The transaction follows on from Oxford's entrance into the San Diego life science market in February this year via a US$464 million acquisition of a 13-building portfolio. It builds on Oxford's already robust global life sciences portfolio and growing West Coast presence with high quality assets in the Bay Area and Seattle. The acquisition grows Oxford's existing San Diego life science portfolio to 900,000 square feet of income-producing properties, which will increase to over 1.2 million square feet upon completion of its development pipeline in the local market.

Founded in 1989, Ionis is a publicly traded biotech company and a leader in discovering and developing RNA-targeted therapeutics. Ionis currently has three marketed medicines and a premier late-stage pipeline highlighted by industry-leading cardiovascular and neurological franchises. It has a long history of R&D successes and has delivered multiple breakthroughs in antisense technology.

"Our team continues to create sustained yet highly-targeted growth against one of our highest conviction global investment strategies, to build a global life science business of scale," said **Chad Remis, Executive Vice President, North America at Oxford**. "Today's acquisition adds another leading life sciences company to our business as well as high quality income-producing assets to our growing portfolio plus complements our development pipeline in San Diego. The transaction perfectly encapsulates the purpose of our life science business; by investing Oxford's capital and capabilities to own, build and manage this highly technical real estate infrastructure we are able to free up the resources of life science firms to better focus on what they do best – research and create the life changing therapeutics of tomorrow. We look forward to working with Ionis as they continue to advance their science for the benefit of society at large."

“Ionis has long maintained a strong financial foundation to support our business objectives. While we have a healthy cash balance, we also have near-term capital needs to scale our organization to deliver on our growth initiatives. This transaction will provide us with significant cash proceeds while allowing us to conduct our day-to-day operations as we normally do. We have worked closely with Oxford to create a bespoke solution that can accommodate our future growth and retain flexibility as our business evolves,” said **Elizabeth L. Hougen, executive vice president and chief financial officer of Ionis.**

The Ionis campus features three assets of one and two storeys and comprises approximately 250,000 square feet across 18.4 acres. The buildings are all modern vintage, with the oldest completed in 2011 and the most recent in 2021. They feature chemistry labs, biology labs and R&D support systems as well as modern office space. The campus is located in Carlsbad, part of the prominent San Diego North County life science cluster and home to leading firms such as Novartis, Thermo Fisher and Genentech. The North County has become highly sought after by life science firms in recent years, which has dropped the vacancy rate to 3.6%[1].

San Diego has defined itself as one of the most important life science markets globally. Nearly 40% of its population holds a bachelor’s degree or higher, rapidly outpacing the national average of 28%, and its universities graduate more STEM talent than any other region in the US. Its ecosystem is anchored by renowned research institutions and non-profits including San Diego State University, UC San Diego, Scripps Research and the Sandford Burnham Prebys Medical Discovery Institute. San Diego’s life science market has witnessed record demand over recent years, leading to significant and sustained rental growth with asking rents growing by 34% in 2021.

“Our purchase of the Ionis campus adds to Oxford’s significant presence in a top three global life science market that is characterized by high barriers to entry,” **said Tycho Suter, Vice President of Investments at Oxford.** “We have long-term conviction in the San Diego life sciences market, which is supported by its strong STEM presence and a highly-skilled labour force as well as world-renowned research and academic institutions. Together, it creates a highly innovative ecosystem that captures research funding, venture capital and business growth to the region.”

Oxford has invested in the life science industry since 2017. It has built substantial expertise in the sector while deploying capital through a variety of equity and credit investments as well as cultivating a significant development pipeline. Since the start of 2021 alone, Oxford has invested over US$3 billion in global life sciences and has identified a further US$5 billion of follow-on development opportunities. Oxford’s life science business now operates across the top 10 North American life science markets and in leading European markets through holdings in Cambridge, London and Paris.

- Ends -

[1] From *Q2 2022 San Diego Life Science Marketbeat*, Cushman & Wakefield*, pg 3*

About Oxford Properties Group

Oxford Properties Group ("Oxford") is a leading global real estate investor, asset manager and business builder. It builds, buys, and grows defined real estate operating business with world-class management teams. Established in 1960, Oxford and its portfolio companies manage approximately C$80 billion of assets across four continents on behalf of their investment partners. Oxford's owned portfolio encompasses office, logistics, retail, multifamily residential, life sciences, hotels and credit in global gateway cities and high-growth hubs. A thematic investor with a committed source of capital, Oxford invests in properties, portfolios, development sites, debt, securities and real estate businesses across the risk-reward spectrum. Together with its portfolio companies, Oxford is one of the world's most active developers with over 100 projects currently underway globally across all major asset classes. Oxford is owned by OMERS, the Canadian defined benefit pension plan for Ontario's municipal employees.

For more information on Oxford, visit www.oxfordproperties.com

Press Contact
Daniel O'Donnell, Vice President of Communications, Oxford Properties: Dodonnell@oxfordproperties.com

Chris Sarpong, Senior Specialist, Communications, Oxford Properties: csarpong@oxfordproperties.com

EXHIBIT A

Description of Land

Real property in the City of Carlsbad, County of San Diego, State of California, described as follows:

PARCEL 1 OF MINOR SUBDIVISION NO. 2018-0009 IONIS CARLSBAD CAMPUS, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA ACCORDING TO PARCEL MAP NO. 21705 FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY ON AUGUST 1, 2019 AS DOCUMENT NO. 2019-7000286 OF OFFICIAL RECORDS.

EXHIBIT B

List of Due Diligence Items

[***]

EXHIBIT C

Disclosure Items

Any item disclosed in any particular part of this **Exhibit C** will be deemed to be disclosed with respect to any other section and paragraph of Article VI of the Agreement to the extent its relevance or appropriateness is reasonably apparent from the context in which it is presented and to the extent of any cross-references and the like.

This **Exhibit C** and the information and disclosures contained in this **Exhibit C** are intended only to qualify and limit, and otherwise respond to requests for disclosures contained in, the representations and warranties of Seller contained in the Agreement and shall not be deemed to create any covenant. Any description of any document included in this **Exhibit C** is a summary only and is qualified in its entirety by the specific terms of such referenced document.

None.

EXHIBIT D

Permitted Exceptions

1. General and special taxes and assessments for the fiscal year 2022-2023, a lien not yet due or payable.

   APNs: 209-120-20-00 and 209-120-27-00

2. The lien of special tax for the following community facilities district, which tax is collected with the county taxes, a lien not yet due and payable.

   District: Carlsbad CFD #3 IMP 2

3. The lien of special tax assessed pursuant to Chapter 2.5 commencing with Section 53311 of the California Government Code for Community Facilities District No. 3, as disclosed by that certain Amendment to the Notice of Special Tax Lien recorded November 17, 2005 as Instrument No. 2005-0998004 of Official Records.

4. The lien of supplemental taxes, if any, assessed pursuant to Chapter 3.5 commencing with Section 75 of the California Revenue and Taxation Code, resulting from changes in ownership or completion of construction.

5. Notice of Restriction on Real Property recorded November 9, 2004 as Instrument No. 2004-1066056 of Official Records.

6. Notice and Waiver Concerning Proximity of the Planned or Existing Palomar Airport Road and Melrose Drive Transportation Corridors Case No: CT 97-13 recorded November 9, 2004 as Instrument No. 2004-1066058 of Official Records.

7. Hold Harmless Agreement Drainage recorded December 15, 2004 as Instrument No. 2004-1180067 of Official Records.

8. Hold Harmless Agreement Geological Failure recorded December 15, 2004 as Instrument No. 2004-1180068 of Official Records.

9. Waiver and Consent to Creation of a Community Facilities District and Agreement to Pay Fair Share Cost of CT 97-13 (“Agreement”) recorded December 15, 2004 as Instrument No. 2004-1180069 of Official Records; as modified by the terms and provisions contained in the document entitled Amendment No. 1 to Waive and Consent to Creation of the Community Facilities District (CT 97-13), Carlsbad Oaks North Partners, L.P. recorded November 4, 2005 as Instrument No. 2005-0964619 of Official Records.

10. Agreement Between Developer/Owner and the City of Carlsbad for the Payment of a Local Drainage Area Fee recorded December 21, 2004 as Instrument No. 2004-1201221 of Official Records.

11. Hold Harmless Agreement Drainage recorded December 1, 2006 as Instrument No. 2006-0854466 of Official Records.

12. Hold Harmless Agreement Geological Failure recorded December 1, 2006 as Instrument No. 2006-0854467 of Official Records.

13. An easement shown or dedicated on the map filed or recorded January 23, 2007 as Map No. 15505 of Tract Maps.

14. Declaration of Covenants, Conditions and Restrictions for Carlsbad Oaks North Business Park, recorded February 5, 2007 as Instrument No. 2007-0081082 of Official Records.

    First Amendment to Declaration of Covenants, Conditions and Restrictions for Carlsbad Oaks North Business Park recorded March 20, 2013 as Instrument No. 2013-0175873 of Official Records.

    Declaration of Annexation and Supplement to Declaration of Covenants, Conditions and Restrictions for Carlsbad Oaks North Business Park recorded October 25, 2016 as Instrument No. 2016-0576403 of Official Records.

15. An easement for public utilities and incidental purposes, recorded March 7, 2008 as Instrument No. 2008-0122770 of Official Records.

16. Notice of Restriction on Real Property recorded May 7, 2010 as Instrument No. 2010-0232229 of Official Records.

17. Hold Harmless Agreement Geological Failure recorded July 22, 2010 as Instrument No. 2010-0369177 of Official Records.

18. Hold Harmless Agreement Drainage recorded July 22, 2010 as Instrument No. 2010-0369178 of Official Records.

19. Permanent Stormwater Quality Best Management Practice Maintenance Agreement recorded July 23, 2010 as Instrument No. 2010-0371455.

20. An easement for public utilities and incidental purposes, recorded November 29, 2010 as Instrument No. 2010-0652771 of Official Records.

21. Landscape Maintenance Agreement recorded May 11, 2011 as Instrument No. 2011-0245163 of Official Records.

22. Hold Harmless Agreement Drainage recorded September 2, 2016 as Instrument No. 2016-0460153 of Official Records.

23. Hold Harmless Agreement Geological Failure recorded September 2, 2016 as Instrument No. 2016-0460154 of Official Records.

24. An easement shown or dedicated on the map filed or recorded October 13, 2016 as Map No. 16145 of Tract Maps.

    For sight distance corridor and access roads and incidental purposes.

25. Notice of Restriction on Real Property recorded November 18, 2016 as Instrument No. 2016-0631998 of Official Records.

26. Permanent Stormwater Quality Best Management Practice Maintenance Agreement recorded April 4, 2017 as Instrument No. 2017¬0151310 of Official Records.

27. Hold Harmless Agreement Drainage recorded May 1, 2017 as Instrument No. 2017- 0193102 of Official Records.

28. Hold Harmless Agreement Geological Failure recorded May 1, 2017 as Instrument No. 2017-0193732 of Official Records.

29. Encroachment Agreement recorded June 6, 2018 as Instrument No. 2018-0228575 of Official Records.

30. Notice of Restriction on Real Property recorded April 9, 2019 as Instrument No. 2019-0126632 of Official Records.

31. Landscape Maintenance Agreement recorded August 06, 2019 as Instrument No. 2019-0326652 of Official Records.

32. Hold Harmless Agreement Drainage recorded August 06, 2019 as Instrument No. 2019-0326663 of Official Records.

33. Hold Harmless Agreement Geological Failure recorded August 06, 2019 as Instrument No. 2019-0326664 of Official Records.

34. Permanent Stormwater Quality Best Management Practice Maintenance Agreement recorded August 06, 2019 as Instrument No. 2019¬0326665 of Official Records.

35. Notice of Restriction on Real Property recorded August 06, 2019 as Instrument No. 2019-0326666 of Official Records.

36. Encroachment Agreement recorded January 29, 2020 as Instrument No. 2020-0046855 of Official Records.

37. Hold Harmless Agreement Geological Failure recorded March 04, 2020 as Instrument No. 2020-0112317 of Official Records.

38. Hold Harmless Agreement Drainage recorded March 04, 2020 as Instrument No. 2020-0112318 of Official Records.

EXHIBIT E

Warranties

Baker Electric, Inc. 10 year electrical Guaranty work performed at 2855 Gazelle Court dated September 6, 2018

LG Solar Module Limited Warranty sold by LG Electronics U.S.A., Inc. February 1, 2017

SolarEdge Technologies Ltd. Limited Warranty revised June 2016.

Bergelectric Warranty-Guarantee dated August 31, 2020

Electronic Theater Controls, Inc. Warranty dated May 26, 2022

Peak Advantage Guarantee (Johns Manville) with respect to work performed at 2850 Gazelle Court dated July 24, 2020

EXHIBIT F

Form of Deed

RECORDING REQUESTED BY
AND WHEN RECORDED MAIL TO:

APN:

The undersigned grantor(s) declare(s)
Documentary transfer tax is $
( ) computed on full value of property conveyed, or
( ) computed on full value less value of liens or encumbrances remaining at time of sale,
( ) Unincorporated Area (X) City of Carlsbad

GRANT DEED

FOR VALUE RECEIVED, IONIS GAZELLE, LLC, a Delaware limited liability company ("***Grantor***"), grants to _____ ("***Grantee***"), all that certain real property (the "***Property***") situated in the City of Carlsbad, County of San Diego, State of California, described on Exhibit A attached hereto and by this reference incorporated herein. This conveyance is made subject and subordinate to all matters set forth on Exhibit B attached hereto.

IN WITNESS WHEREOF, the undersigned has executed this Grant Deed dated as of _____, 2022.

IONIS GAZELLE, LLC,
a Delaware limited liability company

By: _____
Name: _____
Title: _____

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT CIVIL CODE §1189

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }
}
County of San Diego }

On _____, before me, _____, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

(Notary Seal)

_____
Signature of Notary Public

EXHIBIT A

LEGAL DESCRIPTION

Real property in the City of Carlsbad, County of San Diego, State of California, described as follows:

PARCEL 1 OF MINOR SUBDIVISION NO. 2018-0009 IONIS CARLSBAD CAMPUS, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA ACCORDING TO PARCEL MAP NO. 21705 FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY ON AUGUST 1, 2019 AS DOCUMENT NO. 2019-7000286 OF OFFICIAL RECORDS.

EXHIBIT B

Permitted Exceptions

[To be attached]

EXHIBIT G
INTENTIONALLY DELETED

EXHIBIT H

Form of Assignment and Assumption Agreement

ASSIGNMENT AND ASSUMPTION
AND BILL OF SALE

This Assignment and Assumption and Bill of Sale (this ***"Assignment"***) is made and entered into _____, 2022, between **IONIS GAZELLE, LLC**, a Delaware limited liability company (***"Assignor"***), and _____, a _____ (***"Assignee"***). This Assignment is made with reference to the Purchase and Sale Agreement dated _____ between Assignor and Assignee (or Assignee's predecessor-in-interest) (the ***"Purchase and Sale Agreement"***) with respect to the real property described on attached **Schedule "1"** (the ***"Property"***).

For good and valuable consideration paid by Assignee to Assignor, the receipt and sufficiency of which are hereby acknowledged, Assignor does hereby assign, transfer, set over and deliver unto Assignee all of Assignor's right, title and interest (if any) in and to all assets, rights, materials and/or claims used, owned or held in connection with the use, management, development or enjoyment of the Property, including, without limitation: (i) the service contracts, if any, listed on attached **Schedule "2"** (the ***"Service Contracts"***); (ii) all entitlements, agreements relating to the Property; (iii) all plans, specifications, maps, drawings and other renderings relating to the Property; (iv) all warranties, guarantees, claims and any similar rights relating to and benefiting the Property or the assets transferred hereby; (v) all intangible rights, goodwill and rights benefiting the Property; (vi) all development rights benefiting the Property; (vii) all rights, claims or awards benefiting the Property; and (viii) all rights to receive a reimbursement, credit or refund from the applicable agency or entity of any deposits or fees paid in connection with the development of the Property.

Except as otherwise expressly provided in the Purchase and Sale Agreement, by accepting this Assignment and by its execution of this Assignment, Assignee assumes the payment and performance of, and agrees to pay, perform and discharge, all the debts, duties and obligations to be paid, performed or discharged which accrue from and after the Close of Escrow (as defined in the Purchase and Sale Agreement) by the owner under the Service Contracts.

For good and valuable consideration paid by Assignee to Assignor, the receipt and sufficiency of which are hereby acknowledged, Assignor does hereby assign, transfer, set over and deliver unto Assignee all of Assignor's right, title and interest (if any) in and to the "Property" as defined in the Purchase and Sale Agreement (other than the Real Property).

All of the covenants, terms and conditions set forth in this Assignment shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns. This Assignment may be executed in any number of counterparts, each of which may be executed by any one or more of the parties hereto, but all of which shall constitute one and the same instrument, and shall be binding and effective when all parties hereto have executed and delivered at least one counterpart. The delivery of an executed counterpart of this Assignment by facsimile or as a PDF or similar attachment to an email shall constitute effective delivery of such counterpart for all purposes with the same force and effect as the delivery of an original, executed counterpart.

[SIGNATURES ON FOLLOWING PAGE]

ASSIGNOR:

_____

a _____

By: _____
Name: _____
Title: _____

ASSIGNEE:

_____

a _____

By: _____
Name: _____
Title: _____

EXHIBIT I

Intentionally Omitted

EXHIBIT J

Intentionally Omitted

EXHIBIT K

Form of Title Affidavit

FIRST AMERICAN TITLE INSURANCE COMPANY

STATEMENT REQUIRED FOR THE ISSUANCE OF ALTA OWNERS AND/OR LOAN POLICIES

Commitment No. NCS-1113647-SD

Date: _____

To the best knowledge and belief of the undersigned, the following is hereby certified with respect to the land described in the above commitment:

1. That, except as noted at the end of this paragraph, within the last six (6) months (a) no labor, service or materials have been furnished to improve the land, or to rehabilitate, repair, refurbish, or remodel the building(s) situated on the land; (b) nor have any goods, chattels, machinery, apparatus or equipment been attached to the building(s) thereon, as fixtures; (c) nor have any contracts been let for the furnishing of labor, service, materials, machinery, apparatus or equipment which are to be completed subsequent to the date hereof; (d) nor have any notices of lien been received, except the following, if any:

   _____

2. That there are no unrecorded contracts or options to purchase the land, except the following, if any:

   _____

3. That there are no unrecorded leases, easements or other servitudes to which the land or building, or portions thereof, are subject, except the following, if any:_____

4. That there are no rights of first refusal or options to purchase all or any part of the Property except:_____

5. That there are no unpaid real estate taxes or assessments except as shown on the current tax roll. That the undersigned has not received any supplemental tax bill which is unpaid.

6. That the undersigned is authorized to execute this affidavit, has the ability to execute all instruments necessary to mortgage or convey the Land pursuant to authority, and that the owner was properly created and is in good standing in its state of origin and is properly authorized to do business in the state where the Land is located.

7. That the undersigned has not received any written notice of violation of any covenants, conditions or restrictions, if any, affecting the Land.

8. In order to induce First American Title Insurance Company (the "Company") to issue its policy(ies) of title insurance with full knowledge that the Company will rely upon the accuracy of same, the undersigned hereby agrees as follows:

a. The undersigned does hereby agree to indemnify and hold the Company harmless of and from any and all loss, cost, damage and expense of every kind, including attorneys' fees, which the Company shall or may suffer or incur or become liable for under its said policy or policies directly or indirectly, due to its reliance on the accuracy of the foregoing statements or in connection with its enforcement of its rights under this statement.

b. The undersigned does hereby agree to indemnify and hold the Company harmless during the gap period between the last title examination of the Land that was conducted by, for and/or on behalf of the Company, and the time when the deed, assignments and any other documents creating priority of title are recorded in connection with the sale and/or transfer of the Land.

Seller / Owner:

Ionis Gazelle, LLC, a Delaware corporation

By: _____
Name: .
Title:

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT CIVIL CODE §1189

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }
}
County of San Diego }

On _____, before me, _____, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

(Notary Seal)

_____
Signature of Notary Public

EXHIBIT L

Non-Foreign Status Affidavit

Section 1445 of the Internal Revenue Code of 1986, as amended (the "***Code***"), provides that a transferee of a United States real property interest must withhold tax if the transferor is a foreign person. For U.S. tax purposes (including section 1445), the owner of a disregarded entity (which has legal title to a United States real property interest under local law) will be the transferor of the property and not the disregarded entity. To inform the transferee that withholding of tax is not required upon the disposition of a United States real property interest by _____ ("***Transferor***"), which is the tax owner by reason of its ownership of Ionis Gazelle, LLC, a Delaware limited liability company, the Transferor hereby certifies the following:

1. Transferor is not a non resident alien individual foreign corporation, foreign partnership, foreign trust, or foreign estate (as those terms are defined in the Code and Treasury Regulations); and

2. Transferor is not a disregarded entity as defined in Treasury Regulations Section 1.1445- 2(b)(2)(iii); and

3. Transferor's U.S. employer taxpayer identification number is _____; and

4. Transferor's office address is _____.

Under penalties of perjury, I declare that I have examined this certification and to the best of my knowledge and belief it is true, correct, and complete, and I further declare that I have authority to sign this document on behalf of Transferor.

Transferor understands that this Certification may be disclosed to the Internal Revenue Service by Transferee and that any false statement contained herein could be punished by fine, imprisonment or both.

[signature on following page]

a

By:

Name:

Title:

NOTICE TO TRANSFEREE (BUYER): You are required by law to retain this Certificate until the end of the fifth tax year following the tax year in which the transfer takes place and make this Certificate available to the Internal Revenue Service if requested to do so during that period.

Source CFR, Section 1.1445-2T(b)(2)(iii)(B)

STATE OF CALIFORNIA)
) ss.
COUNTY OF SAN DIEGO)

On _____, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)

EXHIBIT M

Form of APP Escrow Agreement

POST-CLOSING ESCROW AGREEMENT

THIS POST-CLOSING ESCROW AGREEMENT (this "**Agreement**") is being entered into as of this ___ day of _____, 2022 (the "**Closing Date**"), by and among **IONIS GAZELLE, LLC**, a Delaware limited liability company ("**Seller**"), **2850 2855 & 2859 GAZELLE OWNER (DE) LLC**, a Delaware limited liability company ("**Buyer**") and **FIRST AMERICAN TITLE INSURANCE COMPANY** ("**Escrow Holder**") and may be relied upon by Seller, Buyer, and Escrow Holder.

Background

A. Seller and Buyer entered into that certain Purchase and Sale Agreement dated as of _____, 2022 (the "**Purchase Agreement**"), whereby Seller agreed to sell and Buyer agreed to buy that certain real property and improvements, as more particularly described therein. Capitalized terms not otherwise defined herein are as defined in the Purchase Agreement.

B. Buyer's Affiliate and Seller's Affiliate are parties to that Purchase and Sale Agreement dated as of _____ ___, 2022 (the "**BTS Purchase Agreement**") for the purchase and sale of Lots 21 and 22, Carlsbad, California (the "**BTS Parcel**"), as more particularly described therein.

C. Pursuant to Section 2.2(b) of the Purchase Agreement, (i) Buyer is obligated to deposit $5,000,000 (the "**Additional Purchase Price**") into an escrow account with Escrow Holder at Closing; and (ii) the Additional Purchase Price shall be disbursed to Seller if the "Closing" as defined in the BTS Purchase Agreement (the "**BTS Closing**") occurs pursuant to the BTS Purchase Agreement.

D. Buyer and Seller desire to set forth the terms and conditions of their agreements with respect to the Additional Purchase Price.

Agreement

NOW, THEREFORE, based on the foregoing, and in consideration of the mutual promises contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Seller, Buyer and Escrow Holder hereby agree as follows:

1. Additional Purchase Price. At Closing, Buyer shall deposit the Additional Purchase Price in escrow with Escrow Holder in accordance with Section 2.2(b) of the Purchase Agreement. The Additional Purchase Price shall be held by Escrow Holder in an interest-bearing account of the type customarily used to hold escrow funds and all interest and earnings shall be paid to the party whom the Additional Purchase Price is released to pursuant to Section 2 below.

2. Release of Additional Purchase Price. If the BTS Closing occurs on the "Closing Date" under the BTS Purchase Agreement, then the Additional Purchase Price shall be promptly disbursed to Seller by Escrow Holder. If, however, the sale of the BTS Parcel is not consummated on the "Closing Date" under the BTS Purchase Agreement for any reason or if the BTS Purchase Agreement terminates prior to the Closing thereunder, then the Additional Purchase Price shall be promptly disbursed to Buyer.

3. Escrow Procedures.

a. Escrow Holder has the right to enforce the terms and conditions of this Agreement. Buyer and Seller do hereby jointly and severally agree that Escrow Holder shall incur no liability whatsoever in connection with its good faith performance under this Agreement, including without limitation, loss or damage resulting from the following:

i. The financial status or insolvency of any other party, or any misrepresentation made by any other party;

ii. Any legal effect, insufficiency, or undesirability of any instrument deposited with or delivered by or to Escrow Holder or exchanged by the parties hereunder, whether or not Escrow Holder prepared such instrument;

iii. The default, error, action or omission or any other party to the escrow;

iv. Any loss or impairment of funds that have been deposited in escrow while those funds are in the course of collection or while those funds are on deposit in a financial institution if such loss or impairment results from the failure, insolvency or suspension of a financial institution, or any loss or impairment of funds due to the invalidity of any draft, check, document or other negotiable instrument delivered to Escrow Holder;

v. The expiration of any time limit or other consequence of delay unless a properly executed settlement instruction, executed by Escrow Holder has instructed Escrow Holder to comply with said time limit;

vi. Escrow Holder's compliance with any legal process, subpoena, writ, order, judgment or decree of any court, whether issued with or without jurisdiction and whether or not subsequently vacated, modified, set aside or reversed;

vii. Upon completion of the disbursement of the funds and delivery of the instruments, if any, Escrow Holder shall be automatically released and discharged of its escrow obligations hereunder; and

viii. The obligations of Buyer and Seller shall apply to and be for the benefit of agents of Escrow Holder employed by it for services in connection with this escrow, as well as for the benefit of Escrow Holder.

b. Buyer and Seller do hereby jointly and severally release and waive any claims they may have against Escrow Holder, which may result from its performance in good faith of its function under this Agreement, including, but not limited to, a delay in the electronic wire transfer of funds. Notwithstanding the foregoing, Escrow Holder shall be liable only for loss or damage caused directly by its negligence or willful misconduct while performing as Escrow Holder under this Agreement.

c. Escrow Holder shall be entitled to rely upon the authenticity of any signature and the genuineness and validity of any writing received by Escrow Holder relating to this Agreement. Escrow Holder may rely upon any oral identification of a party notifying Escrow Holder orally as to matters relating to this Agreement if such oral notification is permitted hereunder. Escrow Holder is not responsible for the nature, content, validity, or enforceability of any of the escrow documents except for those documents prepared by Escrow Holder.

d. In the event of any disagreement between the parties hereto resulting in conflicting instructions to, or adverse claims or demands upon Escrow Holder with respect to the release of any escrow funds, Escrow Holder may refuse to comply with any such instruction, claim, or demand so long as such disagreement shall continue and in so refusing, Escrow Holder shall not release such escrow funds. Escrow Holder shall not be or become liable in any way for its failure or refusal to comply with any such conflicting instructions or adverse claims or demands and it shall be entitled to continue to refrain from acting until such conflicting instructions or adverse claims or demands (a) shall have been adjusted by agreement and it shall have been notified in writing thereof by the parties hereto, or (b) shall have finally been determined in a court of competent jurisdiction. Escrow Holder may bring an interpleader action when it, in good faith, believes that conflicting demands have been made or such instructions are unclear or ambiguous. Once any funds are interpleaded, Escrow Holder shall be released from all further liability of any nature in connection therewith or with the Additional Purchase Price. Such action shall not be deemed to be the "fault" of Escrow Holder, and Escrow Holder may lay claims to or against the funds for its reasonable costs and attorneys' fees in connection with the same, through final appellate review. To that end, the parties hereto, other than Escrow Holder, agree to indemnify Escrow Holder from all such attorneys' fees, court costs and expenses.

e. Escrow Holder may, at its sole discretion, resign by giving thirty (30) days written notice thereof to the parties hereto. The parties shall furnish to Escrow Holder written instructions for the release of any escrow funds. If Escrow Holder shall not have received such written instructions within the thirty (30) days, Escrow Holder may petition any court of competent jurisdiction for the appointment of a successor Escrow Holder and, upon such appointment, deliver the escrow funds to such successor.

f. The parties hereto do hereby certify that they are aware that the Federal Deposit Insurance Corporation ("**FDIC**") coverages apply only to a cumulative maximum amount of $250,000 for each individual deposit for all of the depositor's accounts at the same or related institution. The parties hereto further understand that certain banking instruments such as, but not limited to, repurchase agreements and letters of credit are not covered at all by FDIC insurance. All amounts held under this Agreement shall be in an interest earning account reasonably acceptable to Seller and Buyer, and all interest and earnings related to the Additional Purchase Price shall belong to Seller.

g. Further, the parties hereto understand that Escrow Holder assumes no responsibility for, nor will the parties hereto hold Escrow Holder liable for, a loss occurring which arises from the fact that the amount of the above account may cause the aggregate amount of any individual depositor's accounts to exceed $250,000 and that the excess amount is not insured by the FDIC or that FDIC insurance is not available on certain types of bank instruments.

6. Survival. The obligations of Seller and Buyer pursuant to this Agreement shall survive the Closing. Except as specifically set forth herein, this Agreement shall not diminish any rights and/or remedies the parties hereto may have under the Purchase Agreement or otherwise. This Agreement inures to the benefit of, and may be relied upon and enforced by, each of Buyer and Seller.

7. Notice. All notices, demands, requests or other communications required or permitted to be given under this Agreement must be delivered (a) personally, by hand delivery; (b) by Federal Express or a similar internationally recognized overnight courier service; or (c) by email, provided that a confirmation copy is delivered within one (1) business day by the method set forth in clause (a) or (b) of this Section 7. All such notices, demands, requests or other communications shall be deemed to have been given for all purposes of this Agreement upon the earlier to occur of the date of receipt or the date of first refusal, except that whenever under this Agreement a notice is either received on a day which is not a business day or is required to be delivered on or before a specific day which is not a business day, the day of receipt or required delivery shall automatically be extended to the next business day. All notices shall be addressed to the parties at the addresses below:

If to Seller:	Ionis Pharmaceuticals, Inc. 2855 Gazelle Ct. Carlsbad, California 92008 Attention: General Counsel Email: [***]
with a copy to:	Cooley LLP 4401 Eastgate Mall San Diego, CA 92121 Attention: David Crawford Email: [***]
If to Buyer:	c/o Oxford Properties Group 125 Summer Street, 12th Floor Boston, MA 02110 Attn: Kristen Binck Email: [***]
With a copy to:	c/o Oxford Properties Group 450 Park Avenue, 9th Floor New York, NY 10022 Attn: Legal Department Email: **[***]**

With a copy to: DLA Piper LLP (US)
33 Arch Street, 26th Floor
Boston, MA 02110
Attn: John L. Sullivan, Esq.
Email: **[***]**

If to Escrow Holder: First American Title Insurance Company
4380 La Jolla Drive
Suite 110
San Diego, CA 92122
Attn: [***]

Any address or name specified above may be changed by notice given to the addressee by the other party in accordance with this section. The inability to deliver notice because of a changed address of which no notice was given as provided above, or because of rejection or other refusal to accept any notice, shall be deemed to be the receipt of the notice as of the date of such inability to deliver or rejection or refusal to accept. Any notice to be given by any party hereto may be given by the counsel for such party.

8. Miscellaneous. Time is of the essence of each aspect of this Agreement. This Agreement shall be governed by and interpreted in accordance with the laws of California, without regard to the laws governing conflicts of laws. This Agreement may be amended, modified, waived, discharged, or terminated only by writing signed by the party to be charged with such amendment, modification, waiver, discharge, or termination. In the event of a judicial or administrative proceeding or action by one party against the other party with respect to the interpretation or enforcement of this Agreement, the prevailing party shall be entitled to recover reasonable costs and expenses, including reasonable attorneys' fees and expenses. This Agreement may be executed in any number of counterparts and it shall be sufficient that the signature of each party appear on one or more such counterparts. All counterparts shall collectively constitute a single agreement.

9. Liability. Notwithstanding anything appearing to the contrary in this Agreement, no direct or indirect partner, member or shareholder of Seller, or Buyer (or any officer, director, agent, member, manager, personal representative, trustee or employee of any such direct or indirect partner, member or shareholder) shall be personally liable for the performance of the obligations of, or in respect of any claims against, Seller or Buyer arising under this Agreement. No personal judgment shall be sought or obtained against any of the foregoing in connection with this Agreement.

[Signatures on Next Page]

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed under seal by their respective duly authorized officers as of the date first written above.

SELLER:

IONIS GAZELLE, LLC,
a Delaware limited liability company

By: _____
Name: _____
Title: _____

BUYER:

2850 2855 & 2859 GAZELLE OWNER (DE) LLC,
a Delaware limited liability company

By: _____
Name: _____
Title: _____

By: _____
Name: _____
Title: _____

ESCROW HOLDER:

FIRST AMERICAN TITLE INSURANCE COMPANY

By: _____
Name: _____
Title: _____

EXHIBIT N

Form of Buyer-Seller Lease

LEASE AGREEMENT

DATED _____, 2022

Between

2850 2855 & 2859 GAZELLE OWNER (DE) LLC
a Delaware limited liability company

AS LANDLORD

and

IONIS PHARMACEUTICALS, INC.,
a Delaware corporation

AS TENANT

BASIC LEASE INFORMATION

For convenience of the parties, certain basic provisions of this Lease are set forth herein, and are, together with any Exhibits and Schedules, expressly incorporated into the Lease. The provisions set forth herein are subject to the remaining terms and conditions of this Lease and are to be interpreted in light of such remaining terms and conditions.

TERMS OF LEASE	**DESCRIPTION**
"**Commencement Date**":	_____, 2022 (i.e., upon the occurrence of "Closing," as such term is defined in that certain Purchase and Sale Agreement dated as of _____, 2022, (the "**PSA**") between Tenant, as seller, and Landlord, as buyer).
"**Premises**":	That certain real property described on Exhibit A attached hereto and the buildings (the "**Buildings**") and other improvements thereon, located at 2850, 2855 & 2859 Gazelle Court, Carlsbad, 92010 California consisting of approximately 246,699 gross square feet, and the appurtenances thereto. The square footage of the Premises set forth above is deemed conclusive and shall not be subject to remeasurement.
"Companion Lease":	That certain lease to be executed between Landlord or its affiliate and Tenant pursuant to the PSA for certain real property located across Whiptail Loop W adjacent to the Premises (the "**Companion Premises**") and the improvements to be constructed thereon consisting of approximately 164,833 square feet, and the and the improvements thereon appurtenances thereto, as described therein.
"**Term**": (Article 1)	The period commencing on the Commencement Date and ending on the Expiration Date.
"Expiration Date"	The date that is one hundred eighty (180) months after the Commencement Date; provided, however, if Landlord, or its affiliate, and Tenant enter into the Companion Lease, the Expiration Date of this Lease shall be automatically extended to be the same date as the "Expiration Date" as defined in the Companion Lease, together with any Extension Period as to which an Extension Option is exercised under Section 1.4.

TERMS OF LEASE	DESCRIPTION
"**Escalation**": (Article 2)	The percentage of increase, if any, shown by the Consumer Price Index for All Urban Consumers U.S. City Average, All Items (base years 1982-1984 = 100) ("**Index**"), published by the United States Department of Labor, Bureau of Labor Statistics, for the month immediately preceding the Adjustment Date as compared with the Index for the month immediately preceding the Commencement Date (with respect to the first Adjustment Date), or the month immediately preceding the prior Adjustment Date (for all subsequent Adjustment Dates), but the percentage of increase shall not be less than 2.5% nor greater than 5.5%.
"**Option to Renew**": (Article 1)	Tenant shall have two (2), five year (5) options at ninety- five percent (95%) of fair market rent.
"**Base Rent**": (Article 2)	An annual amount of $15,542,037 beginning on the Commencement Date until the first Adjustment Date, and thereafter the amount calculated pursuant to Section 2.1.3.
"**Net Lease**": (Article 2)	Landlord and Tenant acknowledge and agree that this is an "absolute net lease" and that Landlord shall receive the Base Rent during the Term, free from all charges, assessments, impositions, expenses and deductions of any and every kind or nature whatsoever relating to the Premises. Landlord shall have no obligations relating to the repair, maintenance or operation of the Premises, or any part thereof. Tenant shall be solely responsible for same.
"**Purchase Option**": (Article 11)	Tenant shall have a right of first offer to purchase the entire Premises.
"**Security Deposit/Letter of Credit**": (Article 2)	Tenant shall provide a Letter of Credit equal to three (3) months of the initial Base Rent at Closing.
"**Permitted Use**": (Article 3)	Premises may be used solely for biotechnology and other life sciences uses, including research and development, laboratory, manufacturing, assembly, storage, warehousing, office and administrative uses, all of which must be ancillary to biotechnology and other life sciences uses and, in each such case, to the extent Tenant remains in compliance with current zoning for the Premises and all Applicable Laws.

TERMS OF LEASE	DESCRIPTION
"**Address of Tenant**": (Article 13)	Ionis Pharmaceuticals, Inc. 2855 Gazelle Ct. Attention: General Counsel Email: [***] With a copy to: Cooley LLP 4401 Eastgate Mall San Diego, CA 92121-1909 Attn: David L. Crawford, Esq. Email: [***]

TERMS OF LEASE	DESCRIPTION
"**Address of Landlord**": (Article 13)	c/o Oxford Property Group 125 Summer Street, 12th Floor Boston, MA 02110 United States Attn: Kristin Binck, Esq., Vice President, Legal Email: [***] With a copy to: c/o Oxford Property Group 101 Second St, Suite 300 San Francisco, CA 94105 Attn: Abby Mondani and DLA Piper LLP (US) 33 Arch Street, 26th floor Boston, MA 02110 United States Attn: John L. Sullivan, Esq. Email: [***] and all legal notices shall also be sent to: [***]

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Exhibit A	Legal Description of the Premises
Exhibit B	[RESERVED]
Exhibit C	Form of Tenant Estoppel Certificate
Exhibit D	Form of Memorandum of Lease
Exhibit E	Form of SNDA
Exhibit F	Form of Non-Disclosure and Confidentiality Agreement
Exhibit G	Landlord Signage
Exhibit H	Plans and Specifications for Conference Center Alterations
Exhibit I	Tenant Immediate and Short Term Repairs
Exhibit J	Commencement and Termination Date Agreement
Exhibit K	Tenant Construction Manual
Exhibit L	Tenant Standard Operating Procedures

LEASE AGREEMENT

This Lease Agreement (this "**Lease**"), dated _____, 2022 (the "**Effective Date**"), is made between 2850 2855 & 2859 Gazelle Owner (DE) LLC, a Delaware limited liability company ("**Landlord**"), and Ionis Pharmaceuticals, Inc., a Delaware corporation ("**Tenant**").

ARTICLE 1
LEASE OF PREMISES; TERM

1.1 Lease. Landlord hereby leases to Tenant, and Tenant hereby leases from Landlord, the Premises for the Term. Landlord and Tenant acknowledge that Tenant is in possession of the Premises as of the Commencement Date and accepts the Premises in its "as is" condition with all faults. All of the terms and covenants of this Lease shall be effective as of the Effective Date. After the Commencement Date, Tenant and Landlord shall execute, acknowledge and deliver a written agreement in the form attached hereto as Exhibit J memorializing the Commencement Date, the Expiration Date, the original Term, and the commencement and termination dates of the Extension Terms if such are exercised.

1.2 As Is; No Representations. Tenant's lease of the Premises is on an "AS IS WHERE IS" basis. Landlord has not made any representation or warranty to Tenant regarding (a) the condition or suitability of the Premises for the conduct of Tenant's business (including, without limitation, any utilities serving the Premises, any structural components of the improvements or the condition of any Building system), (b) the restrictions that may affect the conduct of Tenant's business in, or Tenant's use of, the Premises, or any other rights or benefits under this Lease, (c) the suitability of the Premises for Tenant's intended Permitted Use, or (d) compliance with Environmental Laws at the Premises or any environmental conditions at, or Hazardous Materials on, under, above, emanating to or from, or having emanated to or from, the Premises. TENANT EXPRESSLY WAIVES ANY WARRANTY OF CONDITION OR OF HABITABILITY OR SUITABILITY FOR OCCUPANCY, USE, HABITATION, FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, EXPRESS OR IMPLIED, RELATING TO THE PREMISES. Tenant assumes full responsibility for all costs and expenses required to cause the Premises to comply with all Applicable Laws. "**Applicable Laws**" means all applicable present and future federal, state, municipal and local laws, codes, ordinances, rules and regulations of governmental authorities, committees, associations, or other regulatory committees, agencies or governing bodies having jurisdiction over the Premises or any portion thereof, Landlord or Tenant, including both statutory and common law and Environmental Laws. "**Environmental Laws**" means any applicable present and future federal, state and local laws, statutes, ordinances, rules, and regulations, as well as common law, relating to protection of human health, natural resources or the environment or governing the use, transport, or disposal of biological, bio-hazardous wastes, or radiological elements. The term "Environmental Laws" includes, but is not limited to, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended ("**CERCLA**"), 42 U.S.C. §9601 et seq.; the Toxic Substance Control Act, 15 U.S.C. §2601 et seq.; the Hazardous Materials Transportation Act, 49 U.S.C. §5101 et seq.; the Resource Conservation and Recovery Act, 42 U.S.C. §6901, et seq.; the Clean Water Act, 33 U.S.C. §1251 et seq.; the Safe Drinking Water Act, 42 U.S.C. §300f et seq.; the Clean Air Act, 42 U.S.C. §7401 et seq.; Federal Water Pollution Control Act, 33 U.S.C. §§ 1251 et seq.; Clean Air Act, 42 U.S.C. §§ 7401 et seq.; Emergency Planning and Community Right-To-Know Act, 42 U.S.C. §§ 11001 et seq.; Occupational Safety and Health Act, 29 U.S.C. §§ 65 et seq.; California Labor Code §63.82, California Health and Safety Code §25249.5, et seq., and all other applicable federal, state and local laws, regulations, ordinances, rules, and orders that are equivalent or similar to the laws recited above, or otherwise relate to human health, natural resources or the environment, in each case together with their implementing regulations, guidelines, rules, or orders, and all state, regional, county, municipal, and other local laws, regulations, ordinances, rules, and orders that are equivalent or similar to the federal and state laws recited above.

1.3 Holdover. If Tenant retains possession of any portion of the Premises after the Termination Date (as hereinafter defined) without Landlord's written consent, then Landlord shall be entitled to exercise all remedies that may be available under this Lease or at law or in equity, and Tenant shall (a) be a tenant at sufferance only, (b) be liable to perform all of the obligations of Tenant set forth in this Lease, and (c) (i) for the first ninety (90) days following the Termination Date, pay Base Rent at a rate of one hundred twenty-five percent (125%) of the monthly Base Rent in effect immediately prior to the Termination Date, and (ii) for each month thereafter, pay Base Rent at a rate of one hundred fifty percent (150%) of the monthly Base Rent in effect immediately prior to the Termination Date, prorated on a daily basis. If Tenant retains possession of any portion of the Premises for more than thirty (30) days following the Termination Date without Landlord's written consent, Tenant shall also pay to Landlord all damages, direct, consequential, or indirect, sustained by Landlord by reason of any such holding over. Otherwise, such holding over shall be on the terms and conditions set forth in this Lease as far as applicable. "**Termination Date**" means the date on which this Lease terminates for any reason, including the Expiration Date. The provisions of this Section 1.3 shall not operate as a waiver by Landlord of any right of re-entry provided in this Lease.

1.4 Extension Option.

1.4.1 Exercise of Extension Option. Tenant shall have two (2) successive options (each, an "**Extension Option**") to extend the Term of this Lease for a period of five (5) years each (each, an "**Extension Period**"), on the same terms and conditions in effect under this Lease immediately prior to the Extension Period, except that Base Rent shall be determined as set forth below and Tenant shall have no further right to extend the Term of this Lease after the end of the second (2nd) Extension Period; provided, however, it shall be a condition of Tenant's exercise of the Extension Option that Tenant also exercise the corresponding "Extension Option" as defined in the Companion Lease. If Tenant exercises an Extension Option, such extension shall apply to the entire Premises. Tenant may exercise an Extension Option only by giving Landlord irrevocable and unconditional written notice thereof (the "**Extension Notice**") on or before the date which is twelve (12) months prior to the commencement date of each applicable Extension Period and such Extension Period shall commence on the day immediately succeeding the expiration date of the preceding Term or the preceding Extension Period, as the case may be, and shall end at midnight Eastern Time on the last day of the applicable Extension Period. Such exercise shall, at Landlord's election, be null and void if any Event of Default shall have occurred and is continuing at the date of such notice. Upon delivery of the Extension Notice, Tenant shall be irrevocably bound to lease the Premises for the Extension Period. If Tenant shall fail to timely exercise the Extension Option in accordance with the provisions of this Section 1.4, then the Extension Option shall terminate, and shall be null and void and of no further force and effect. If this Lease or Tenant's right to possession of the Premises shall terminate in any manner whatsoever before Tenant shall exercise the Extension Option, then immediately upon such termination the Extension Option shall simultaneously terminate and become null and void. Time is of the essence with regard to this Section 1.4.

1.4.2 Base Rent Determination. The Base Rent starting on the Commencement Date of each Extension Period and continuing for sixty (60) months thereafter will be ninety-five percent (95%) of the then-prevailing market rate for new leases for comparable life sciences office and lab space to the Premises in comparable buildings to the Buildings in the Market Area (defined below) that a willing, comparable, non-equity tenant (excluding sublease and assignment transactions) would pay, and a willing, comparable landlord would accept, at arm's length, for a similar life sciences laboratory and research space in a first-class or "Class A" property ("Fair Market Rent"); provided, however, in no event shall the Fair Market Rent rate per month for the first year of each Extension Period be less than 103% of the Base Rent rate for the last month of the immediately preceding portion of the Term. Thereafter, escalations in the Base Rent shall be established using standard market escalations in the determination of Fair Market Rent, but in no event shall escalations in Base Rent be increased by less than three percent (3%) on each annual anniversary of the Commencement Date of the Extension Term. Fair Market Rent will reflect all monetary and non-monetary considerations and other relevant factors taken into account for comparable transactions, including, without limitation, the location of the Premises, age, quality and layout of the existing improvements in the Premises, brokerage commissions, improvements paid for by tenant improvement allowances, moving allowances, and all other relevant tenant concessions. Fair Market Rent will be adjusted to take into account the size of the Premises, the length of the Extension Period, and the credit of Tenant. The term "**Market Area**" means the real estate market area that includes Carlsbad, Sorrento Valley, Sorrento Mesa, University Town Center, and Delmar Heights.

1.4.3 Fair Market Rent. Landlord will notify Tenant of its determination of the Fair Market Rent (consistent with the methodology reflected above) for the applicable Extension Period no later than ninety (90) days prior to the commencement date of the applicable Extension Period. If Tenant delivers written notice to Landlord within ten (10) business days after its receipt of Landlord's determination of Fair Market Rent whereby Tenant disagrees with Landlord's determination of the Fair Market Rent, Tenant shall include in its notice Tenant's determination of the Fair Market Rent, and Landlord and Tenant will diligently and in good-faith confer for a period of thirty (30) days thereafter (the "**Negotiation Period**") in an attempt to agree on the Fair Market Rent. If Landlord and Tenant are unable to agree on the Fair Market Rent during the Negotiation Period, then, within five (5) business days after the expiration of such period, Landlord and Tenant shall jointly appoint an independent arbitrator (the "**Arbitrator**") who shall not have previously been employed by or otherwise worked with either Landlord or Tenant with experience in real estate activities, including at least ten (10) years' experience serving as a broker, appraiser and/or attorney in leasing transactions involving commercial life sciences laboratory and research space of comparable size and Class A quality to the Premises (collectively, the "Qualifications"), which Arbitrator shall, within twenty (20) days following the Arbitrator's appointment, determine and report in writing to Landlord and Tenant the by selecting either Landlord's or Tenant's determination of the Fair Market Rent for the Extension Period, according to whichever of the applicable determinations is closer to the Fair Market Rent, as determined by the Arbitrator. If Landlord and Tenant cannot agree on the Arbitrator in accordance with the foregoing, Landlord or Tenant may apply to the American Arbitration Association to appoint the Arbitrator in accordance with the aforementioned criteria. The Arbitrator shall have no discretion other than to select Landlord's or Tenant's determination of the Fair Market Rent as aforesaid. The costs of the Arbitrator shall be shared equally by Landlord and Tenant, and each of Landlord and Tenant shall reasonably cooperate with the Arbitrator in providing documentation and any other reasonable evidence regarding how Landlord or Tenant, as applicable, arrived at its determination of the Fair Market Rent. If the Renewal Period commences prior to the final determination of the Fair Market Rent, Tenant shall pay to Landlord the monthly rate in effect immediately prior to the commencement of the applicable Renewal Period, subject to adjustment upon resolution of such dispute.

1.4.4 General. Notwithstanding any provision of this Section to the contrary, the Extension Option shall be void, at Landlord's election, if (i) Tenant is in default hereunder, after any applicable notice and cure periods have expired, at the time Tenant elects to extend the Term or at the time the Term would expire but for such extension, or (ii) any Transfer has occurred under Article 5 of the Lease (other than a Permitted Transfer, or a sublease(s) comprising less than twenty-five percent (25%) of the Premises).

ARTICLE 2
RENT

2.1 Base Rent and Additional Rent.

2.1.1 Tenant shall pay to Landlord, without notice or demand and without deduction or set-off of any amount for any reason whatsoever, the annual Base Rent in equal monthly payments on or before the first day of each full calendar month during the Term. Base Rent as well as any other amounts payable by Tenant to Landlord under the terms of this Lease shall be paid by wire or electronic transfer of funds pursuant to directions provided to Tenant by Landlord. In addition to Base Rent, Tenant shall pay to Landlord a property management fee ("**Management Fee**") of one percent 1%) of the gross annual revenue form the Premises, which amount shall be paid in equal monthly payments on the same date and in the same manner as Base Rent.

2.1.2 If the Commencement Date is not the first day of a calendar month, Tenant shall pay to Landlord on the Commencement Date the prorated Base Rent for period from the Commencement Date until the end of the calendar month in which the Commencement Date occurs. Base Rent due for any partial calendar month at the end of the Term shall also be prorated and paid on the first day of such calendar month. Tenant shall pay to Landlord all items of Rent (as defined below), without deduction or offset and without notice or demand (except as specifically provided in this Lease in respect of Additional Rent (as defined below)), and Tenant shall deliver such payments to the payment address set forth in the Basic Lease Information, or to such other person, at such other place, or in such other manner as Landlord may designate by giving to Tenant Notice (as defined below) thereof. "**Additional Rent**" means all other amounts payable by Tenant to Landlord in accordance with this Lease, other than Base Rent. "**Rent**" means all amounts payable by Tenant to Landlord in accordance with this Lease, including, but not limited to Base Rent and Additional Rent.

2.1.3 Landlord shall, on or within thirty (30) days prior to each Adjustment Date, calculate the Escalation after the United States Department of Labor publishes the Index on which the amount of the increase will be based. Landlord's determination of the Escalation shall be binding absent manifest error. Landlord shall give written notice of the Escalation, multiplied by the number of installments of rent due under this Lease since the Adjustment Date. Tenant shall pay this amount, together with the monthly rent next becoming due under this Lease, and shall thereafter pay the monthly rent due under this Lease at this increased rate, which shall constitute Base Rent. Landlord's failure to make the required calculations promptly shall not be considered a waiver of Landlord's rights to adjust the monthly Base Rent due, nor shall it affect Tenant's obligations to pay the increased Base Rent, subject to this Section 2.1.3. If Landlord does not deliver its calculation of the Escalation within twelve (12) months after the applicable Adjustment Date, Tenant may provide Landlord with a written request for the calculation of the Escalation, and, if Landlord fails to provide the calculation of Escalation (which request shall include, in bold and prominent print on the first page, a notation that "**FAILURE TO RESPOND TO THIS REQUEST WITHIN 30 DAYS MAY RESULT IN THE LOSS OF RIGHTS PURSUANT TO SECTION 2.1.3 OF THE LEASE**") within thirty (30) days after Tenant's written request, Tenant shall not be required to so pay the increased Base Rent in arrearage for the applicable period based on an Escalation; provided, however, the foregoing waiver of Tenant's obligation to pay arrearage amounts for the applicable period shall not affect Landlord's calculation of any future Escalations. If the Index is changed so that the base year differs from that in effect on the Commencement Date, the Index shall be converted in accordance with the conversion factor published by the United States Department of Labor, Bureau of Labor Statistics. If the Index is discontinued or revised during the Term, the government index or computation with which it is replaced shall be used to obtain substantially the same result as if the Index had not been discontinued or revised. The "**Adjustment Date**" means the first anniversary of the Commencement Date and on each successive anniversary thereafter during the Term, including any exercised Extension Period.

2.2 Expenses; Taxes; Insurance Expenses.

2.2.1 Expenses. Tenant shall perform all obligations with respect to the maintenance, operation, repair and replacement of the Premises and shall pay directly for all costs and expenses incurred in connection therewith, including, but not limited to: all insurance, maintenance, repair and replacement of any improvements (including, without limitation, the Buildings, the structural and nonstructural components of the Buildings, the Building systems, equipment (owned and maintained), the foundation, roof, walls, heating, ventilation, air conditioning, plumbing, electrical, mechanical, utility (owned and maintained) and safety systems, paving and parking areas, roads and driveways); maintenance of exterior areas such as gardening and landscaping, snow removal and signage; maintenance and repair of roof membrane, flashings, gutters, downspouts, roof drains, skylights and waterproofing; painting; lighting; cleaning; refuse removal; security; utilities for, or the maintenance of, outside areas; Premises personnel costs; rentals or lease payments paid by Tenant for rented or leased personal property used in the operation or maintenance of the Premises; and fees for required licenses and permits, including in order to operate for the Permitted Use. In addition to the foregoing, Tenant shall perform the work described in Exhibit I, at Tenant's sole cost and expense, within the following time periods: (i) items identified as a Repair Type "Immediate" on Exhibit I shall be completed within six (6) months after the Commencement Date and (ii) items identified as a Repair Type "Short Term" on Exhibit I shall be completed within twelve (12) months after the Commencement Date (with "replacement reserve items" to be monitored and addressed as noted).

2.2.2 Taxes. Subject to Tenant's right to contest Taxes as set forth below, Tenant will pay directly all Taxes allocable to the Term in a timely manner and prior to when the same shall become due and payable. Landlord and Tenant shall cooperate to place all Taxes in the name of Tenant, however, if and to the extent any Taxes are billed to Landlord, then Tenant shall pay the same upon receipt of such bill from Landlord and provide Landlord with evidence of such payment promptly thereafter. In any event, Tenant shall pay all Taxes prior to the date due. "**Taxes**" means all real property taxes and other assessments on the Premises, including, but not limited to, real estate taxes, personal property taxes, transfer taxes, documentary stamps or taxes, fees, assessments and other charges of any kind or nature, whether general, special, ordinary, or extraordinary (without regard to any different fiscal year used by such governmental authority) that are levied in respect of this Lease or the Premises (or Landlord's interest therein), or in respect of any improvement, fixture, equipment, or other property of Landlord, real or personal, located at the Premises, and used in connection with operation of the Premises. Tenant and Landlord acknowledge that Proposition 13 was adopted by the voters of the State of California in the June 1978 election ("**Proposition 13**") and that assessments, taxes, fees, levies and charges may be imposed by governmental agencies for such services as fire protection, street, sidewalk and road maintenance, refuse removal and for other governmental services formerly provided without charge to property owners or occupants, and, in further recognition of the decrease in the level and quality of governmental services and amenities as a result of Proposition 13, Taxes shall also include any governmental or private assessments or contribution towards a governmental or private cost-sharing agreement charged to the Premises for the purpose of augmenting or improving the quality of services and amenities normally provided by governmental agencies. Taxes shall not include (i) Landlord's corporate franchise taxes, estate taxes, inheritance taxes or net income taxes, or (ii) transfer taxes or other taxes incurred in connection with Landlord's sale of the Premises or any interest therein, other than taxes resulting from Proposition 13 reassessment. Tenant shall furnish to Landlord, within thirty (30) days after the last day when any Tax must be paid by Tenant as provided in this Section 2.2.2, official receipt of the appropriate taxing authority or other proof satisfactory to Landlord, evidencing the payment thereof. Tenant shall have the right, at Tenant's sole cost and upon reasonable prior notice to Landlord, to initiate and prosecute any proceeding for the purpose of contesting the assessed valuation of the Premises or any personal property for tax purposes in good faith; provided, that this right to contest shall not be deemed or construed to relieve, modify or extend Tenant's obligation to pay any Taxes allocable to the Term in a timely manner and prior to when the same shall become due and payable and that prior to any such contest, Tenant (a) pays the Tax under protest, (b) obtains and maintains a stay of all proceedings for enforcement and collection by posting a bond or other security required by law, or (c) if Tenant lawfully withholds payments of any contested amounts of Taxes during the contest, Tenant has or establishes unrestricted cash reserves to be held by Landlord in an amount equal to 125% of (x) the amount of Tenant's obligations being contested plus (y) any additional interest, charge or penalty arising from such contest; provided, however, that Landlord shall (1) promptly release such reserve upon resolution of such contest, and/or (2) use such reserve to pay Taxes directly to the applicable taxing authority following resolution of such contest. Tenant shall provide Landlord with all notices received or sent to the taxing authorities, as well as regular updates relating to any such contest and afford Landlord an opportunity to participate in all such proceedings. Tenant shall indemnify and defend Landlord and save Landlord harmless from all losses, judgments, costs (including without limitation, attorneys' fees), liabilities and expenses incurred in connection with such proceedings and shall, promptly after the final determination of such contest, fully pay and discharge the amounts which shall be levied, assessed, charged or imposed or be determined to be payable therein or in connection therewith, together with all penalties, fines, costs and expenses thereof or in connection therewith). Landlord shall have the right to (a) contest or dispute any Taxes (or file an appeal related thereto), without Tenant's prior written consent, at Landlord's sole cost and expense, or (b) request that Tenant contest or dispute such Taxes (or file an appeal related thereto), in which event, Tenant, in Tenant's sole discretion, may agree to contest or dispute such Taxes, at Tenant's sole cost and expense. If an Event of Default occurs or if otherwise required by any Mortgagee or lender of Landlord, Landlord, at its option, may require Tenant to make monthly estimated payments to Landlord on account of Taxes. The monthly payments shall be one twelfth (1/12th) of the amount of Taxes due for the applicable year as reasonably estimated by Landlord and shall be payable as Additional Rent on or before the first day of each month during the Term, in advance; provided, that, Landlord shall have the right to revise such estimates from time to time. So long as no Event of Default is then continuing, any amounts received by Landlord pursuant to the immediately preceding sentence shall be disbursed to Tenant by Landlord for payment to the applicable taxing authority (or paid to the applicable taxing authority directly by Landlord) when directed by Tenant, accompanied by evidence of the amount due. Upon Tenant's request, Landlord shall provide Tenant with evidence of any such payments of Taxes made directly by Landlord.

2.2.3 Landlord's Insurance. Tenant shall reimburse or, at Landlord's request, pay directly, all premiums, deductibles, and other costs incurred by Landlord in connection with obtaining and maintaining the insurance coverage described in Section 6.2.1 below (collectively, the "**Insurance Expenses**"). Tenant shall pay the Insurance Expenses no later than fifteen (15) days after demand. If an Event of Default occurs or if otherwise required by any Mortgagee or lender of Landlord, Landlord, at its option, may require Tenant to make monthly estimated payments to Landlord on account of Insurance Expenses. The monthly payments shall be one twelfth (1/12th) of the amount of Insurance Expenses due for the applicable year as reasonably estimated by Landlord and shall be payable as Additional Rent on or before the first day of each month during the Term, in advance; provided, that, Landlord shall have the right to revise such estimates from time to time. If Landlord requires monthly payments of the Insurance Expenses, Landlord will use reasonable efforts to provide a statement reconciling such payments within ninety (90) days after the end of each calendar year, and any underpayments shall paid by Tenant within fifteen (15) days after Tenant's receipt of the statement, and any overpayments shall be credited to the next payment of Rent that becomes due under the Lease.

2.3 Net Lease.

2.3.1 Absolute Triple Net Lease. It is intended by the parties that this Lease be an absolute "triple net lease," imposing upon Tenant the obligation to pay all charges of every kind and nature in connection with the use, operation, management, maintenance, repair, and occupancy of the Premises, whether or not recited herein and whether foreseeable or unforeseeable, including, but not limited to, utilities, fees, costs, real estate taxes, sales and use taxes, all operation, management, maintenance and repair costs associated with the Premises and the improvements located thereon and costs of compliance with Environmental Laws, except as expressly provided in this Lease. Tenant shall pay to Landlord, net throughout the Term, the Rent due hereunder free of any offset, abatement, or other deduction whatsoever, without notice or demand. Except to the extent due to the gross negligence or willful misconduct of, or breach of contract by, Landlord or any of Landlord's assignees, agents, servants, employees, invitees and contractors (or any of Landlord's assignees respective agents, servants, employees, invitees and contractors) (collectively, "**Landlord Parties**"; any of them, a "**Landlord Party**"), Tenant assumes the sole responsibility for the condition, use, operation, maintenance, management and compliance with Environmental Laws of the Premises, and Landlord shall have no responsibility in respect thereof and shall have no liability for damage to Tenant's personalty on any account or for any reason whatsoever. Notwithstanding the foregoing or anything to the contrary in this Lease, Tenant shall not be required to pay, or reimburse Landlord for: (i) depreciation charges, penalties, premiums, interest and principal payments on mortgages and other debt costs, ground rental payments and real estate brokerage and leasing commissions incurred by Landlord; (ii) costs incurred for Landlord's general overhead and any property or asset management fee other than as expressly set forth in this Lease; (iii) costs of selling or financing any of Landlord's interest in the Premises; (iv) costs incurred by Landlord which are reimbursed by property insurance proceeds actually received by Landlord where such proceeds result from a claim subject to the provisions of Section 6.2.3. below; and (v) reserves in excess of commercially reasonable amounts for comparable properties (and such reserves shall only be payable by Tenant if required by Landlord's lender or in accordance with commercially reasonable business practices for comparable properties).

2.3.2 Payments to Third Parties. Subject to Section 2.2.3(c) below, Landlord and Tenant recognize that there may be recurring payments to third parties, including governmental entities, for various items including inspections of storm water retention areas, inspections of pump stations, fees for storm water runoff, and assessments for maintenance and repairs under a Title Instrument (as defined below). Tenant is solely responsible for paying any fees or expenses imposed by governmental regulations or third parties, including those that may be required to obtain, modify and maintain compliance with any permits, licenses and approvals required by Applicable Laws, including for the use of and operation at the Premises by Tenant for the Permitted Use, or allocated to the Premises under any such Title Instrument. Tenant acknowledges that matters of the type contemplated by this Section may not be known to Landlord until after this Lease has been signed by Landlord and Tenant.

2.3.3 Title Instruments. In addition to the foregoing, during the term of this Lease, Tenant shall timely perform all obligations of the owner of the Premises under, and pay all expenses which the owner of the Premises may be required to pay in accordance with any declarations, covenants, conditions and restrictions or reciprocal easement agreements or any other documents or instruments that are of record now and affect the Premises (or of record in the future if created or filed by or with the consent of Tenant), including, without limitation, any documents or instruments recorded in connection with any Future Development (referred to collectively herein as the "**Title Instruments**"); provided, however, Tenant need not pay any debt service on loans that encumber the fee estate and that do not encumber Tenant's leasehold estate and Tenant need not pay any rent on any lease that is senior in priority to this Lease. Tenant promptly shall comply with all of the terms and provisions of all Title Instruments, including all insurance requirements, regardless of whether any such requirements exceed the requirements otherwise set forth in this Lease. Notwithstanding the foregoing, except as provided in Section 10.5, Landlord shall not enter into new Title Instruments or modify existing Title Instruments during the Term without Tenant's prior written consent, which may be withheld in Tenant's reasonable discretion; provided, however, that Tenant's prior written consent shall not be required with respect to (i) any financing obtained by Landlord secured by Landlord's interest in the Premises, (ii) Title Instruments necessary to effectuate transfers to third-party purchasers of the Premises, or (iii) any new Title Instruments or the modification of existing Title Instruments that do not (x) materially and adversely affect Tenant's use or occupancy of the Premises or (y) impose any fees or costs that would be payable by Tenant unless Landlord agrees to pay such fees.

2.4 Interest and Late Charge. If Tenant fails to pay Rent as and when due and such failure continues for three (3) business days following written notice from Landlord, then, together with each payment of Rent that Tenant pays to Landlord after such payment is due, Tenant shall pay to Landlord the Late Charge (as defined below) and interest calculated on the amount of such payment over the period commencing on the day immediately following the day on which such payment was due and ending on the day on which Tenant pays to Landlord such payment at the rate of the lesser of six percent (6%) over the "Prime Rate" announced from time to time by Bank of America or its successor or the maximum lawful rate of interest. Notwithstanding the foregoing, Landlord shall not be required to provide prior notice of Tenant's failure to pay Base Rent or any recurring obligation to pay Rent more than once during any twelve (12) month period, after which Tenant's failure to pay such amount shall be subject to the Late Charge and default interest provided above if Tenant fails to pay the amount when due and such failure continues for three (3) business days after the due date. "**Late Charge**" means, in respect of any such payment, five percent (5%) of such payment. In addition, Tenant shall pay to Landlord a reasonable fee for any checks returned by Tenant's bank for any reason.

2.5 Security Deposit/Letter of Credit.

2.5.1 Concurrently with Tenant's execution of this Lease, and in lieu of a cash security deposit, Tenant shall provide a letter of credit (the "**Letter of Credit**") in the amount set forth as the "Security Deposit/Letter of Credit" in the Basic Lease Information. Any cash security deposit drawn from the Letter of Credit may be mingled with other funds of Landlord and no fiduciary relationship shall be created with respect to such deposit, nor shall Landlord be liable to pay Tenant interest thereon.

2.5.2 The Letter of Credit (i) shall be irrevocable and shall be issued by a commercial bank that has a financial condition reasonably acceptable to Landlord and that is otherwise an Eligible Bank (as defined below) and has an office in San Francisco, California that accepts requests for draws on the Letter of Credit; provided, Silicon Valley Bank shall be deemed an approved issuer of the Letter of Credit so long as Silicon Valley Bank remains an Eligible Bank, (ii) shall require only the presentation to the issuer (which may be in a location other than San Francisco if permitted on the basis of a fax or electronic submittal only) a certificate of the holder of the Letter of Credit stating that Landlord is entitled to draw on the Letter of Credit pursuant to the terms of the Lease, (iii) shall be payable to Landlord or its successors in interest as the Landlord and shall be freely transferable without cost to any such successor or any lender holding a collateral assignment of Landlord's interest in the Lease, (iv) shall be for an initial term of not less than one year and contain a provision that such term shall be automatically renewed for successive one-year periods unless the issuer shall, at least forty five (45) days prior to the scheduled expiration date, give Landlord notice of such nonrenewal, (v) shall be transferrable by Landlord without any cost to Landlord or the transferee (or, if there is a transfer fee, Tenant shall pay such fee and such transfer shall not be conditioned upon payment of such fee), and (vi) shall otherwise be in form and substance reasonably acceptable to Landlord. Notwithstanding the foregoing, the term of the Letter of Credit for the final period shall be for a term ending not earlier than the date forty-five (45) days after the last day of the Term. In the event that the issuer ceases to be reasonably acceptable to Landlord, due to a deterioration in its financial condition or change in status that threatens to compromise Landlord's ability to draw on the Letter of Credit as determined in good faith by Landlord or otherwise by its failure to be an Eligible Bank, then Tenant shall provide a replacement Letter of Credit from an issuer satisfying the terms of this Section 2.5.2 within thirty (30) days after Landlord's notice of such event. "**Eligible Bank**" shall mean shall mean a commercial or savings bank organized under the laws of the United States or any state thereof or the District of Columbia and having total assets in excess of $1,000,000,000.00 that shall be a financial institution having a rating of not less than BBB or its equivalent by Standard and Poors Corporation and subject to a Thompson Watch Rating of C or better.

2.5.3 The Letter of Credit shall be held by, or for the benefit of Landlord, as security for the performance of the provisions hereof by Tenant, and if the Letter of Credit or portion thereof is applied by Landlord for the payment of any Rent or any other sum in default, then Tenant shall, upon demand therefor, restore the Letter of Credit to its original amount as provided in Section 2.5.1 above. Tenant hereby irrevocably waives and relinquishes any and all rights, benefits, or protections, if any, Tenant now has, or in the future may have under any provision of law which (i) establishes the time frame by which a landlord must refund a security deposit under a lease, or (ii) provides that a landlord may claim from a security deposit only those sums reasonably necessary to remedy defaults in the payment of rent, or to repair damage caused by a tenant or to clean the subject premises, as required and subject to the provisions of this Lease. Tenant acknowledges and agrees that (A) any statutory time frames for the return of a security deposit are superseded by the express period identified in this Section 2.5, and (B) rather than be so limited, Landlord may claim from the security deposit (i) any and all sums expressly identified in this Section 2.4, above, and (ii) any additional sums reasonably necessary to compensate Landlord for any and all losses or damages caused by Tenant's default of this Lease, including, but not limited to, all damages or rent due upon termination of this Lease.

2.5.4 Landlord shall be entitled to draw upon the Letter of Credit for its full amount or any portion thereof if (a) Tenant shall fail to perform any of its obligations under the Lease after the expiration of any applicable notice and cure period, or fail to perform any of its obligations under the Lease and transmittal of a default notice or the running of any cure period is barred or tolled by Applicable Law, or fail to perform any of its obligations under the Lease and any applicable notice and cure period would expire after the expiration of the Letter of Credit, or (b) not less than thirty (30) days before the scheduled expiration of the Letter of Credit, Tenant has not delivered to Landlord a new Letter of Credit in accordance with this Section; provided no such delivery shall be required if the Letter of Credit provides for automatic renewals in compliance with Section 2.5.2, and the issuer of the Letter of Credit has not sent a notice of non-renewal. Without limiting the generality of the foregoing, Landlord may, but shall not be obligated to, draw on the Letter of Credit from time to time in the event of a bankruptcy filing by or against Tenant and/or to compensate Landlord, in such order as Landlord may determine, for all or any part of any unpaid rent, any damages arising from any termination of the Lease in accordance with the terms of the Lease, and/or any damages arising from any rejection of the Lease in a bankruptcy proceeding commenced by or against Tenant. Landlord may, but shall not be obligated to, apply the amount so drawn to the extent necessary to cure Tenant's failure.

2.5.5 Any amount of the Letter of Credit drawn in excess of the amount applied by Landlord to cure any such failure shall be held by Landlord as a cash security deposit for the performance by Tenant of its obligations under the Lease. If Tenant shall fail to perform any of its obligations under the Lease, Landlord may, but shall not be obliged to, apply the cash security deposit to the extent necessary to cure Tenant's failure. After any such application by Landlord of the Letter of Credit or cash security deposit, as the case may be, Tenant shall reinstate the Letter of Credit to the amount originally required to be maintained under the Lease, within ten (10) business days of Landlord's demand. Provided that Tenant is not then in default under the Lease, and no condition exists or event has occurred that after the expiration of any applicable notice or cure period would constitute such a default, within forty five (45) days after the later to occur of (i) the payment of the final Rent due from Tenant or (ii) the later to occur of the Term Expiration Date or the date on which Tenant surrenders the Premises to Landlord in compliance with Section 20 of the Lease, the Letter of Credit and any cash security deposit, to the extent not applied, shall be returned to the Tenant, without interest, and Landlord, upon request, shall confirm termination of the Letter of Credit with the issuer thereof.

2.5.6 In the event of a sale of the Buildings or lease, conveyance or transfer of the Buildings, Landlord shall transfer the Letter of Credit or cash security deposit to the transferee. Upon such transfer, the transferring Landlord shall be released by Tenant from all liability for the return of such security, and Tenant agrees to look to the transferee solely for the return of said security. The provisions hereof shall apply to every transfer or assignment made of the security to such a transferee. Tenant further covenants that it will not assign or encumber or attempt to assign or encumber the Letter of Credit or the monies deposited herein as security, and that neither Landlord nor its successors or assigns shall be bound by any assignment, encumbrance, attempted assignment or attempted encumbrance.

2.5.7 Landlord and Tenant acknowledge and agree that in no event or circumstance shall the Letter of Credit, any renewal thereof or substitute therefor or the proceeds thereof be (i) deemed to be or treated as a security deposit within the meaning of California Civil Code Section 1950.7, (ii) subject to the terms of such Section 1950.7, or (iii) intended to serve as a security deposit within the meaning of such Section 1950.7. The parties hereto (A) recite that the Letter of Credit is not intended to serve as a security deposit and such Section 1950.7 and any and all other laws, rules and regulations applicable to security deposits in the commercial context ("**Security Deposit Laws**") shall have no applicability or relevancy thereto, and (B) waive any and all rights, duties and obligations either party may now or, in the future, will have relating to or arising from the Security Deposit Laws. Notwithstanding the foregoing, to the extent California Civil Code 1950.7 in any way: (a) is determined to be applicable to this Lease or the Letter of Credit (or any proceeds thereof); or (b) controls Landlord's rights to draw on the Letter of Credit or apply the proceeds of the Letter of Credit to any amounts due under this Lease or any damages Landlord may suffer following termination of this Lease, then Tenant fully and irrevocably waives the benefits and protections of Section 1950.7 of the California Civil Code, it being agreed that Landlord may recover from the Letter of Credit (or its proceeds) all of Landlord's damages under this Lease and California law including, but not limited to, any damages accruing upon the termination of this Lease in accordance with this Lease and Section 1951.2 of the California Civil Code.

ARTICLE 3
USE, COMPLIANCE WITH LAWS, HAZARDOUS MATERIALS, DOGS

3.1 Use. Tenant shall use the Premises solely for the Permitted Use, in a manner consistent with first-class life science buildings, and shall comply (and ensure that the Premises at all times comply) with all Applicable Laws. Tenant shall be solely responsible for the securing, modifying, maintaining, and compliance with any and all permits, licenses and approvals required or that may be required or otherwise in effect for the Permitted Use and under Environmental Laws in connection with Tenant's use and operation of the Premises. Tenant shall not commit, or allow to commit, any waste of or injury to the Premises or create, maintain or exacerbate any nuisance thereon or therefrom. Landlord agrees to reasonably cooperate with Tenant, at Tenant's sole cost and expense, in obtaining any permits, licenses and approvals required by Applicable Laws for the use of and operation at the Premises by Tenant for the Permitted Use, including, without limitation, by executing or joining in the execution of such applications and other documentation (the form and content of which shall be subject to Landlord's reasonable approval) in Landlord's name, solely as and because Landlord is the fee simple owner of the Premises, as may be necessary for obtaining such permits, licenses and approvals, all without cost or liability to Landlord. Tenant shall operate in a first-class manner and shall not exceed the density limit for the Buildings under Applicable Laws. Tenant shall not commit waste or cause a public nuisance.

3.2 Compliance with Applicable Laws. Tenant shall comply with all Applicable Laws and any agreements between Tenant and third parties with respect to the Premises and Tenant's operation at the Premises. It is intended that the Tenant bear the sole risk of all present or future Applicable Laws, regulations and orders affecting the Premises, and the Landlord shall not be liable for their enforcement. Should there be any material noncompliance or alleged material noncompliance by Tenant with Applicable Laws or agreements between Tenant and third parties with respect to the Premises and Tenant's operation at the Premises, Tenant shall promptly notify Landlord in writing of such actual or alleged noncompliance, which notice shall include (i) documentation that such actual or alleged noncompliance has been fully addressed and eliminated or, (ii) if such actual or alleged noncompliance has not been fully addressed and eliminated, a schedule to fully and expeditiously address and eliminate such actual or alleged noncompliance. The giving of such notice shall not relieve Tenant of any liability to Landlord or others for such actual or alleged noncompliance. To ensure Tenant's compliance with Applicable Laws and Tenant's performance of Tenant's management, repair, maintenance, and compliance obligations hereunder, upon reasonable notice to Tenant and subject to and in accordance with Applicable Laws and reasonable confidentiality requirements pertaining to Tenant's operations (provided such requirements do not impair or delay Landlord's rights under this Section), Landlord may inspect or cause non-invasive independent third party inspections of the facility and Tenant's operation to confirm compliance with Applicable Laws and Tenant's management, repair, maintenance, and compliance obligations hereunder, at Landlord's expense, except as otherwise provided in Section 3.3.7.

3.3 Hazardous Materials.

3.3.1 Tenant, and any of Tenant's assignees, sublessees, licensees, agents, servants, employees, invitees and contractors (or any of Tenant's assignees, sublessees and/or licensees respective agents, servants, employees, invitees and contractors) (collectively, "**Tenant Parties**"; any of them, a "**Tenant Party**") (a) shall not, and shall not permit at any time, the handling, use, manufacture, release, storage, or disposal of Hazardous Materials in or about any portion of the Premises in violation of Applicable Laws, (b) shall always manage, handle, use, store, and dispose of such Hazardous Materials in a safe manner, according to prudent industry practice, and in compliance with Applicable Laws, and (c) shall at all times have any and all required permits, licenses and approvals required for or in connection with, the use and handling of Hazardous Materials at the Premises and at all times be in compliance with such required permits, licenses and approvals. "**Hazardous Materials**" means (a) any and all substances (whether solid, liquid or gas) defined, listed or otherwise classified or regulated as "biological compounds", "bio-hazardous wastes", "radiological elements", "hazardous wastes," "hazardous materials," "hazardous substances," "toxic substances," "pollutants," "contaminants," "radioactive materials", "toxic pollutants", "solid wastes," or other similar designations in, or otherwise subject to regulation under Environmental Laws, and (b) any other substances, constituents or wastes that are deemed to have a negative impact on human health or the environment, whether or not naturally occurring, or that are subject to Environmental Law, now or hereafter in effect, including but not limited to (A) petroleum, (B) refined petroleum products, (C) waste oil, (D) waste aviation or motor vehicle fuel and their byproducts, (E) asbestos, (F) lead in water, paint or elsewhere, (G) radon, (H) Polychlorinated Biphenyls (PCBs), (I) urea formaldehyde, (J) volatile organic compounds (VOC), (K) total petroleum hydrocarbons (TPH), (L) benzene derivative (BTEX), (M) poly- and perfluoroalkyl substances and other emerging contaminants, and (N) petroleum byproducts. Hazardous Materials further includes flammables, explosives, corrosive materials, radioactive materials, materials capable of emitting toxic fumes, hazardous wastes, toxic wastes or materials, and other similar substances, petroleum products and derivatives, and any substance subject to regulation by or under any Environmental Law. As between Landlord and Tenant, Tenant is deemed to be the operator of the Premises, the generator of any Hazardous Materials waste present at or generated at the Premises or as part of Tenant's operations, and the owner of all Hazardous Materials at the Premises at any and all times during the Term. On or before the expiration or earlier termination of this Lease, Tenant shall remove from the Premises all Hazardous Materials introduced to the Premises by Tenant, any other Party or any other party other than Landlord during the Term of the Lease, regardless of whether such Hazardous Materials are included on the Hazardous Materials List or present at the Premises in concentrations which require removal under Applicable Laws. As used herein, the term "**Contamination**" means the presence of Hazardous Materials in the air, soil, surface and/or ground water in, on or under the Premises and/or any adjacent property at levels above those permitted by applicable Environmental Laws.

3.3.2 Landlord acknowledges that it is not the intent of this Section 3.3 to prohibit Tenant from using the Premises for the Permitted Use. Tenant may operate its business according to best industry practices so long as the use or presence of Hazardous Materials is strictly and properly monitored according to all then applicable Environmental Laws, all Hazardous Materials at the Premises are used in the operation of Tenant's business, and such use is consistent with similar first-class facilities engaged in the Permitted Use in the greater San Diego County area. Notwithstanding the foregoing, Tenant shall have no right to install any underground storage tanks at the Premises unless Landlord has given Tenant its written consent to do so, which consent may be withheld in Landlord's sole and absolute discretion. In conducting its research activities using Hazardous Materials, Tenant shall not perform work at or above the risk category Biosafety Level 3 as established by the Department of Health and Human Services publication Biosafety in Microbiological and Biomedical Laboratories (5th Edition) (as it may be or may have been further revised, the "**BMBL**") or such nationally recognized new or replacement standards as Landlord may reasonable designate, without the prior written approval of Landlord, which approval shall not be unreasonably withheld, conditioned, or delayed (and if such change in Tenant's operation requires the approval of Landlord's lender, the lender's denial of approval shall be deemed a reasonable basis for Landlord to deny its approval); provided, however, Landlord's approval of any operation above the risk category Biosafety Level 3 shall be in Landlord's sole discretion. Tenant shall comply with all applicable provisions of the standards of the BMBL to the extent applicable to Tenant's operations in the Premises.

3.3.3 As a material inducement to Landlord to allow Tenant to use Hazardous Materials in connection with its business, Tenant agrees to deliver to Landlord prior to the Commencement Date a list identifying each type of Hazardous Materials (other than ordinary office and cleaning supplies used in cleaning of the office spaces within the Building) to be brought upon, kept, used, stored, handled, treated, generated on, or released or disposed of from, the Premises and setting forth any and all governmental approvals or permits required in connection with the presence, use, storage, handling, treatment, generation, release or disposal of such Hazardous Materials on or from the Premises ("**Hazardous Materials List**"). Upon Landlord's request (not more than once per year, unless Landlord has a reasonable belief that Tenant is not in compliance with this Section 3.3, a release or threatened release of Hazardous Materials has occurred, or in connection with a sale, financing, refinancing, or recapitalization of Landlord's interest in the Premises), or any time that Tenant is required to deliver a Hazardous Materials List to any governmental authority (e.g., the fire department) or an insurer in connection with Tenant's use or occupancy of the Premises, Tenant shall deliver to Landlord a copy of such Hazardous Materials List. Tenant shall deliver to Landlord true and correct copies of the following documents (the "**Haz Mat Documents**") relating to the use, storage, handling, treatment, generation, release or disposal of Hazardous Materials prior to the Commencement Date, or if unavailable at that time, concurrent with the receipt from or submission to a governmental authority: permits; licenses, approvals; reports and correspondence; storage and management plans; notice of violations of any Applicable Laws; fire safety plans; spill response plans; plans relating to the installation of any storage tanks to be installed in or under the Premises (provided, said installation of tanks shall only be permitted after Landlord has given Tenant its written consent to do so, which consent may be withheld in Landlord's sole and absolute discretion with respect to underground storage tanks); all closure plans or any other documents required by any and all governmental authorities for any storage tanks installed in, on or under the Premises for the closure of any such tanks; and a Surrender Plan (to the extent surrender in accordance with Section 3.3.9 cannot be accomplished in three (3) months). Tenant is not required, however, to provide Landlord with any portion(s) of the Haz Mat Documents containing proprietary information of a proprietary nature that, in and of themselves, do not contain a reference to any Hazardous Materials or hazardous activities. It is not the intent of this Section to provide Landlord with information that could be detrimental to Tenant's business should such information become possessed by Tenant's competitors.

3.3.4 Except to the extent caused by the gross negligence or willful misconduct of, or breach of contract by, Landlord or Landlord Parties, Tenant releases Landlord and Landlord Parties from and agrees to indemnify, defend and hold Landlord and Landlord Parties harmless for, from and against any and all actions (including, without limitation, remedial or enforcement actions of any kind, administrative or judicial proceedings, and orders or judgments arising out of or resulting therefrom), costs, claims, damages (including, without limitation, punitive damages and damages based upon diminution in value of the Premises, or the loss of, or restriction on, use of the Premises), expenses (including, without limitation, legal, consultants' and experts' fees, court costs and amounts paid in settlement of any claims or actions), fines, forfeitures or other civil, administrative or criminal penalties, injunctive or other relief (whether or not based upon personal injury, property damage, or Contamination of, or adverse effects upon, the environment, water tables or natural resources), liabilities or losses (i) that arise prior to, during, or after the Term, as a result of the presence, suspected presence, release, or suspected release of any Hazardous Materials in or into the environment, including the air, soil, surface water, or groundwater at, on, about, under, emanating to or from, having emanated to or from, or within the Premises, or any portion thereof caused or exacerbated by, or otherwise attributable to, Tenant or any other party (other than Landlord or Landlord Parties) prior to the date that Tenant vacates the Premises in the condition required following the termination or earlier expiration of the Term, or (ii) that arise prior to, during, or after the Term, as a result of the breach by Tenant of any of its obligations under this Section 3.3, including in each case, without limitation, the cost of assessment, containment and/or removal of any such Hazardous Materials, the reasonable and necessary cost of any actions taken in response to a release of any such Hazardous Materials so that it does not migrate or otherwise cause or threaten danger to present or future public health, safety, welfare or the environment, and costs incurred to comply with Environmental Laws in connection with all or any portion of the Premises or the operation thereof (or any surrounding areas for which Tenant or Landlord has any legal liability or obligation) during the Term.

3.3.5 EXCEPT AS OTHERWISE PROVIDED FOR HEREIN, LANDLORD LEASES AND WILL LEASE, AND TENANT TAKES AND WILL TAKE, THE PREMISES IN AN ENVIRONMENTALLY "AS IS" CONDITION, AND TENANT ACKNOWLEDGES THAT LANDLORD HAS NOT MADE AND WILL NOT MAKE, NOR SHALL LANDLORD BE DEEMED TO HAVE MADE, ANY WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, WITH RESPECT TO THE ENVIRONMENTAL CONDITION OF THE PREMISES, INCLUDING ANY WARRANTY OR REPRESENTATION AS TO FITNESS OF THE PREMISES FOR ANY PARTICULAR USE OR PURPOSE, AS TO THE PRESENCE OR ABSENCE OF ANY HAZARDOUS MATERIALS, LATENT OR PATENT, ANY ENVIRONMENTAL CONDITION, KNOWN OR UNKNOWN, OR ANY AIR, SOIL, SOIL GAS, OR GROUNDWATER CONDITION, IT BEING AGREED THAT ALL RISKS AND LIABILITY INCIDENT TO ANY OF THE FOREGOING ARE TO BE BORNE BY TENANT

3.3.6 Tenant hereby represents and warrants to Landlord that (i) neither Tenant nor any of its legal predecessors has been required by any prior landlord, lender or governmental authority at any time to take remedial action in connection with Hazardous Materials contaminating the natural environment, which contamination was caused or permitted by Tenant or such predecessor or resulted from Tenant's or such predecessor's acts, omissions, or use or occupation of the property in question, and (ii) Tenant is not subject to any enforcement order issued, or regulatory proceedings or prosecution commenced, by any governmental authority in connection with the use, storage, handling, treatment, generation, release or disposal of Hazardous Materials (including, without limitation, any order related to the failure to make a required reporting to any governmental authority).

3.3.7 Upon prior notice and using reasonable efforts to coordinate with Tenant, Landlord shall have the right but not the obligation to conduct annual tests (or at any time Landlord has a reasonable belief that Tenant is not in compliance with this Section 3.3) of the Premises including, without limitation, intrusive tests of the subsurface soil and/or ground water, to determine whether any Contamination of the Premises has occurred as a result of Tenant's use or occupation. Landlord shall pay the cost of such test of the Premises; provided, however, that if such tests show any Contamination of the Premises has occurred as a result of Tenant's use or occupation, Tenant shall pay the cost of such test. In connection with such testing, upon the request of Landlord, Tenant shall deliver to Landlord or its consultant such non-proprietary information concerning the use, storage, handling, treatment, generation, release or disposal of Hazardous Materials in or about the Premises by Tenant or any Tenant Party as Landlord may reasonably request. If Contamination has occurred for which Tenant is liable under this Section 3.3, Tenant shall pay all costs to conduct such tests. Tenant shall, at its sole cost and expense, promptly and satisfactorily remediate any Contamination identified by such testing in accordance with all Environmental Laws. Landlord's receipt of or satisfaction with any environmental assessment in no way waives any rights that Landlord may have against Tenant.

3.3.8 Furthermore, upon the expiration of the Term or earlier termination of Tenant's right of possession, Tenant shall surrender the Premises to Landlord free of Hazardous Materials brought upon, kept, used, stored, handled, treated, generated in, or released or disposed of from, the Premises by any person other than Landlord (collectively, "**Tenant's Hazardous Materials**") and released of any license, clearance or other authorization or requirement of any kind required to enter into and restore the Premises issued by any governmental authority having jurisdiction over the use, storage, handling, treatment, generation, release, disposal, removal or remediation of Hazardous Materials in, on or about the Premises (collectively referred to herein as "**Hazardous Materials Clearances**"). At least three (3) months prior to the surrender of the Premises or such earlier date as Tenant may elect to cease operations at the Premises, Tenant shall deliver to Landlord a narrative description of the actions proposed (or required by any governmental authority) to be taken by Tenant in order to surrender the Premises (including any Alterations permitted by Landlord to remain in the Premises) at the expiration or earlier termination of the Term, free from any residual impact from Tenant's Hazardous Materials and otherwise released for unrestricted use and occupancy (the "**Surrender Plan**"). Such Surrender Plan shall be accompanied by a current listing of (i) all Hazardous Materials licenses and permits held by or on behalf of any Tenant Party with respect to the Premises, and (ii) all Hazardous Materials used, stored, handled, treated, generated, released or disposed of from the Premises, and shall be subject to the review and reasonable approval of Landlord's environmental consultant. In connection with the review and approval of the Surrender Plan, upon the request of Landlord, Tenant shall deliver to Landlord or its consultant such additional non-proprietary information concerning Tenant's Hazardous Materials as Landlord shall reasonably request. On or before such surrender, Tenant shall deliver to Landlord evidence that the approved Surrender Plan shall have been satisfactorily completed and Landlord shall have the right, subject to reimbursement at Tenant's expense as set forth below, to cause Landlord's environmental consultant to inspect the Premises and perform such additional procedures, including without limitation intrusive subsurface testing of soil and/or ground water, as may reasonably be deemed necessary to confirm that the Premises are, as of the effective date of such surrender or early termination of the Lease, free from any Tenant's Hazardous Materials. Tenant shall reimburse Landlord, as Additional Rent, for the actual out-of-pocket expense incurred by Landlord for Landlord's environmental consultant to review the Surrender Plan and to visit the Premises and verify satisfactory completion of the same, which cost shall not exceed $5,000 (which amount shall be increased by the same percentage as the Index as of each Adjustment Date). Landlord shall have the unrestricted right to deliver such Surrender Plan and any report by Landlord's environmental consultant with respect to the surrender of the Premises to third parties on a need-to-know basis.

3.3.9 If Tenant shall fail to prepare or submit a Surrender Plan approved by Landlord, or if Tenant shall fail to complete the approved Surrender Plan, or if such Surrender Plan, whether or not approved by Landlord, shall fail to adequately address any Tenant's Hazardous Materials in, on or about the Premises, Landlord shall have the right to take such actions as Landlord may reasonably deem appropriate to assure that the Premises are surrendered free from any Tenant's Hazardous Materials, the cost of which actions shall be reimbursed by Tenant as Additional Rent.

3.3.10 Tenant's obligations under this Section 3.3 shall survive the expiration or earlier termination of the Lease. During any period of time after the expiration or earlier termination of this Lease required by Tenant or Landlord to complete the removal from the Premises of any Hazardous Materials (including, without limitation, the release and termination of any licenses or permits restricting the use of the Premises and the completion of the approved Surrender Plan), Tenant shall continue to pay the full Rent in accordance with this Lease for any portion of the Premises not relet by Landlord in Landlord's sole discretion, which Rent shall be prorated daily.

3.4 Alterations.

3.4.1 Consent. Tenant may make any alterations, improvements, additions or changes to the Premises (collectively "Alterations") that meet all of the following criteria without first obtaining Landlord's Consent: (a) the Alterations are cosmetic, (b) the Alterations are non-structural and do not affect the mechanical systems of the Building, (c) the Alterations cost less than $1,000,000.00 per project (which amount shall be increased by the same percentage as the Index as of each Adjustment Date); and (d) after the Alterations, the Premises will continue to be used for the Permitted Use (collectively, Alterations meeting the criteria of (a)-(d), "Minor Alterations"). Any Alterations that are not Minor Alterations shall be subject to Landlord's approval, such approval not to be unreasonably withheld, conditioned or delayed. Tenant shall reimburse Landlord for any third-party expenses reasonably incurred by Landlord in connection with the review, inspection, and coordination of Tenant's plans for Alterations and Tenant's performance thereof. Notwithstanding the foregoing, Tenant shall have the right to construct the renovation of the conference center located at 2850 Gazelle Court (the "Conference Center Alterations"), at Tenant's sole cost and expense, in accordance with the plans and specifications identified on Exhibit H attached hereto (the "CCA Plans") and in accordance with all Applicable Laws, provided any modifications to the plans for the Conference Center Alterations that are not Minor Alterations, minor field work changes not requiring Tenant's approval under the applicable construction contract for such Alterations, or changes that are required to comply with applicable law, shall require, in each case, Landlord's approval, not to be unreasonably withheld, conditioned or delayed, and the Conference Center Alterations shall otherwise comply with this Section 3.4. Tenant hereby agrees to provide copies of all plans of such Alterations, regardless of whether Landlord's consent is required. Tenant shall diligently and expeditiously complete any Alterations commenced. All Alterations shall become part of the realty constituting the Premises and shall belong to Landlord and shall not be removed by Tenant. If any Alteration (other than the Conference Center Alterations) is anticipated to cost more than $1,500,000, Landlord shall have the right to require Tenant to post a performance or payment bond in connection with any work or service done or purportedly done by or for the benefit of Tenant. Tenant acknowledges and agrees that all such work or service is being performed for the sole benefit of Tenant and not for the benefit of Landlord. Landlord shall, at the time it provides its approval for a proposed Alteration, advise Tenant whether the Alteration, or any portion thereof, is a Required Removable, as defined in Section 4.2.2.

3.4.2 Liens. With respect to any Alterations, Tenant hereby agrees as follows: (a) Tenant shall not cause or permit any construction, mechanics' or other liens or encumbrances to be placed upon the Premises, or Tenant's leasehold interest hereunder, whether in connection with any work or service done or purportedly done by or for the benefit of Tenant, its subtenants, or any other party acting under or through Tenant, or otherwise, (b) Tenant shall cause all Alterations to be constructed free of all liens, in accordance with all Applicable Laws and shall, upon Landlord's request, deliver lien waivers to Landlord in the form required by Applicable Law, (c) Tenant shall pay the costs of the Alterations and so that Landlord, the Premises will be protected against any loss from any mechanic's, materialmen's, or other liens, and (d) prior to the commencement of the construction of any Alterations, Tenant shall give to Landlord evidence of the insurance required by Section 6.2.4. Notwithstanding the foregoing or anything to the contrary in this Lease, Tenant may contest any lien if (i) such lien is the subject of a bona fide dispute in which Tenant is contesting the amount or validity thereof, (ii) Tenant notifies Landlord of such dispute, and (iii) such lien is fully bonded by Tenant to the reasonable satisfaction of Landlord and any Mortgagee. Tenant shall give Landlord notice at least fifteen (15) days prior to the commencement of any work in the Premises, other than any Alterations that are purely cosmetic.

3.4.3 Requirements. Prior to starting work on any Alterations, Tenant shall furnish Landlord with two (2) complete sets of professionally prepared working drawings (which shall include any architectural, structural, electrical, mechanical, computer system wiring, and telecommunication plans, which shall all be in CAD or other electronic format if requested by Landlord), and will be consistent with the construction methods and procedures manual attached hereto as Exhibit K, as amended from time to time for the Premises (the "**Tenant Construction Manual**"); names of contractors reasonably acceptable to Landlord; required permits and approvals; and evidence of contractor's and subcontractor's insurance in amounts reasonably required by Landlord and naming as additional insureds the Landlord, the managing agent for the Premises, and such other Additional Insured Parties (as defined in Section 13) as Landlord may designate for such purposes. All Cable shall be clearly marked with adhesive plastic labels (or plastic tags attached to such Cable with wire) to show the purpose of such Cable (i) every six (6) feet in locations behind walls, beneath floors, and above ceilings (specifically including, but not limited to, the electrical room risers), and (ii) at the termination point(s) of such Cable. "**Cable**" shall mean and refer to any electronic, fiber, phone and data cabling and related equipment that is installed by or for the exclusive benefit of Tenant or any party acting under or through Tenant. Any changes to the plans and specifications, other than di minimus changes that are purely cosmetic, do not affect the Building structure or mechanical systems, and do not cause the cost of the Alterations to exceed $1,000,000 (which amount shall be increased by the same percentage as the Index as of each Adjustment Date), must also be submitted to Landlord for its approval. Prior to commencing Alterations, Tenant shall provide Landlord with a copy of the contract for the Alterations and evidence satisfactory to Landlord as to the existence of all necessary permits (to the extent not previously provided). Alterations shall be (a) constructed in a good and workmanlike manner, (b) consistent with first class standards, (c) consist of materials of a quality reasonably approved by Landlord, and Tenant shall ensure that no Alteration impairs any Building system, (d) performed by contractors or mechanics whose labor union affiliations are not incompatible with those of any workers, contractors or subcontractors who may be employed, retained or engaged by the Landlord for the development and making of any alterations at the Premises, and who are otherwise reasonably approved by Landlord, (e) in accordance with the Tenant Construction Manual, if any, and (f) designed and performed in accordance with all applicable Laws. It shall be deemed reasonable for Landlord to withhold its consent to any Alteration that adversely affects a Building's roof, structure, or systems, that is inconsistent with a first-class life science building, that results in an increase in gross floor area at the Premises or alteration of any Building footprint, that would violate any certificate of occupancy for the Buildings or any other permits or licenses relating to the Buildings, that would reduce the utility of the Premises for life sciences laboratory, research, and manufacturing purposes, or that is otherwise inconsistent with the requirements of this Section. Tenant shall reimburse Landlord for any third-party expenses incurred by Landlord in connection with the review, inspection, and coordination of Tenant's plans for Alterations and Tenant's performance thereof. Upon completion, Tenant shall furnish "as-built" plans (in CAD or other electronic format, if requested by Landlord) for Alterations, customary American Institute of Architects completion affidavits, full and final waivers of lien, any applicable certificate of occupancy for the space affected by such Alterations and other applicable municipal or local sign-offs and inspection reports, and any other items reasonably required by Landlord for closing out the particular work in question. Landlord's approval of an Alteration shall not be deemed to be a representation by Landlord that the Alteration complies with Law or will not adversely affect any Building system.

3.4.4 Construction Oversight Fee. With respect to any Alterations requiring Landlord's consent under Section 3.4.1, Tenant shall pay Landlord a construction oversight fee ("**Construction Oversight Fee**") equal to the sum of one percent (1%) of total hard and soft project costs, provided that Landlord's obligations in connection with the Alterations are limited to oversight only and not direct management of the project. The Construction Oversight Fee shall be calculated based on hard and soft project costs for the Alterations that were approved by Landlord for the portion of work that has been performed and invoiced and shall be payable monthly in arrears concurrent with the approved hard and soft project costs for the Alterations during the applicable month.

3.4.5 Completion. Upon the completion of any Alterations, Tenant shall, to the extent applicable, promptly give to Landlord (a) a reproducible copy of the "as-built" drawings of such Alterations, (b) a certificate of completion executed on behalf of Tenant's architect and/or engineering certifying completion of such Alterations in accordance with the respective plans and specifications, (c) a copy of the certificate of occupancy issued by the applicable governmental authorities with respect to such Alterations, and (d) copies of any warranties or guarantees with respect to such Alterations (and ensure that such warranties or guarantees are assignable to Landlord and/or run to both Landlord and Tenant's benefit).

3.4.6 Ownership of Alterations. Any Alterations shall belong to Tenant until the Termination Date, at which time the Alterations (other than Tenant's Trade Fixtures (as hereinafter defined)) shall belong to Landlord; provided, however, in no event shall the Alterations be removed by Tenant prior to the Termination Date, except as expressly provided herein. For purposes of this Lease, "**Trade Fixtures**" shall mean a piece of equipment placed on the Premises owned by Tenant and used in Tenant's trade or business. For the avoidance of doubt, Trade Fixtures shall not include, without limitation, Building systems and machinery, built-in cabinet work and/or lab benches, purpose-built mezzanine space, all HVAC, air handling, electrical, mechanical and plumbing equipment and related ducts, shafts, and conduits, all exterior venting fume hoods, walk-in freezers and refrigerators, clean-rooms, climatized rooms, electrical panels and power back-up distribution systems. The parties agree that Landlord will be treated for all purposes, including tax purposes, as the owner of (and will be the party entitled to claim depreciation or other cost recovery deductions for federal tax purposes with respect to) any improvements, equipment, or personal property that were paid for, or reimbursed by, Landlord, including any allowance provided by Landlord, and Tenant will be treated for all purposes, including tax purposes, as the owner of (and will be the party entitled to claim depreciation or other cost recovery deductions for federal tax purposes with respect to) any improvements to the extent that the cost for such improvements were paid for by Tenant and to the extent any such costs exceed any allowance provided by Landlord. Unless required to adopt a contrary position as a result of an administrative or judicial proceeding, the parties shall take no action inconsistent with, the intentions set forth in this paragraph. The parties will provide each other with such cooperation as is reasonably necessary to implement the intentions of this paragraph.

3.5 Jeopardy of Insurance. Tenant shall neither do nor omit to do anything that might result in the actual or threatened reduction or cancellation of or material adverse change in insurance carried by Landlord or Tenant on the Premises. If any such insurance is actually, or threatened to be, cancelled, reduced or materially adversely changed by an insurer as a result of the use or occupancy of the Premises or any article kept in or about the Premises or any act or omission of Tenant or any person for whom Tenant is in law responsible or any occupant of the Premises, and if Tenant fails to remedy the condition or the use or occupancy giving rise to such actual or threatened cancellation, reduction or change within three (3) business days after notice thereof, Landlord may, without limiting its other remedies for the default, enter upon the Premises and remedy the condition, use or occupancy giving rise to such actual or threatened cancellation, reduction or change, and Tenant shall pay to Landlord its cost of doing so within ten (10) days following invoice, plus an administrative fee equal to ten percent (10%) of such cost. Landlord shall not be liable for any damage to either the Premises or any property located on the Premises as a result of such entry.

3.6 Dogs. Tenant shall be permitted to bring a reasonable number of non-aggressive, fully domesticated, properly licensed, fully vaccinated, and well behaved dogs, kept by Tenant's employees as pets, into the Premises, provided and upon condition that: (a) all dogs shall be strictly controlled at all times, (b) dogs shall not be permitted to foul, damage or otherwise mar any part of the Buildings or Premises; and (c) while entering and exiting the Premises, all dogs shall be kept on leashes. Landlord may limit the number, weight, and breed of dogs that may be permitted in the Premises, and Landlord may implement other rules and regulations not inconsistent with this Section 3.6 that Landlord, in its sole discretion, deems reasonable or prudent. Tenant shall be responsible for any damage and additional cleaning costs and all other costs which may arise from the dogs' presence in the Buildings and on the Premises. Tenant shall be liable for, and hereby agrees to indemnify, defend and hold Landlord harmless from any and all claims arising from any and all acts (including but not limited to biting and causing bodily injury to, or damage to the property of, another lessee, sublessee, occupant, licensee, invitee, Landlord or an employee of Landlord) of, or the presence of, any dog in or about the Premises or the Buildings. Tenant shall promptly remove any dog waste and excrement from the Premises and Buildings. Dogs shall be strictly controlled and supervised at all times (including, without limitation, by being on leashes) by Tenant's employees, with no less than one (1) such employee responsible for so controlling and supervising no more than two (2) dogs apiece. Within three (3) business days following Landlord's request therefor, Tenant shall provide Landlord with reasonably satisfactory evidence showing that all current vaccinations have been received by any dogs permitted on the Premises. No dog shall be brought to the Premises if such dog is ill or contracts a disease that could potentially threaten the health or wellbeing of any person on the Premises (which diseases may include, without limitation, rabies, leptospirosis and lyme disease). Tenant shall not permit any objectionable dog related noises or odors to emanate from the Premises (as determined by Landlord in its sole discretion), and in no event shall any dog be at the Premises overnight or for any extended period of time. Tenant shall install and maintain dog waste bag dispensers in outdoor areas of the Premises, and all waste generated by any dogs in or about the Premises shall be promptly removed and disposed of (on no less than a daily basis) in trash receptacles. Any areas of the Premises affected by such waste shall be immediately cleaned and otherwise sanitized. Landlord may require Tenant to permanently ban any dog from the Premises if (i) any such dog exhibits aggressive behavior, damages or destroys property in the Premises, violates specific provisions of this Section, defecates or urinates in any non-outdoor area of the Project, or defecates in any outdoor area of the Project and Tenant fails to remove such waste in accordance with the terms of this Section, and (ii) any such dog is found by Landlord in its sole but good faith discretion to be a substantial, repeated nuisance to the Premises, and, in any such event, such substantial, repeated nuisance persists after at least two (2) written notices to Tenant from Landlord in any twelve (12) month period), then Landlord may terminate Tenant's rights under this Section. Tenant shall promptly pay to Landlord, within thirty (30) days after demand, all costs incurred by Landlord that directly result from the presence of any of dogs in the Premises. Tenant's right provided in this Section is personal only to the original named Tenant and/or any Permitted Transferee, shall not be exercisable by any other assignee, subtenant or other transferee of or successor to any portion of Tenant's interest under the Lease or to the Premises.

3.7 LEED Standards. Tenant shall ensure that the Buildings meet at least the standard for a "Gold" rating under the U.S. Green Building Council's Leadership in Energy and Environmental Design ("**LEED**") rating system for a campus consisting of multiple buildings. In connection with the foregoing, Tenant shall reasonably cooperate with Landlord in its submission of all filings to obtain and maintain Gold or better LEED rating for the Buildings as a campus. Tenant shall reimburse Landlord for the costs to obtain and maintain such Gold or better LEED rating for the Buildings as a campus in an amount not to exceed in the aggregate more than $40,000.00 annually, including any discounts and credit that may be applied to reduce such costs. Tenant shall not be responsible for any costs to obtain LEED Gold or better certification for the Conference Center, individually, in connection with the campus designation of the Buildings (it being acknowledged that Tenant's sole obligation with respect to the Conference Center Alterations, as shown in the CCA Plans, will be to meet the applicable California State and local standards for energy efficiency and environmental design). All Alterations, and any lighting installed by Tenant in the Premises, shall be designed, maintained, and installed in accordance with the requirements for LEED Gold or better campus certification, as the same may change from time to time If necessary to ensure compliance with the applicable LEED standards, Tenant further agrees to engage a qualified third party LEED or Green Globe Accredited Professional or similarly qualified professional during the design phase of any Alterations, in order to review all plans, material procurement, demolition, construction and waste management procedures to ensure they are in full conformance with the requirements to maintain the applicable LEED rating.

ARTICLE 4
REPAIR AND MAINTENANCE; SERVICES

4.1 Tenant Repair and Maintenance Obligations. The parties intend for this Lease to be absolutely triple net. Tenant shall be responsible for all repairs, replacements and maintenance of the Premises. Landlord shall have no obligation whatsoever to repair or maintain the Premises. Tenant shall repair and maintain the Premises in substantially the condition as exists as of the Effective Date of this Lease (and as it may be improved or altered thereafter), keep same in good order, condition and repair, and in compliance with Applicable Laws, ordinary wear and tear and casualty excepted, to the extent Tenant is not otherwise obligated to restore the same.

4.2 Condition of Premises on Surrender

4.2.1 Except as otherwise provided in this Section 4.2, upon the Termination Date, all Alterations (other than Tenant's Trade Fixtures) shall belong to Landlord without compensation, and title shall pass to Landlord under this Lease. On the Termination Date, Tenant shall give Landlord possession of the Premises, together with all such Alterations (other than Tenant's Trade Fixtures), in the good, broom clean condition, free of all debris, excepting only ordinary wear and tear and damage that Tenant is not required to repair or restore under this Lease. On or prior to the Termination Date, Tenant shall also (a) remove all of Tenant's furniture, Trade Fixtures, furnishings, equipment belonging to the Tenant, and other personal property (collectively, the "**Personalty**"), and (b) repair any damage caused by the removal of such Personalty. All of Tenant's Personalty not so removed by Tenant, may be removed from the Premises by Landlord and stored, at Tenant's sole risk and expense, and in any event, Landlord shall not be responsible for the value, preservation, or safekeeping thereof. Tenant shall pay to Landlord, upon demand, all reasonable expenses so incurred by Landlord, including the cost of repairing any damage caused by removal and storing such Personalty (collectively, "**Tenant's Property**"). Any such Tenant's Property not claimed by Tenant within sixty (60) days after Tenant's surrender of the Premises shall, at Landlord's option, be deemed either abandoned or conveyed by Tenant to Landlord under this Lease without further payment or credit by Landlord to Tenant. On the Termination Date, Tenant shall assign to Landlord all manufacturers' and contractors' warranties with respect to the Premises and the Alterations (including all fixtures therein or thereon but excluding Tenant's Trade Fixtures) and Tenant shall use commercially reasonable efforts obtain the consent of the issuers of such warranties (which may include, without limitation, the payment of an assignment fee), to the extent that such consent is required for the assignment to Landlord.

4.2.2 Landlord, at the time required by Section 3.4.1, by written notice to Tenant may require Tenant, at Tenant's expense, to remove any Alterations or other affixed installations that, in Landlord's reasonable judgment, are of a nature that are not customary office or life science improvements and would require removal and repair costs that are materially in excess of the removal and repair costs associated with standard improvements for the Permitted Use ("**Required Removables**"). Required Removables shall include, without limitation, internal stairways, raised floors, vaults, rolling file systems, structural alterations and modifications (including any slab penetrations) other than de minimis alterations and modifications associated with connection of other improvements to the structure of the Building or relocation of demising walls provided that the same are otherwise consistent with first class life science buildings, Tenant's signage, supplemental systems (including HVAC), vivariums, and any Cable installed by or on behalf of Tenant that is not necessary for the proper functioning of any Alterations remaining in the Premises in accordance with this Lease. Notwithstanding the foregoing, any fixtures or improvements existing within the Premises on the Effective Date, or as shown on the CCA Plans, shall not be deemed Required Removables. The Required Removables shall be removed by Tenant before the expiration or earlier termination of this Lease in accordance with Section this Section 4.2, unless otherwise directed by Landlord. Landlord shall be treated as the owner of all Alterations (but, subject to Section 4.2.1, not any of Tenant's Property, including any trade fixtures and equipment that are installed in a manner that will not damage the Premises when removed) during the term of the Lease, including for tax and depreciation purposes, but Tenant shall have the exclusive right to use the same subject to the terms of this Lease.

4.3 Services and Utilities. Landlord shall not be obligated to furnish to the Premises any services or utilities (including, without limitation, janitorial services), and Tenant shall contract directly with the providers of all services and utilities Tenant desires to receive at the Premises, at Tenant's sole cost and expense. Tenant shall have the right to add alternative electricity sources such as additional solar panels, the installation of which shall be subject to Section 3.4. Landlord is not responsible for the furnishing of, or any interruption, diminishment or termination of, services or utilities, whether due to the application of Laws, the failure of any equipment, the performance of maintenance, repairs, improvements or alterations, or utility interruptions, and no such interruption, diminishment, or termination shall render Landlord liable to Tenant, give rise to an abatement of Rent, or relieve Tenant from the obligation to fulfill any covenant or agreement. Except as expressly set forth in Article 9, below, Landlord shall in no event be required under any provision of this Lease or applicable Law to maintain or repair or to make any alterations, rebuildings, replacements, changes, additions or improvements on or off the Premises during the Term of this Lease. Tenant acknowledges that it shall be responsible for providing and procuring all other services necessary to its operations in and on the Premises. If Tenant (or any party claiming by, through or under Tenant) pays directly to the provider for any energy consumed at the Buildings, Tenant, promptly upon request, shall deliver to Landlord (or, at Landlord's option, execute and deliver to Landlord an instrument enabling Landlord to obtain from such provider) any data about consumption that Landlord, in its reasonable judgment, is required to disclose to a prospective buyer, tenant or mortgage lender under California Public Resources Code §25402.10 or any similar law. Further, Tenant hereby waives and releases its right to make repairs at Landlord's expense under Sections 1932(1), 1933(4), 1941 and 1942 of the California Civil Code or any similar or successor laws now or hereinafter in effect. At Landlord's request, Tenant shall provide Landlord information regarding Tenant's energy usage at the Premises from time to time (provided that Landlord shall hold such information confidential to the extent Landlord is not required to disclose such information pursuant to Applicable Law, nothing in this sentence being deemed to prohibit Landlord from utilizing such information to make public statements about the sustainability profile or "green" nature of Landlord, or Landlord's affiliates, properties).

ARTICLE 5
ASSIGNMENT AND SUBLETTING

5.1 General Prohibition on Transfers.

5.1.1 Transfers Generally. Tenant shall not, directly or indirectly, make a Transfer (as defined below), without Landlord's consent, except as expressly set forth in this Article 5, and any purported Transfer that does not comply with the provisions of this Article 5 shall, at Landlord's option, be deemed an Event of Default by Tenant and shall be voidable by Landlord. Tenant hereby waives the provisions of Section 1995.310 of the California Civil Code, or any similar or successor laws, now or hereinafter in effect, and all other remedies, including any right at law or equity to terminate this Lease in connection with Landlord's withholding its consent to any Transfer, on its own behalf and on behalf of the proposed transferee. Landlord shall not unreasonably withhold, condition, or delay its consent to an assignment of this Lease or any sublet of the Premises, subject to the terms and conditions of this Article 5. Without limitation, it is agreed that Landlord's consent shall not be considered unreasonably withheld if the proposed Transferee (defined below) (a) is a governmental entity, (b) is incompatible with the character of occupancy of a first class life sciences buildings, (c) is an entity with which the payment for the sublease or assignment is determined in whole or in part based upon its net income or profits, (d) would subject the Premises to a use that would: (i) involve increased personnel or wear upon the Buildings in a manner inconsistent with first-class life science buildings; (ii) require any addition to or material modification of the Premises or the Buildings in order to comply with building code or other governmental requirements; or (iii) involve a violation of the Permitted Use clauses of this Lease, or (e) if there is any other reasonable ground not stated above for withholding consent.

(a) "**Clients and Business Partners**" means persons or entities who are not employees or agents of Tenant or its Affiliates but are occupying or using portions of the Premises and are either (i) performing services for Tenant as subcontractors under Tenant's contracts, (ii) personnel employed by persons or entities for whom Tenant is performing services on a contractual basis, or (iii) personnel employed by persons or entities with whom Tenant is engaged in a joint venture or joint teaming effort.

(b) "**Office Sharing**" means the use of portions of the Premises by Clients and Business Partners, if, with respect to such Clients and Business Partners, such use is in connection with the services being provided to Tenant by the applicable Clients and Business Partners, the services being provided to the applicable Clients and Business Partners by Tenant, or the services being jointly provided by Tenant and the applicable Clients and Business Partners.

(c) "**Transfer**" means any assignment, pledge, mortgage, charge, debenture (floating or otherwise), hypothecation, encumbrance, lien attaching to, collateral assignment, or other transfer of this Lease or the leasehold created hereby, or any sublet or other transfer of any portion of the Premises, or any Interest Transfer (as defined below), in any case whether voluntarily, by operation of law, or otherwise, or permitting the Premises to be used or occupied by anyone other than Tenant.

(d) "**Transferee**" means the party to which a Transfer is made.

(e) "**Interest Transfer**" means if Tenant is a corporation, trust, partnership, limited liability company or other entity, (i) the transfer of a Controlling Interest or a majority of the voting stock, beneficial interest, partnership interests, membership interests or other ownership interests therein (whether at one time or in the aggregate) or (ii) the sale, mortgage, hypothecation, or pledge of more than 50% of Tenant's net assets. A "**Controlling Interest**" means the effective control over the management of such entity.

5.1.2 Consent Requests. If Tenant desires to effect a Transfer and such Transfer requires Landlord's consent, then Tenant shall give to Landlord Notice thereof at least thirty (30) days, but not more than sixty (60) days, prior to the proposed effective date of the Transfer, which Notice shall include (a) the name and address of the proposed Transferee, (b) the relevant terms of the Transfer, (c) copies of financial reports and other relevant financial information for the proposed Transferee, (d) information regarding the nature of the business the proposed Transferee intends to operate in the Premises and how long the proposed Transferee has operated such business, (e) a fully executed copy of the proposed assignment, sublease, or other document to be used to effect the Transfer (the "**Transfer Document**"), and (f) payment to Landlord of One Thousand and No/100 Dollars ($1,000.00) as a transfer review fee. In addition, Tenant shall reimburse Landlord for any third-party expenses reasonably incurred by Landlord in connection with the review, inspection, and coordination of Tenant's request for Landlord's consent to a Transfer, not to exceed $5,000 per request (which amount shall be increased by the same percentage as the Index as of each Adjustment Date). Landlord shall not unreasonably withhold, condition or delay its consent to a Transfer. If Landlord's consent is required with respect to a Transfer, and Landlord fails to respond to Tenant's request for consent within thirty (30) days of Tenant's request and submission of the documents required by this Section 5.1.2, Tenant may send a second written request, which request shall contain, in bold, capital letters, the following: "THIS NOTICE CONSTITUTES TENANT'S SECOND NOTICE OF ITS REQUEST FOR CONSENT TO A TRANSFER PURSUANT TO SECTION 5.1.2 OF THE LEASE; LANDLORD'S FAILURE TO RESPOND TO THIS NOTICE WITHIN FIVE (5) BUSINESS DAYS SHALL BE DEEMED LANDLORD'S CONSENT TO THE REQUESTED TRANSFER." If Landlord fails to respond to such second notice within five (5) business days of receipt, Tenant's request for the applicable Transfer shall be deemed approved. Tenant hereby waives the provisions of Section 1995.310 of the California Civil Code, or any similar or successor laws, now or hereinafter in effect, and all other remedies, including, without limitation, any right at law or in equity to terminate this Lease, on its own behalf and, to the extent permitted under all Applicable Laws, on behalf of the proposed transferee.

5.1.3 Permitted Transfer. Notwithstanding anything in this Article 5 to the contrary, Tenant may assign its interest in this Lease or sublease all or any part of the Premises (each a "**Permitted Transfer**") to a Permitted Transferee (defined below) with notice to Landlord (delivered prior to the Transfer, or in the event Tenant is prohibited from doing so by Applicable Laws or contractual obligations, then as soon as reasonably practical) but without Landlord's prior written consent; provided, that (i) with respect to a Permitted Transfer involving an assignment of this Lease, the Permitted Transferee assumes this Lease by a written assumption agreement delivered to Landlord prior to the effective date of such Permitted Transfer (unless such prior delivery is prohibited by Applicable Laws, in which event Tenant shall deliver such assumption agreement as soon as allowed), (ii) the Permitted Transferee shall use the Premises only for the Permitted Use, (iii) the use of the Premises by the Permitted Transferee shall not violate any other agreements or leases affecting the Property, (iv) the occurrence of a Permitted Transfer shall not waive Landlord's rights as to any subsequent Transfer, (v) the Permitted Transferee shall satisfy the Credit Requirement (defined below), and (vi) Tenant shall have given Landlord written notice at least thirty (30) day before such Transfer (unless such notice is prohibited by applicable Law, in which event Tenant shall give such notice within ten days following such Transfer). As used herein, (A) "**Affiliate**" means any person or entity who or which controls, is controlled by, or is under common control with Tenant, (ii) a corporation or other entity which shall be a wholly owned subsidiary of the Tenant, (iii) the parent corporation or other entity that wholly owns Tenant, or (iv) a subsidiary of such parent corporation or other entity that wholly owns Tenant, or a corporation or other entity having a majority of its ownership in common with the ownership of Tenant, or (v) a Successor corporation, limited liability company or other entity; (B) "**Successor**" means any (i) business entity in which or with which Tenant is merged or consolidated in accordance with applicable statutory provisions governing merger and consolidation of business entities, so long as Tenant's obligations under this Lease are assumed by the Successor, or (ii) the successor or surviving corporation or other entity in the event of a merger or consolidation of the Tenant with another corporation, so long as Tenant's obligations under this Lease are assumed by the Successor; (C) "**Purchaser**" means any person or entity who or which acquires all or substantially all of the assets or equity interests of Tenant; (D) "**Permitted Transferee**" means an Affiliate, Successor or Purchaser. The "**Credit Requirement**" shall be deemed satisfied if, as of the effective date of the Permitted Transfer, the resulting tenant under this Lease meets or exceeds all of following minimum criteria immediately following the Transfer: (i) cash on hand equal to at least Two Billion Dollars ($2,000,000,000) according to the Permitted Transferee's most recent financial statement, determined in accordance with generally accepted accounting principles ("**GAAP**"), (ii) outstanding debt of not more than sixty (60%) of the Permitted Transferee's available cash on hand (as determined pursuant to the foregoing subsection (i) according to the Permitted Transferee's most recent financial statement, determined in accordance with GAAP, and (iii) a market capitalization equal to at least Five Billion Three Hundred Million Dollars ($5,300,000,000).

5.2 Other Permitted Transfers.

5.2.1 Office Sharing. Notwithstanding anything in this Article 5 to the contrary, provided no Event of Default has occurred and is continuing, Tenant may, without Landlord's consent but upon at least ten (10) days' prior notice to Landlord, permit up to ten percent (10%) of the total leasable area of the Premises to be used for Office Sharing by Clients and Business Partners, without the same constituting a Transfer. Tenant agrees to notify Landlord, promptly upon Landlord's written request therefor, as to the approximate amount of Office Sharing by Clients and Business Partners and to certify to Landlord that such use or occupancy constitutes Office Sharing by Clients and Business Partners and does not constitute a sublease, assignment or other leasehold interest. Notwithstanding the foregoing, Tenant shall not have the right to engage in Office Sharing with respect to any particular Clients and Business Partners as aforesaid if such Clients and Business Partners are engaged in a business, or the Premises will be used in a manner, that is inconsistent with the Permitted Use. For purposes of this Lease, the acts or omissions of the employees or other personnel of Clients and Business Partners shall be deemed to be the acts or omissions (as applicable) of Tenant. Upon Landlord's request, Clients and Business Partners who are Office Sharing shall provide to Landlord satisfactory evidence of insurance covering their activities within the Premises.

5.3 Non-Transfers. For so long as Tenant is a corporation whose ownership equity is available through the free trade of shares of stock on nationally recognized stock exchanges or over-the-counter (OTC) markets that are subject to the oversight of the United States Securities and Exchange Commission (a "**Public Company**"), any transfer of Tenant's equity interests (or those of its Affiliates) whatsoever shall not be deemed a Transfer under this Lease and, for the avoidance of doubt, shall not require Landlord's consent.

5.4 Conditions to Effectiveness. As conditions precedent to any Transfer becoming effective and binding on Landlord:

5.4.1 except as otherwise specified herein, prior to the proposed effective date of the Transfer, Tenant shall give to Landlord a copy of the fully executed Transfer Document, which shall (i) be in form and substance reasonably acceptable to Landlord, and (ii) for an assignment of this Lease, contain Transferee's express assumption of Tenant's obligations under this Lease and waivers by Tenant, for the benefit of Landlord, of all applicable suretyship defenses (unless such prior delivery is prohibited by Applicable Laws, in which event Tenant shall deliver such documents as soon as allowed); and

5.4.2 as of the proposed effective date of the Transfer, there shall exist no Event of Default.

5.5 Miscellaneous.

5.5.1 Notwithstanding any Transfer, permitted or otherwise, including without limitation a Permitted Transfer, (a) Tenant shall not be released and shall at all times remain directly, primarily, and fully responsible and liable for the payment of Rent and for compliance with all of the other obligations to be performed by Tenant under the terms, provisions and covenants of this Lease, and (b) if any Transferee defaults under this Lease, then Landlord may proceed directly against Tenant without the necessity of exhausting remedies against such Transferee. Notwithstanding the foregoing, Tenant shall be automatically released from all liability under the Lease accruing from and after the date of a Transfer if the Transfer is a Permitted Transfer that is a merger or consolidation whereby the named Tenant herein is not the surviving entity; provided, however, as conditions of the foregoing release: (i) the surviving entity shall assume, either expressly or by operation of law, all of the obligations of the preceding entity for liabilities accruing before and after the Transfer, and (ii) the surviving entity must retain ownership of substantially all of the assets of the preceding entity.

5.5.2 Upon the occurrence of an Event of Default, if all or any portion of the Premises is then subject to one or more subleases, then Landlord, in addition to any other remedies provided in this Lease or at law or in equity, may collect directly from the subtenants under such subleases all rents due and becoming due to Tenant or a Transferee under such subleases and apply such rent against any sums due to Landlord from Tenant under this Lease, and no such collection shall be construed to constitute a novation or release of Tenant from the further performance of Tenant's obligations under this Lease.

5.5.3 Except for any Permitted Transfer, if the proposed Transfer is an assignment or a sublease of more than seventy five percent (75%) of the Premises for a term longer than seventy five percent (75%) of the then remaining Term, then Landlord shall have the right in its sole and absolute discretion to terminate this Lease by sending Tenant written notice of such termination within thirty (30) days after Landlord's receipt of Tenant's notice requesting consent to the Transfer. If Landlord elects to terminate this Lease, Tenant may withdraw its notice requesting consent to the Transfer by providing written notice within five (5) business days after Landlord's termination (with time being of the essence), in which case Landlord's termination shall be negated, and the Lease shall continue pursuant to its terms. If Landlord elects to terminate this Lease, then Tenant shall tender the Premises to Landlord in the condition required by this Lease at the end of the Term, and this Lease shall terminate, on the proposed effective date of the requested Transfer, and Tenant shall have no further obligations under this Lease except for those accruing prior to the termination date and those that, pursuant to the terms of the Lease, survive the expiration or early termination of the Lease.

5.5.4 Except for a Permitted Transfer, in the event, if any, that (i) all rent and other consideration that Tenant receives as a result of a Transfer exceeds (ii) the Rent payable to Landlord for the portion of the Premises and Term covered by the Transfer (allocated on a per square foot basis), then Tenant shall, at Landlord's election, pay to Landlord an amount equal to fifty percent (50%) of such excess, from time to time on a monthly basis upon Tenant's receipt of such excess; provided that in determining any such excess, Tenant may deduct from the excess all reasonable and customary expenses directly incurred by Tenant in connection with such Transfer, except that any construction costs incurred by Tenant in connection with such Transfer shall be deducted on a straight-line basis over the term of the applicable Transfer. If Tenant is in Default, Landlord may require that all sublease payments be made directly to Landlord, in which case Tenant shall receive a credit against Rent in the amount of Tenant's share of payments received by Landlord.

5.5.5 Without limiting Landlord's right to withhold its consent to any transfer by Tenant, and regardless of whether Landlord shall have consented to any such transfer, neither Tenant nor any other person having an interest in the possession, use or occupancy of the Premises or any part thereof shall enter into any lease, sublease, license, concession, assignment or other transfer or agreement for possession, use or occupancy of all or any portion of the Premises that provides for rent or other payment for such use, occupancy or utilization based, in whole or in part, on the net income or profits derived by any person or entity from the space so leased, used or occupied, and any such purported lease, sublease, license, concession, assignment or other transfer or agreement shall be absolutely void and ineffective as a conveyance of any right or interest in the possession, use or occupancy of all or any part of the Premises..

5.5.6 This Section 5.5 shall survive the expiration or earlier termination of this Lease.

ARTICLE 6
INDEMNIFICATION; RELEASE; INSURANCE

6.1 Indemnification and Release.

6.1.1 To the extent permitted by Applicable Law, Tenant shall protect, indemnify, release, defend and hold Landlord (and the Landlord Parties) harmless from and against any and all Claims to the extent caused by or incurred by reason of: (a) any damage to any property (including the property of Landlord), or any injury (including death) to any person, occurring in, on, or about any portion of the Premises, except to the extent caused by or arising from the gross negligence or willful misconduct of Landlord or the Landlord Parties; (b) any Alterations, work, or other thing done by Tenant or any Tenant Parties in or about any portion of the Premises, or from transactions of Tenant concerning any portion of the Premises; (c) Tenant's failure to comply with any Applicable Laws; (d) any breach or default by Tenant of any representation, covenant or other term of this Lease; provided that Tenant shall not be obligated to so indemnify Landlord to the extent any such matter arises from, or is caused by, the willful misconduct or gross negligence of Landlord or the Landlord Parties; or (e) Tenant's use and occupancy of the Premises. Tenant's agreement to indemnify, defend and hold the Landlord and the Landlord Parties (the "**Indemnitees**") harmless is conditioned upon the Indemnitees (i) providing written notice to Tenant of any claim, demand or action arising out of the indemnified activities within thirty (30) days after Landlord has actual knowledge of such claim, demand or action, provided that the failure to so notify Tenant will not relieve Tenant of its obligations hereunder except to the extent such failure has actually materially prejudiced Tenant; (ii) permitting Tenant to assume full responsibility to investigate, prepare for and defend against any such claim or demand, subject to Landlord's reasonable approval of any counsel used in the defense of such claim or demand; (iii) assisting Tenant, at Tenant's expense, in the reasonable investigation of, preparation of and defense of any such claim or demand; and (iv) not settling such claim or demand that would result in a payment in excess of $100,000 (individually or in the aggregate) without Tenants' prior written consent, which shall not be unreasonably withheld, conditioned, or delayed. "**Claims**" mean claims, demands, losses, penalties, fines, liabilities, actions (including informal proceedings), settlements, judgments, damages, reasonable costs, and reasonable expenses (including reasonable attorneys' fees and consultants' fees, court costs, and other litigation expenses) of whatever kind or nature, known or unknown, contingent or otherwise, incurred or suffered by, or asserted against, the party in question.

6.1.2 Tenant hereby releases Landlord and the Landlord Parties from any and all liability for any loss or claim, including all economic losses and all consequential and indirect losses, as a result of loss, damage or injury to the property and persons of Tenant and its employees, as a result of any occurrence in, upon or at the Premises or the occupancy or use by the Tenant of the Premises, including damage to the Building or loss of access to the Premises, whether or not such loss or claim may have arisen out of the acts, omissions or negligence of Landlord, the Landlord Parties or those for whom Landlord or the Landlord Parties are in law responsible. Except with respect to Sections 1.3 and 3.3.4, Landlord hereby releases Tenant from any and all liability for consequential or special damages, including lost profits (which shall not limit the rights and remedies of Landlord expressly provided in this Lease).

6.2 Insurance.

6.2.1 Landlord's Insurance. Landlord shall obtain and keep in force throughout the Term the following coverages in the following amounts: (a) commercial general liability insurance on an "occurrence" basis on the current ISO CG 00 01 occurrence form or its equivalent with a deductible reasonably acceptable to Landlord with a limit of not less than $5,000,000 per occurrence, (b) property damage insurance covering the core and shell of the Buildings and structural elements of other improvements situated upon the Premises on a replacement cost basis against loss or damage as provided by the standard fire and extended coverage policy, including, without limitation, earthquake and terrorism, and all other risks of direct physical loss as insured against under a special extended coverage endorsement in amounts and with a deductible determined by Landlord in its commercially reasonable discretion, (c) boiler and machinery insurance on a repair or replace basis, (d) business interruption insurance with respect to insurance required under (b) and (c) above with an indemnity period determined by Landlord, and (e) any such other insurance as Landlord's lender may require. Tenant shall provide Landlord with such information from time to time as Landlord may reasonably require in connection with Landlord's determination of the insurance required pursuant to clause (b), above.

6.2.2 Tenant's Insurance. Tenant shall procure and maintain during the Lease Term, at its sole cost and expense, a policy or policies of insurance protecting Landlord and Tenant against each of the following:

(a) Commercial general liability insurance with respect to the operations of Tenant insuring against bodily injury or death and property damage in amounts (i) not less than $10,000,000 in the aggregate,(ii) not less than $2,000,000 per occurrence and (iii) not less than $10,000,000 of excess umbrella liability insurance. Such insurance shall contain separation of insured clauses and separation of insureds, with Landlord and any third party now or hereafter providing financing to Landlord where such third party has a security interest in the Premises under such financing shall be included as additional insureds. Tenant may satisfy the foregoing limits through any combination of primary and umbrella/excess policies, provided the combined total coverage is not less than $20,000,000 in the aggregate. The amount of such commercial general liability insurance shall be increased from time to time as Landlord may reasonably determine. All such bodily injury and property damage insurance shall insure Tenant's exposure with respect to the indemnity agreement as to personal injury or property damage contained in Section 6.1 herein.

(b) Insurance covering Tenant's construction, alterations, additions or improvements permitted herein (other than the core and shell of the Buildings and structural elements of other improvements), existing tenant improvements, trade fixtures and personal property, in an amount not less than 100% of their full replacement cost from time to time during the Lease Term, providing protection on an all risk basis, including, without limitation, coverage for earthquakes, for the repair or replacement of the property damaged or destroyed.

(c) Pollution Legal Liability that provides first party coverage for clean-up costs and third party coverage for bodily injury and property damage resulting from pre-existing and future contamination conditions, of at least Five Million Dollars ($5,000,000.00) per pollution event; such coverage shall specifically include this lease as an insured contract.

(d) The minimum limits of insurance required to be carried by Tenant shall not limit Tenant's liability. All policies of insurance to be provided by Tenant shall be issued by insurance companies, with general policy holder's rating of not less than A and a financial rating of not less than Class VIII as rated in the most current available "Best's" Insurance Reports, and admitted to do business in the State of California. Such policies shall be issued in the name of Tenant, with Landlord, Landlord's managing agent, lenders, and any other party designated by Landlord ("**Additional Insured Parties**") included as an additional insured. Tenant's property insurance and any builder's risk policy carried by Tenant or its contractors shall identify Landlord or, at Landlord's direction, Landlord's lender, as a loss payee. The full replacement cost of improvements under Tenant's property insurance may be designated by Landlord in the good faith exercise of Landlord's judgment. In the event that Tenant does not agree with Landlord's designation, Tenant shall have the right to submit the matter to an insurance appraiser reasonably selected by Landlord and paid for by Tenant. The insurance appraiser shall submit a written report of his appraisal, and if said report discloses that the improvements are not insured as therein required, Tenant shall promptly obtain the insurance required. The policies provided by Tenant shall be for the mutual and joint benefit and protection of Landlord and Tenant, and certificates of insurance shall be delivered to the Landlord within ten (10) days after the Lease Commencement Date and, thereafter, within thirty (30) days after to the expiration of the term of each such policy. Upon Landlord's request, Tenant shall deliver to Landlord, in lieu of such certificates, copies of the policies of insurance required to be carried under Section 6.2.2 showing that the Additional Insured Parties are named as additional insureds (with respect to the applicable policies). Upon the expiration or termination of any such policy, renewal or additional policies shall be procured and maintained by the Tenant to provide the required coverage. All policies of insurance delivered to Landlord must contain a provision that the company writing said policy will provide Landlord with thirty (30) days' notice in writing in advance of any cancellation or lapse or the effective date of any reduction in the amounts of insurance (except in the event of non-payment of premium, in which case ten (10) days' written notice shall be given). Notwithstanding the foregoing, if the foregoing requirement that the insurance company provide prior notice to Landlord of cancellation or material change of the applicable policy cannot reasonably be obtained based on then-prevailing insurance industry practices, Tenant shall so advise Landlord of such unavailability and shall instead shall use reasonable efforts to cause its insurer to provide Landlord, and in any event Tenant shall provide Landlord with, notice of any such cancellation of any of Tenant's insurance policies. All of Tenant's commercial general liability, property damage and other casualty policies shall be written as primary policies, not contributing with and not in excess of coverage which Landlord may carry. Tenant agrees that if, after the Commencement Date, Tenant does not take out and maintain the insurance required under this Section 6.2, Landlord may (but shall not be required to) procure, and thereafter maintain, said insurance on Tenant's behalf, and any costs or expenses incurred by Landlord in connection therewith, plus an administration fee of ten percent (10%) of the cost, shall promptly be paid by Tenant to Landlord as Additional Rent.

(e) Notwithstanding anything to the contrary, Tenant's obligation to carry the insurance described in this Section 6.2.2 may be brought within the coverage of a so-called blanket policy or policies of insurance carried and maintained by the Tenant, provided that (i) Landlord will be an additional insured thereunder as its interests may appear; (ii) the coverage afforded Landlord will not be reduced or diminished by reason of the use of such blanket policy of insurance; and (iii) the requirements set forth herein are otherwise satisfied. In the event of any Claims covered by Tenant's insurance, Tenant shall, within 10 days following Landlord's written request, provide Tenant with copies of the applicable insurance policies carried by Tenant pursuant to this Lease.

6.2.3 Release of Subrogation Rights. Tenant and Landlord each hereby releases the other from liability and waives all right to recover against the other for any loss from perils insured against under their property insurance policies, including any extended coverage and special form endorsements to said policies; provided, however, this Section 6.2.3 shall be inapplicable if it would have the effect, but only to the extent that it would have the effect of invalidating any insurance coverage of Landlord or Tenant. Tenant and Landlord's property damage policies shall contain, if available, a waiver of subrogation clause.

6.2.4 Insurance for Alterations. During the performance of any Alterations by Tenant, (a) the insurance required under this Section 6.2 shall extend to all of Tenant's consultants and contractors (and subcontractors of any tier) and shall include injuries to persons and damage to property arising in connection with such Alterations and (b) Tenant shall also maintain such other insurance as Landlord may reasonably require, including all-risk builder's insurance, each of which policies shall name Landlord and Landlord's lender as additional insureds and loss payees. Tenant shall give to Landlord copies of the policies of such insurance prior to commencing construction of such Alterations.

ARTICLE 7
THIRD PARTIES

7.1 Subordination, Attornment and Non-Disturbance. This Lease shall be automatically subject and subordinate at all times to the lien of any first priority mortgages or deeds of trust on, against, or affecting any portion of the Premises, or Landlord's interest or estate in any portion of the Premises, and to all renewals, modifications, consolidations, replacements, and extensions thereof (each, a "**Mortgage**"); provided that, as a condition precedent to such subordination, Tenant must receive a fully executed subordination, non-disturbance and attornment agreement substantially in the form attached as Exhibit E hereto, or in such other commercially reasonable form as required by Landlord's Mortgagee (as hereinafter defined) (a "**SNDA**") from any current and future encumbrance holder (each, a "**Mortgagee**") with such changes as reasonably requested by Tenant. Landlord shall request a SNDA from each present and any future Mortgagee seeking to subordinate this Lease to the lien of its Mortgage and deliver the same to Tenant. In the event Mortgagee enforces it rights under the Mortgage, Tenant, at Mortgagee's option, will attorn to Mortgagee or its successor; provided, however, that, subject to the terms of any SNDA between Tenant and such Mortgagee (which shall govern in the event of any conflicts with the provisions of this Section 7.1), Mortgagee or its successor shall not be liable for or bound by (i) any payment of any Rent installment that may have been made more than thirty (30) days before the due date of such installment, (ii) any act or omission of or default by Landlord under this Lease (but Mortgagee, or such successor, shall be subject to the continuing obligations of landlord under the Lease arising from and after such succession, but only to the extent of Mortgagee's, or such successor's, interest in the Premises as provided in Article 12), (iii) any then-exercisable credits, claims, setoffs or defenses that Tenant may have against Landlord, or (iv) any obligation to provide tenant improvements allowances or perform tenant improvements to be provided by Landlord hereunder.

7.2 Mortgagee's Right to Cure. Notwithstanding anything to the contrary in this Lease, before exercising any right (a) of offset, counterclaim, reduction, deduction, or abatement against Tenant's payment of Rent under this Lease or (b) to terminate the Lease or to claim a partial or total eviction, in each case arising from Landlord's default under this Lease, (i) Tenant shall provide to each Mortgagee whose name and address has been furnished in writing to Tenant with written notice of the default by Landlord giving rise to same, and (ii) Mortgagee shall have a period of thirty (30) days after the last date on which Landlord could have cured such default within which such Mortgagee will be permitted, but not be obligated, to cure such default. If such default cannot be cured within such thirty-(30)-day period, then such Mortgagee shall have such additional time as may be necessary to cure such default, if prior to the end of such thirty-(30)-day period such Mortgagee has commenced and is diligently pursuing such cure or the remedies under the Mortgage necessary for Mortgagee to be able to effect such cure, in which event Tenant shall have no right with respect to such default while such cure and remedies are being diligently pursued by such Mortgagee. Notwithstanding the foregoing, such Mortgagee shall have no obligation to cure (and shall have no liability or obligation for not curing) any default by Landlord. In addition, as to any default by Landlord the cure of which requires possession and control of the Premises, provided that such Mortgagee undertakes by written notice to Tenant to exercise reasonable efforts to cure or cause to be cured by a receiver such default within the period permitted by this Section 7.2, such Mortgagee's cure period shall continue for such additional time as such Mortgagee may reasonably require to either: (A) obtain possession and control of the Premises with due diligence and thereafter cure the default with reasonable diligence and continuity; or (B) obtain the appointment of a receiver and give such receiver a reasonable period of time in which to cure the default.

7.3 Sale of the Premises. Subject to the provisions of Article 11, if Landlord sells or conveys the Premises, such sale or conveyance shall release Landlord from any liability from and after such sale or conveyance upon any of the covenants or conditions, expressed or implied, contained in this Lease in favor of Tenant (to the extent such liability is expressly assumed by such transferee), and in such event, Tenant agrees to look solely to the successor-in-interest of Landlord in and to this Lease with respect to such liabilities that are incurred from and after such sale or conveyance. In the event Landlord enters into a purchase and sale agreement for the sale or conveyance of the Premises, in the event such purchaser is an entity engaged primarily in the business of research, development, manufacturing, sale, or marketing of a biopharmaceutical product (a "**Pharma Competitor**"), then the Pharma Competitor shall execute a non-disclosure and confidentiality agreement substantially in the form attached hereto as Exhibit F; provided, however, that Tenant shall negotiate in good faith in the event the Pharma Competitor wishes to deviate from the form attached as Exhibit F. Except as set forth in this Section 7.3, this Lease shall not be affected by any such sale or conveyance and Tenant agrees to attorn to the purchaser or assignee. Landlord shall transfer or deliver the Security Deposit to Landlord's successor-in-interest and thereupon Landlord shall be discharged from any further liability with regard thereto.

7.4 Estoppel Certificates. Within ten (10) business days after Landlord's written request, Tenant shall execute and deliver to Landlord and any of Landlord's then existing or prospective lenders, investors, or purchasers of any portion of the Premises, a certificate substantially in the form attached as Exhibit C, or in such other commercially reasonable form and containing such other information as Landlord or any such lenders, investors, or purchasers, may reasonably require. Any certificate delivered in accordance with this Section 7.4 may be relied upon by any such lender, investor, or purchaser. Within ten (10) business days after Tenant's request, Landlord shall execute and deliver to Tenant and any of Tenant's then existing or prospective lenders, investors, or purchasers, a statement in writing certifying that Tenant is in possession of the Premises under the terms of this Lease, that this Lease is unmodified and in full force and effect (or, if there have been modifications, that this Lease is in full force and effect, as modified, and setting forth such modifications), stating the dates to which rent has been paid, and either stating that no defaults exist hereunder, or specifying each such default of which Landlord may have knowledge, and such other matters as may be reasonably requested by Tenant.

7.5 Liens. Tenant shall, within fifteen (15) business days of written notice of filing, discharge (either by payment or by filing of the necessary bond, insure over, or otherwise) any mechanic's, materialman's or other lien or encumbrance against any portion of the Premises that arises out of any payment due for, or purported to be due for, any labor, services, materials, supplies or equipment alleged to have been furnished to or for Tenant. If Tenant shall fail to so discharge such lien or encumbrance (either by payment or by filing of the necessary bond, insure over or otherwise) then, such failure shall be an Event of Default under this Lease and, in addition to any other right or remedy of Landlord, Landlord may discharge the same (either by payment or by filing of the necessary bond or otherwise), and any payment, costs and expenses incurred by Landlord in connection therewith, including reasonable attorneys' fees, shall be repaid together with interest thereon at the rate set forth in Section 2.3 from the date of payment. Notwithstanding the foregoing or anything to the contrary in this Lease, Tenant may contest any lien (and Landlord shall not discharge such lien at Tenant's expense for so long as Tenant is diligently pursuing such contest) if (i) such lien is the subject of a bona fide dispute in which Tenant is contesting the amount or validity thereof, (ii) Tenant notifies Landlord in writing of such dispute, (iii) Tenant has or establishes unrestricted cash reserves to in an amount equal to 125% of (x) the amount of Tenant's obligations being contested plus (y) any additional interest, charge or penalty arising from such contested lien and (iv) such lien is fully bonded by Tenant to the reasonable satisfaction of Landlord and any Mortgagee.

ARTICLE 8
EVENTS OF DEFAULT & REMEDIES

8.1 Events of Default. "**Event of Default**" means any of the following:

(a) Tenant fails to pay when due any Rent, and such failure continues for five (5) business days after Landlord delivers to Tenant notice thereof; provided, however, Landlord shall not be required to provide prior notice of Tenant's failure to pay any recurring obligation to pay any Base Rent or any monthly payment of estimated Taxes or Insurance Expenses more than twice during any twelve (12) month period, after which Tenant's failure to pay such amount shall be an Event of Default if Tenant fails to pay the amount when due and such failure continues for five (5) business days after the due date;

(b) except as otherwise provided in this Lease, Tenant fails to comply with any term, provision, or covenant of this Lease and such failure continues for thirty (30) days after Landlord gives to Tenant Notice thereof (but if such failure is curable but cannot reasonably be cured during such 30-day period, and if Tenant has commenced such cure promptly and in any case within such 30-day period and thereafter has diligently pursued such cure to completion, then such 30-day period shall be extended to ninety (90) days);

(c) Tenant fails to obtain and keep in force at all times any insurance required under this Lease, and such failure continues for five (5) days after Landlord gives to Tenant Notice thereof;

(d) Tenant fails to deliver to Landlord, within fifteen (15) business days after Landlord gives Tenant Notice thereof, any instrument or assurance required under this Lease;

(e) The filing by Tenant in any court pursuant to any statute or petition in bankruptcy or insolvency or for reorganization or arrangement for the appointment of a receiver or all of a portion of Tenant's property the filing against Tenant of any such petition, or the commencement of a proceeding for the appointment of a trustee, receiver or liquidator for Tenant, or of any property of Tenant, or a proceeding by any governmental authority for the dissolution or liquidation of Tenant, if such proceeding shall not be dismissed or trusteeship discontinued within sixty (60) days of commencement of such proceeding or the appointment of such trustee or receiver; or the making by Tenant of an assignment for the benefit of creditors. Tenant hereby stipulates to the lifting of the automatic stay in effect and relief from such stay for Landlord in the event Tenant files a petition under the United States Bankruptcy Laws, for the purpose of landlord pursuing its rights and remedies against Tenant;

(f) Tenant's failure to cause to be released any mechanics liens filed against the Premises within twenty (20) days after the date Tenant is notified that the same shall have been filed or recorded, subject to Tenant's right to dispute liens as set forth in Section 7.5;

(g) Abandonment of the Premises pursuant to California Civil Code Section 1951.3, or failure by Tenant or a transferee permitted pursuant to Article 5 to occupy at least sixty percent (60%) of the Premises for a period of ninety (90) consecutive days or more for any reason other than restoration following a casualty or condemnation, Force Majeure affecting Tenant's ability to operate within the Premises, and temporary cessations in order to complete Alterations in accordance with this Lease, provided that it shall not be deemed to be a failure to occupy for purposes of this clause (ii) if the applicable portion of the Premises remains fully furnished with the necessary equipment to conduct business operations consistent with the Permitted Use as it was undertaken prior to such failure to occupy, with regular repair, maintenance, and cleaning occurring in accordance with the terms of this Lease, no other Event of Default has occurred, and Tenant is actively marketing the applicable portion of the Premises for sublease (or marketing this Lease for assignment);

(h) Tenant's failure to provide a SNDA within the period required by Section 7.1 or Tenant's failure to provide a certificate within the time period required by Section 7.4 and such failure continues for five (5) business days after Landlord delivers to Tenant notice thereof;

(i) Tenant performs a Transfer in violation of Article 5, or

(j) If Landlord elects, in its sole discretion, the occurrence of any "Event of Default" under the Companion Lease.

8.2 Remedies.

8.2.1 Upon Event of Default. Upon the occurrence of any Event of Default, Landlord shall have the option to pursue any one or more of the following remedies without any Notice or demand whatsoever (except as expressly provided herein), concurrently or consecutively and not alternatively (in addition to any other remedies available to Landlord at law or in equity), all of which remedies shall be distinct, separate and cumulative:

(a) Termination. Landlord may terminate this Lease upon notice to Tenant, in which event Tenant shall vacate the Premises immediately and deliver possession of the Premises to Landlord in the condition which Tenant is required to surrender the Premises at the expiration of the Term (Tenant hereby waives, relinquishes and releases for itself and for all those claiming under Tenant any right of occupancy of the Premises following termination of this Lease, and any right to redeem or reinstate this Lease by order or judgment of any court or by any legal process or writ under Applicable Laws, including, without limitation, California Code of Civil Procedure Sections 473 and 1179, and California Civil Code Section 3275), and if Tenant fails to do so, then Landlord may, after due process of law, enter upon and take possession of the Premises, and expel or remove Tenant and any other person who may be occupying the Premises or any portion thereof, without being liable for prosecution or any claim or damages therefor. Upon termination of the Lease as provided in this Section, Landlord may recover from Tenant the following: (i) the worth at the time of award of any unpaid rent which has been earned at the time of such termination; plus (ii) the worth at the time of award of the amount by which the unpaid rent which would have been earned after termination until the time of award exceeds the amount of such rental loss that Tenant proves could have been reasonably avoided; plus (iii) the worth at the time of award of the amount by which the unpaid rent for the balance of the Term after the time of award exceeds the amount of such rental loss that Tenant proves could have been reasonably avoided; plus (iv) any other amount necessary to compensate Landlord for all the detriment proximately caused by Tenant's failure to perform its obligations under this Lease or which in the ordinary course of things would be likely to result therefrom, specifically including but not limited to, attorneys' fees, brokerage commissions and advertising expenses incurred, expenses of remodeling the Premises or any portion thereof for a new tenant, whether for the same or a different use, and any special concessions made to obtain a new tenant; plus (v) at Landlord's election, such other amounts in addition to or in lieu of the foregoing as may be permitted from time to time by Applicable Law. The term "rent" as used in this Section 8.2.1(a) shall be deemed to be and to mean all sums of every nature required to be paid by Tenant pursuant to the terms of this Lease, whether to Landlord or to others, including, without limitation, late charges and interest. As used in Sections 8.2.1(a)(i) and (ii), the "worth at the time of award" shall be computed by allowing interest at the rate set forth in Section 2.4 above, but in no case greater than the maximum amount of such interest permitted by Applicable Law. As used in Section 8.2.1(a)(iii), the "worth at the time of award" shall be computed by discounting such amount at the discount rate of the Federal Reserve Bank of San Francisco at the time of award plus one percent (1%). Landlord shall have no obligation to relet the Premises or any part thereof and shall in no event be liable for failure to relet the Premises or any part thereof, or, in the event of any such reletting, for refusal or failure to collect any rent due upon such reletting. No such refusal or failure shall operate to relieve Tenant of any liability under this Lease. Tenant shall instead remain liable for all unpaid Rent and for all such expenses. This paragraph is expressly intended to afford Landlord the remedies provided for in California Civil Code § 1951.2.

(c) Possession. Landlord may re-enter the Premises without terminating this Lease by Notice to Tenant and sublet the whole or any part thereof for the account of Tenant upon as favorable terms and conditions as the market will allow; provided, however, that Tenant shall have not less than thirty (30) days following such re-entry to remove Tenant's Personalty from the Premises. In the latter event (a) Landlord shall have the right to collect any Rent which may thereafter become due and payable under such sublease and to apply the same first, to the payment of any expenses incurred by Landlord in dispossessing Tenant and in subletting the Premises, and second, to the payment of the Rent herein reserved and to the fulfillment of Tenant's other covenants hereunder, and (b) Tenant shall be liable for amounts equal to the Rent as the same would under the terms of this Lease become due, less any amounts actually received by Landlord and applied on account of Rent as aforesaid. Landlord shall have the remedy described in California Civil Code Section 1951.4 (lessor may continue lease in effect after lessee's breach and abandonment and recover rent as it becomes due, if lessee has the right to sublet or assign, subject only to reasonable limitations). Accordingly, if Landlord does not elect to terminate this Lease due to any Event of Default, Landlord may, from time to time, without terminating this Lease, enforce all of its rights and remedies under this Lease, including, without limitation, the right to recover all Rent as it becomes due.

(d) Subleases of Tenant. Whether or not Landlord elects to terminate this Lease, Landlord may terminate any and all subleases or other consensual arrangements for possession or occupancy of the Premises entered into by Tenant or any subtenant of Tenant, or may succeed to Tenant's or Tenant's subtenant's interest in such subleases or other arrangements. If Landlord elects to succeed to Tenant's or Tenant's subtenant's interest in any such subleases or other arrangements, then as of the date of Notice by Landlord of such election (i) Tenant shall have no further right to, or interest in, the rent or other consideration receivable thereunder, and (ii) any sublessee or other occupant of the Premises shall attorn to and recognize Landlord as its landlord.

(e) Right to Perform Tenant's Covenants. If Tenant shall at any time fail to pay any Taxes or to take out, pay for, maintain or deliver any of the insurance provided for in this Lease, or shall fail to make any other payment or perform any obligation under this Lease, and such failure continues beyond applicable notice and cure periods (or without any notice and right to cure where required to protect life or property), then Landlord may, without waiving or releasing Tenant from any obligations of Tenant in this Lease contained, pay any such Tax, effect any such insurance coverage and pay premiums therefor, and make any other payment or perform any other act which Tenant is obligated to perform under this Lease, in such manner and to such extent as Landlord shall, in its sole discretion, deem necessary. In exercising any such rights, Landlord may pay necessary and incidental costs and expenses including reasonable attorneys' fees. All sums so paid by Landlord and all necessary and incidental costs and expenses in connection with the performance of any such act by Landlord, together with interest thereon at the Interest Rate, shall be payable to Landlord on demand. If Landlord incurs any third-party expenses to cure a breach of any non-monetary obligation of Tenant, Tenant shall also pay an administrative charge equal to ten percent (10%) of the cost of the work performed by Landlord. Landlord shall have no obligation to perform on Tenant's behalf and if Landlord does so, Landlord shall not be liable to Tenant for any damage resulting from its actions.

(f) Other Remedies. In addition to the remedies set forth in this Lease, Landlord shall have all other remedies provided by law or statute to the same extent as if fully set forth herein word for word (including, without limitation, the right to enforce Tenant's specific performance of each and every covenant, condition and other provisions of this Lease). No remedy herein conferred upon, or reserved to Landlord shall exclude any other remedy herein or by law provided, but each shall be cumulative.

8.2.2 Form of Payment Following Event of Default. Following the occurrence of a monetary Event of Default, Landlord shall have the right to require that any or all subsequent amounts paid by Tenant to Landlord under this Lease, whether relating to the Event of Default in question or otherwise, be paid in the form of wire transfer or immediately available funds, or by other means approved by Landlord, notwithstanding any prior acceptance by Landlord of payments from Tenant in any different form.

8.2.3 Mitigation of Damages. Except as required by law, Landlord shall have no obligation to mitigate its damages. If Landlord is required by law to mitigate its damages under this Lease, then (a) Landlord shall be required only to use reasonable efforts to so mitigate, which shall not exceed such efforts as commercial landlords generally use to lease similar premises in the vicinity of the tri-city area (Oceanside, Carlsbad and Vista) of the State of California; (b) Landlord shall not be deemed to have failed to so mitigate if Landlord leases less than all of the Premises; and (c) Landlord's failure to so mitigate shall only reduce the Rent to which Landlord is entitled. Tenant acknowledges that Landlord's rejection of a prospective replacement tenant based on an offer of rentals below published rates for new leases of similar premises in the vicinity of the tri-city area (Oceanside, Carlsbad and Vista) of the State of California at the time in question, or containing terms less favorable than those contained herein, shall not give rise to a claim by Tenant that Landlord failed to so mitigate.

8.2.4 Waiver of Right of Redemption. Tenant (for itself and all others claiming through Tenant) irrevocably waives and releases any rights under any law now or hereafter existing to redeem or reinstate this Lease or Tenant's right of occupancy of the Premises after termination of this Lease, including, without limitation, any and all rights conferred by Section 3275 of the Civil Code of California and by Sections 1174(c) and 1179 of the Code of Civil Procedure of California..

8.2.5 Reimbursement of Expenses. In the case of termination of this Lease pursuant to this Section 8.2, Tenant shall reimburse Landlord for all expenses arising out of such termination, including without limitation, all costs incurred in collecting amounts due from Tenant under this Lease (including legal fees, costs of litigation and the like); all expenses incurred by Landlord in attempting to relet the Premises or parts thereof (including advertisements, brokerage commissions, Tenant's allowances, costs of preparing space, and the like); all of Landlord's then unamortized costs of any work allowances provided to Tenant for the Premises; and all Landlord's other reasonable expenditures necessitated by the termination. The reimbursement from Tenant shall be due and payable immediately from time to time upon notice from Landlord that an expense has been incurred, without regard to whether the expense was incurred before or after the termination.

8.2.6 Claims in Bankruptcy. Nothing herein shall limit or prejudice the right of Landlord to prove and obtain in a proceeding for bankruptcy, insolvency, arrangement or reorganization, by reason of the termination, an amount equal to the maximum allowed by a statute or Applicable Law in effect at the time when, and governing the proceedings in which, the damages are to be proved, whether or not the amount is greater to, equal to, or less than the amount of the loss or damage that Landlord has suffered.

8.3 Landlord Default. If Landlord shall fail to perform any material obligation under this Lease required to be performed by Landlord, Landlord shall not be deemed to be in default hereunder nor subject to claims for damages of any kind, unless such failure shall have continued for a period of thirty (30) days after written notice thereof by Tenant or, if such failure is curable but cannot reasonably be cured during such 30-day period, such additional time as it would reasonably take to cure. If Landlord shall fail to cure within the time permitted for cure herein, Landlord shall be liable to Tenant for those actual damages sustained by Tenant as a result of Landlord's default and Tenant shall also have the right to pursue injunctive relief against Landlord, to the extent available under Applicable Laws. Except as may be expressly provided in this Lease, in no event shall Tenant have the right to terminate the Lease nor shall Tenant's obligation to pay Base Rent or other charges under this Lease abate based upon any default by Landlord of its obligations under the Lease. In no event shall Landlord or any Landlord Related Party ever be liable to Tenant for loss of profits, loss of business, or indirect or consequential damages suffered by Tenant from whatever cause.

8.4 Non-Waiver. The failure of Landlord to insist upon strict performance of any of the terms, covenants, conditions or agreements contained herein shall not be deemed a waiver of any rights or remedies that Landlord may have, and shall not be deemed a waiver of any subsequent breach or default in the performance of any of the terms, covenants, conditions or agreements contained herein. The performance of each and every term, covenant, condition and agreement to be performed by Landlord pursuant to this Lease shall not be a condition precedent to Landlord's right to collect Rent or to enforce this Lease. Further, pursuant to the requirements of California Code of Civil Procedure Section 1161.1(c), Tenant is hereby placed on actual notice that Landlord's acceptance of Rent shall not constitute a waiver by Landlord of (a) any preceding breach by Tenant of any provision of this Lease, other than the failure of Tenant to pay the particular Rent so accepted; or (b) any of Landlord's rights, including, without limitation, any rights Landlord may have to recover possession of the Premises or to sue for any remaining Rent owed by Tenant.

ARTICLE 9

CASUALTY & CONDEMNATION

9.1 Casualty.

9.1.1 Generally. Subject to Section 9.1.2 below, if the Premises are damaged by fire, the elements or other casualty (collectively a "**Casualty**"), Tenant shall promptly notify Landlord of the same. Except as expressly set forth below, this Lease shall not terminate in the event of damage to the Premises by other casualty, nor any other obligation of Tenant hereunder be abated or affected in any way. If all or any portion of the Premises becomes untenantable or inaccessible by a Casualty, Landlord shall cause a general contractor selected by Landlord to provide Landlord and Tenant with a written estimate of the amount of time required, using standard working methods, to substantially complete the repair and restoration of the affected portion of the Premises ("**Completion Estimate**"). Landlord shall promptly forward a copy of the Completion Estimate to Tenant. Notwithstanding anything to the contrary contained in this Lease, Landlord and Tenant hereby waive the provisions of any Law relating to the matters addressed in this Section, and agree that their respective rights for damage to or destruction of the Premises shall be those specifically provided in this Lease, which shall constitute an express agreement between the parties with respect thereto, and Landlord and Tenant hereby agree that any Applicable Law, including Sections 1932(2) and 1933(4) of the California Civil Code, with respect to any rights or obligations concerning damage or destruction of leased or hired property, shall have no application to this Lease or to any damage or destruction to all or any part of the Premises.

9.1.2 Termination. Notwithstanding Section 9.1.1, if the Completion Estimate indicates that the Premises cannot be made tenantable within twenty-four (24) months from the date the repair is started, then either party shall have the right to terminate this Lease upon written notice to the other within ten (10) days after Tenant's receipt of the Completion Estimate, which notice, if sent by Tenant, shall be accompanied by a sum equal to all Rent due from Tenant to Landlord to the date of termination. Tenant, however, shall not have the right to terminate this Lease if the Casualty was caused by the negligence or intentional misconduct of Tenant or any Tenant Parties. If (i) the Completion Estimate indicates that the Premises can be made tenantable within thirty-six (36) months from the date the repair is started, and (ii) Tenant terminates this Lease pursuant to the first sentence of this Section 9.1.2., then, within thirty (30) days after receipt of Tenant's termination notice, Landlord may, in its sole and absolute discretion, negate Tenant's termination by providing notice to Tenant that Landlord agrees to an abatement of Base Rent beginning immediately following the twenty-fourth (24^{th}) month after the date the repair is started and ending on the date when Landlord has substantially completed the repair and restoration of the affected portion of the Premises. In addition, if the Premises are damaged by fire, the elements or other casualty during the last twelve (12) months of the Term, and the Completion Estimate shows that the restoration cannot be completed within one hundred twenty (120) days after the Casualty, then either party shall have the right, in lieu of Tenant fulfilling its obligations under Section 9.1.1 above, to terminate this Lease as of the date of the Casualty by notice to the other party within ten (10) business days after the delivery of the Completion Estimate, which notice, if sent by Tenant, shall be accompanied by a sum equal to all Rent due from Tenant to Landlord to the date of termination. If Tenant elects to terminate the Lease pursuant to this Section 9.1.2, Tenant shall (1) assign to Landlord all of Tenant's right, title and interest in and to any property insurance proceeds received in connection with such casualty for the Tenant Improvements (defined below) and (2) pay to Landlord an amount equal to Tenant's deductible under any insurance and/or any applicable self-insured retention amount covering the Tenant Improvements. In addition, Landlord, by notice to Tenant within ninety (90) days after the date of the Casualty, shall have the right to terminate this Lease if (1) any Mortgagee requires that the insurance proceeds be applied to the payment of the mortgage debt; or (2) a material uninsured loss to the Buildings or Premises occurs, and, in either case, Tenant does not provide Landlord with sufficient funds (or evidence of the same satisfactory to Landlord) to complete such restoration within thirty (30) days after Landlord's termination notice.

9.1.3 Restoration. If this Lease is not terminated, Landlord shall promptly and diligently, subject to reasonable delays for insurance adjustment or other matters beyond Landlord's reasonable control, restore the core and shell of the Buildings and structural elements of other improvements situated upon the Premises, subject to the following provisions. Such restoration shall be to substantially the same condition that existed prior to the Casualty, except for modifications required by Applicable Law or any other modifications deemed desirable by Landlord ("**Landlord's Restoration**"). Landlord shall be paid a construction management fee equal to three percent (3%) of the hard and soft costs of construction in connection with Landlord's Restoration. In no event shall Landlord be required to spend more for the Landlord's Restoration than the proceeds received by Landlord, whether from Landlord's insurance proceeds or proceeds from Tenant. Landlord shall not be liable for any inconvenience to Tenant, or injury to Tenant's business resulting in any way from the Casualty or the repair thereof. Landlord shall not be responsible for restoration of any portion of the non-structural tenant improvements, any improvements or fixtures installed for Tenant's specific business operations, or any Alterations, including, without limitation, the Conference Center Alterations (collectively, the "**Tenant Improvements**"). If this Lease is not terminated, upon the substantial completion of Landlord's Restoration, Tenant shall diligently and promptly repair all such damage and restore the Tenant's Improvements (the "**Tenant's Restoration**") to substantially the same quality, use and usability to the Buildings and related improvements that existed immediately prior to the Casualty.

9.1.4 No abatement of Rent. If the Premises are damaged or destroyed by casualty, then the Rent shall not be abated and Tenant shall not be entitled to any compensation or damages from Landlord for loss of the use of the Premises, damage to Tenant's Personalty or to any Alterations, or any inconvenience occasioned by any damage, repair, or restoration.

9.1.5 Insurance Proceeds. Tenant shall be entitled to any and all of the insurance proceeds payable for the damage to the Tenant Improvements, provided, however, that if Tenant elects to terminate this Lease pursuant to Section 9.1.2, then Tenant shall assign and pay over to Landlord all insurance proceeds received by or payable to Tenant with respect to damage to the core and shell of the Buildings and structural elements of other improvements situated upon the Premises (but not Tenant Improvements and Tenant's Personalty). Whether or not Tenant so elects to terminate this Lease, Tenant shall be entitled to any and all of the insurance proceeds payable for the damage to Tenant's Personalty.

9.2 Waiver. Tenant (for itself and all others claiming through Tenant) irrevocably waives and releases its rights to make repairs at Landlord's expense. The provisions of this Lease, including this Section 9.2, constitute an express agreement between Landlord and Tenant with respect to any damage to, or destruction of, any portion of the Premises. Any law in respect of any rights or obligations concerning any such damage or destruction in the absence of an express agreement between the parties, and any other law relating to damage or destruction of leased premises, whether in effect on the date of this Lease or thereafter, shall have no application to this Lease or any damage or destruction of any part of the Premises.

9.3 Total Condemnation. If after the execution of this Lease and prior to the expiration of the Term, all or a significant portion of the Premises shall be permanently taken under power of eminent domain by any public or private authority, or conveyed by Landlord to said authority in lieu of such taking (collectively, a "**Taking**"), and if as a result of such Taking: (a) access to the Premises to and from the publicly dedicated roads adjacent to the Premises as of the Effective Date is permanently and materially impaired such that Tenant no longer has access to such dedicated road; (b) there is insufficient parking to operate the Premises under Applicable Laws and replacement parking cannot be constructed or provided elsewhere on the Premises; or (c) the taking includes a portion of the Buildings such that the remaining portions are unsuitable for the Permitted Use and the remaining portions of the Premises cannot, in the reasonable opinion of a contractor mutually agreed upon by Landlord and Tenant, be restored to useful condition within eighteen (18) months after the Taking (such event, a "**Total Condemnation**"), then, in such event:

9.3.1 Termination. On the date of the Total Condemnation, this Lease shall automatically terminate; provided, however, that Tenant's obligations under any indemnification provisions of this Lease and Tenant's obligation to pay Rent and all other monetary obligations (whether payable to Landlord or a third party) accruing under this Lease prior to the date of termination shall survive such termination. If the date of such Total Condemnation is other than the first day of a month, the Base Rent for the month in which such Total Condemnation occurs shall be apportioned based on the date of the Total Condemnation

9.3.2 Award. Landlord shall be entitled to receive the entire award payable in connection with a Total Condemnation without deduction for any estate vested in Tenant by this Lease, and Tenant hereby expressly assigns to Landlord all of its right, title and interest in and to every such award and agrees that Tenant shall not be entitled to any such award or other payment for the value of Tenant's leasehold interest in this Lease; provided, however, that Tenant shall have the right to file any separate claim available to Tenant for any taking of Tenant's Personalty, loss of goodwill, and for moving and relocation expenses (but only if such payment to Tenant does not reduce any award available to Landlord).

9.4 Partial Condemnation. In the event of a Taking which is not a Total Condemnation, neither party shall have the right to terminate this Lease and Landlord shall, using proceeds therefor from the condemning authority, restore the core and shell of the Buildings and structural elements of other improvements situated upon the Premises reasonably sufficient to make a functional unit of the remaining portion of the Premises, and Tenant shall proceed with restoration of the Tenant Improvements to the extent possible to make a functional unit of the remaining portion of the Premises. In the event any partial taking materially affects Tenant's operations in the Buildings for the Permitted Use, such that the Premises no longer provides sufficient space for Tenant to carry out its business without material interference with the Permitted Use, then, commencing on the date on which Tenant's operations are materially affected, the Base Rent shall be abated in proportion to the square footage of the portion of the Buildings taken.

ARTICLE 10
MISCELLANEOUS

10.1 Notices. Any notice, consent, demand, or other communication or document required or permitted to be given under this Lease or pursuant to any law ("**Notice(s)**"), shall be (a) in writing (except as otherwise provided in this Lease), (b) addressed to the intended recipient at its address set forth in the Basic Lease Information (provided that each of Landlord and Tenant may change its addresses for the giving of notices by giving written notice thereof to the other party), (c) sent by fully prepaid registered or certified United States Mail return receipt requested, or by any nationally recognized overnight courier service furnishing a written record of attempted or actual delivery, and (d) deemed to have been delivered upon actually delivery or rejection of delivery. Any Notice may be given by an attorney on behalf of Landlord or Tenant.

10.2 Certain Representations

10.2.1 Neither of Tenant nor any wholly-owned subsidiary of Tenant is (i) in violation of any OFAC Law or Regulation, the U.S. Patriot Act or Anti-Corruption Legislation, (ii) is named by any Executive Order (including the September 23, 2001, Executive Order Blocking Property and Prohibiting Transactions With Persons Who Commit, Threaten to Commit, or Support Terrorism) or the United States Treasury Department as a terrorist, "Specially Designated National and Blocked Person," or (iii) (to the Tenant's knowledge) acting, directly or indirectly, on behalf of any such person. To Tenant's actual knowledge, no such person, group, entity or nation owns 20% or more Tenant's voting securities. To the Tenant's knowledge, the monies used in connection with this Agreement and amounts committed with respect thereto, were not and are not derived from any activities that contravene any applicable OFAC Laws and Regulations, the U.S. Patriot Act, AML Legislation or Anti-Corruption Legislation, each as defined below.

10.2.2 As used herein, the term "**AML Legislation**" means United States anti-money laundering-related and anti-terrorism financing laws, regulations, and codes of practice applicable to the Tenant, its affiliates, and their operations from time to time, including, any regulations, guidelines or orders thereunder. As used herein, the term "**Anti-Corruption Legislation**" means U.S. Foreign Corrupt Practices Act and similar anticorruption and anti-bribery laws of the United States. As used herein, the term "**OFAC Laws and Regulations**" means (i) any lists, laws, rules, sanctions and regulations maintained by OFAC pursuant to any authorizing statute, Executive Order or regulation, including the Trading with the Enemy Act, 50 U.S.C. App. § 1 et seq., the International Emergency Economic Powers Act, 50 U.S.C. § 1701 et seq., the Iraq Sanctions Act, Pub. L. 101-513, Title V, §§ 586 to 586J, 104 Stat. 2047, the National Emergencies Act, 50 U.S.C. §§ 1601 et seq., the Antiterrorism and Effective Death Penalty Act of 1996, Pub. L. 104- 132, 110 Stat. 1214-1319, the United Nations Participation Act, 22 U.S.C. § 287c, the International Security and Development Cooperation Act, 22 U.S.C. § 2349aa-9, the Nuclear Proliferation Prevention Act of 1994, Pub. L. 103-236, 108 Stat. 507, the Foreign Narcotics Kingpin Designation Act, 21 U.S.C. §§ 1901 et seq., the Iran and Libya Sanctions Act of 1996, Pub. L. 104-172, 110 Stat. 1541, the Cuban Democracy Act, 22 U.S.C. §§ 6001 et seq., the Cuban Liberty and Democratic Solidarity Act, 22 U.S.C. §§ 6021-91, and the Foreign Operations, Export Financing and Related Programs Appropriations Act, 1997, Pub. L. 104-208, 110 Stat. 3009-172; (ii) all regulations, executive orders, or administrative orders of any kind issued under these statutes, including 31 C.F.R., Subtitle B, Chapter V; and (iii) any other applicable United States civil or criminal federal or state laws, regulations, or orders that (1) limit the use of and/or seek the forfeiture of proceeds from illegal transactions; (2) limit commercial transactions with designated countries or individuals believed to be terrorists, narcotics dealers or otherwise engaged in activities contrary to the interests of the United States; or (3) are designed to disrupt the flow of funds to terrorist organizations, as all of the foregoing laws may be amended from time to time.

10.3 Brokers. Each of Landlord and Tenant represents and warrants to the other that such party has not dealt with any broker or finder in connection with this Lease. Each party shall indemnify the other and hold it harmless from any cost, expense, or liability (including costs of suit and reasonable attorneys' fees) for any compensation, commission or fees claimed by any other real estate broker or agent in connection with this Lease or its negotiation by reason of any act or statement of the indemnifying party.

10.4 No Waivers. No provision of this Lease shall be deemed waived by either party unless expressly waived in a writing signed by the waiving party (and then only to the extent so expressly waived). No waiver shall be implied by delay or any other act or omission of either party. No waiver by either party of any provision of this Lease shall be deemed a waiver of such provision with respect to any subsequent matter relating to such provision, and Landlord's consent or approval respecting any action by Tenant shall not constitute a waiver of the requirement for obtaining Landlord's consent or approval respecting any subsequent action. No act or thing done by Landlord or its agents during the Term shall be deemed a termination of this Lease, an acceleration of the Termination Date, or an acceptance of the surrender of the Premises, and no agreement to terminate this Lease, accelerate the Termination Date, or accept a surrender of the Premises shall be valid, unless expressly provided in a writing signed by Landlord. Acceptance of the full or any partial payment of Rent shall not be deemed Landlord's waiver of any breach by Tenant of any provision of this Lease and Landlord's acceptance of a lesser amount than the Rent due under this Lease shall not be deemed Landlord's waiver of Landlord's right to receive the full amount of Rent due, nor shall any endorsement or statement on any check or payment or any letter accompanying such check or payment be deemed an accord and satisfaction, and Landlord may accept such partial payment without prejudice to Landlord's right to recover the full amount of Rent due. Tenant acknowledges that this Section 10.4 imparts actual notice to Tenant that Landlord's acceptance of partial payment of Rent does not constitute a waiver of any of Landlord's rights, including any right Landlord may have to recover possession of the Premises. Forbearance by Landlord in enforcing one or more of the remedies provided in this Lease upon an Event of Default shall not be deemed a waiver of such Event of Default or of Landlord's right to enforce any such remedies with respect to such Event of Default or any subsequent Event of Default. Landlord's acceptance of any Rent or of the performance of any other provision of this Lease from any person other than Tenant, including any Transferee, shall not be deemed a waiver of Landlord's right to approve any Transfer in accordance with Article 5.

10.5 Future Development. Provided the Tenant is Ionis Pharmaceuticals, Inc., or an affiliate, and Tenant is operating for the Permitted Use, in no event shall Landlord take any action or permit any actions to be taken that may or will increase or decrease, modify, change or alter the zoning or entitlements of the Premises, alter the Buildings, change the site amenities, or add additional improvements without the express written consent of Tenant. Notwithstanding the foregoing, subject to the terms of this Section 10.5, Landlord reserves all rights as may be necessary or desirable to construct additional improvements serving the Premises, the Companion Premises, or both, in connection with the construction of the improvements under the Companion Lease, including, without limitation, pedestrian walkways, installation of utilities and utility connections, structured parking, a pedestrian bridge, and site improvements at the Premises, and to modify the Buildings in connection with any such additional development, all as required by the Companion Lease and consistent with the plans and specifications for the construction of the Companion Premises ("**Future Development**"). In connection with any such Future Development, facilities at the Premises may be eliminated, altered, or relocated and may also be utilized to serve the Companion Premises. The rights set forth above shall include rights to use portions of the Premises for the purpose of temporary construction staging and related activities and to implement valet parking for reserved and unreserved parking spaces for the purpose of facilitating construction during such activities.

10.5.1 Landlord and its representatives, contractors, agents, employees and licensees shall have the right during any construction period to enter the Premises to undertake such work; to shore up the foundations, walls, and other improvements at the Premises; to erect scaffolding and protective barricades around the Premises; and to do any other act necessary for the safety of the improvements at the Premises or the expeditious completion of such construction. Landlord shall use reasonable efforts not to interfere with the conduct of Tenant's business and to minimize the extent and duration of any inconvenience, annoyance or disturbance to Tenant resulting from any work pursuant to this Section in or about the Premises, consistent with accepted construction practice, and so long as Landlord uses such reasonable efforts Landlord shall not be liable to Tenant for any compensation or reduction of Rent by reason of inconvenience or annoyance or for loss of business resulting from any act by Landlord pursuant to this Section.

10.5.2 Tenant agrees to enter into any instruments reasonably requested by Landlord in connection with the Future Improvements, and for the continued maintenance of such Future Improvements, so long as the same do not materially decrease the rights or materially and adversely increase the obligations of Tenant under this Lease, including reciprocal easement agreements, declarations of covenants, and other agreements to facilitate use of the improvements between the Premises and Companion Premises. Tenant agrees not to take any action to oppose any application by Landlord for any permits, consents or approvals from any governmental authorities for any redevelopment or additional development of all or any part of the Companion Premises, and will use all commercially reasonable efforts to prevent any of Tenant's subtenants or assigns, and Tenant's and their respective officers, directors, employees, agents, contractors and consultants from doing so. For purposes hereof, action to oppose any such application shall include, without limitation, communications with any governmental authorities requesting that any such application be limited or altered. Also for purposes hereof, commercially reasonable efforts shall include, without limitation, commercially reasonable efforts, upon receiving notice of any such action to oppose any application on the part of any Tenant Parties, to obtain injunctive relief, and, in the case of a subtenant, exercising remedies against the subtenant under its sublease.

10.6 Other Provisions.

10.6.1 Covenant of Quiet Enjoyment. Landlord covenants that Tenant, while no Event of Default has occurred and be continuing, shall peaceably and quietly have, hold, and enjoy the Premises for the Term without hindrance from Landlord, but not otherwise, subject to all matters of record and to the terms and provisions of this Lease.

10.6.2 Survival. All obligations of Tenant under this Lease not fully performed as of the Termination Date shall survive the Termination Date.

10.6.3 Entire Agreement. This Lease, together with the Exhibits, contains all of the agreements of Landlord and Tenant in respect of this Lease and supersedes any previous negotiations. There have been no representations made by Landlord or any of Landlord's representatives, or understandings made between Landlord and Tenant, other than those set forth in this Lease and the Exhibits. This Lease may not be modified except by a written instrument duly executed by the party to be bound. Landlord and Tenant each represent to the other, that is has the individuals executing this Lease have been properly authorized by proper action of the Landlord and Tenant, as the case may be.

10.6.4 Execution in Counterparts. This Lease may be executed in counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same instrument.

10.6.5 Recording. Tenant shall not record this Lease, but may record a short form memorandum of this Lease in the form attached hereto as Exhibit D.

10.6.6 Non-Discrimination. Tenant shall not (and Tenant shall not permit any person claiming through or under Tenant to) discriminate against or segregate any person or group of persons on account of race, color, creed, sex, religion, marital status, ancestry, or national origin, whether in the use, occupancy, subleasing, transferring, or enjoyment of the Premises, or otherwise.

10.6.7 Attorneys' Fees. In any action or proceeding that Landlord or Tenant initiates against the other party declaratory or otherwise, arising out of this Lease, the unsuccessful party in such action or proceeding shall reimburse the prevailing party for its costs, including reasonable attorneys' fees (at trial and appellate levels).

10.6.8 Waiver of Consequential Damages. Except as set forth in Section 1.3 and Section 3.3, neither Landlord nor Tenant shall be liable to the other for any form of special, indirect, consequential, or punitive damages.

10.6.9 Tenant Information. Upon Landlord's request from time to time, Tenant shall provide to Landlord the financial statements for Tenant for its most recent fiscal year and fiscal quarter. Financial statements for each fiscal year shall be prepared and certified by a certified public accountant; financial statements for each quarter shall be prepared and certified by Tenant's chief financial officer. In addition, if so requested, and provided that Landlord may not require such information more than once in any calendar year except where Landlord has reasonable grounds for concern, details of the financial and credit standing and details of the corporate organization of Tenant and any Indemnitor, including copies of financial statements for the last three (3) fiscal years of Tenant. If requested by Tenant, such financial statements shall be furnished pursuant to a confidentiality agreement in a form reasonably provided by Landlord for such purpose. The provisions of this Section 10.6.9 shall not apply to Tenant if it is a Public Company and its financial statements are publicly available.

10.6.10 REIT Provisions. Tenant and Landlord intend that all amounts payable by Tenant to Landlord shall qualify as "rents from real property," and will otherwise not constitute "unrelated business taxable income" or "impermissible tenant services income," all within the meaning of Section 856(d) of the Internal Revenue Code of 1986, as amended (the "**Code**") and the U.S. Department of Treasury Regulations promulgated thereunder (the "**Regulations**"). In the event that Landlord determines that there is any risk that any amount payable under this Lease may not qualify as "rents from real property" or will otherwise constitute impermissible tenant services income within the meaning of Section 856(d) of the Code and the Regulations, Tenant agrees to (a) cooperate with Landlord by entering into such amendment or amendments as Landlord deems necessary to qualify all amounts payable under this Lease as "rents from real property" and (b) permit (and, upon request, to acknowledge in writing) an assignment of the obligation to provide certain services under the Lease, and, upon request, to enter into direct agreements with the parties furnishing such services (which shall include but not be limited to a taxable REIT subsidiary of Landlord). Notwithstanding the foregoing, Tenant shall not be required to take any action pursuant to the preceding sentence (including acknowledging in writing an assignment of services pursuant thereto) if such action would result in (A) Tenant's incurring more than de minimis additional liability under this Lease or (B) more than a de minimis negative change in the quality or level of Buildings operations or services rendered to Tenant under this Lease. For the avoidance of doubt, (i) if Tenant does not acknowledge in writing an assignment as described in clause (b) above (it being agreed that Tenant shall not unreasonably withhold, condition or delay such acknowledgment so long as the criteria in clauses (A) and (B), above, are satisfied), then Landlord shall not be released from liability under this Lease with respect to the services so assigned; and (ii) nothing in this Section 10.6.10 shall limit or otherwise affect Landlord's ability to assign its entire interest in this Lease to any party as part of a conveyance of Landlord's ownership interest in the Buildings.

10.7 Interpretation.

10.7.1 Captions. The captions in this Lease are for convenience of reference and shall not define, increase, limit, or describe the scope or intent of any provision of this Lease.

10.7.2 Landlord and Tenant. The terms "Tenant" and "Landlord", and any pronoun used in place thereof, shall indicate and include each of the parties' and respective successors, executors, administrators, and permitted assigns, according to the context, provided that, for the purposes of any provisions indemnifying or waiving claims against, Landlord, the term "Landlord" shall also include Landlord's present and future investment manager, and property management company, and all of their trustees, directors, officers, partners, beneficiaries, principals, members, managers, investors, stockholders, employees, Affiliates, agents, representatives, contractors (and subcontractors of any tier), successors and assigns.

10.7.3 Non-Exclusivity. Whenever the words "including", "include", or "includes" are used in this Lease, they shall be interpreted in a non-exclusive manner as though the words "without limitation" immediately followed the same. Any reference to "any part" or "any portion of" the Premises or any other property shall be construed to refer to all or any part of the same.

10.7.4 Covenants Independent. This Lease shall be construed as though the covenants herein between Landlord and Tenant are independent.

10.7.5 Joint and Several Liability. In any case where either Landlord or Tenant consists of more than one person, the obligations of such party under this Lease shall be joint and several.

10.7.6 Time of the Essence. Time is of the essence of this Lease and all of its provisions.

10.7.7 Governing Law. This Lease shall in all respects be governed by the laws of the State of California without giving effect to the principles of conflicts of law thereof or of any other jurisdiction that would result in the application of the Applicable Laws of any other jurisdiction. Tenant's obligation to pay Rent shall not be discharged or otherwise affected by any Applicable Law or regulation now or hereafter applicable to the Premises, or any other restriction on Tenant's use, or (except as expressly provided in this Lease) any Casualty or Taking, or any failure by Landlord to perform any covenant contained herein, or any other occurrence; and no termination or abatement remedy that is not expressly provided for in this Lease for any breach or failure by Landlord to perform any obligation under this Lease shall be implied or applicable as a matter of Applicable Law.

10.7.8 Successors and Assigns. Subject to the provisions of Article 5, the provisions of this Lease shall be binding upon and inure to the benefit of the heirs, successors, executors, administrators, and assigns of Landlord and Tenant.

10.7.9 Submission. The submission of this Lease to Tenant or a summary of some or all of its provisions for examination does not constitute a reservation of or option for the Premises or an offer to lease, and no legal obligations shall arise with respect to the Premises or other matters herein unless and until such time as this Lease is executed and delivered by Landlord and Tenant and approved by the holder of any mortgage on the Buildings having the right to approve this Lease.

10.8 Tenant's Signage. Tenant shall have the right to install such signage at or upon the Premises as permitted by Applicable Laws. Tenant, at its sole expense, shall maintain Tenant's Signage in good condition and repair during the Term. Should Tenant's Signage require maintenance or repairs as determined in Landlord's reasonable judgment, Landlord shall have the right to provide notice thereof to Tenant and Tenant shall cause such repairs and/or maintenance to be performed within thirty (30) days after receipt of such notice from Landlord at Tenant's sole cost and expense. Should Tenant fail to perform such maintenance and repairs within the period described in the immediately preceding sentence, then, in addition to all of Landlord's other rights and remedies, Landlord may, but need not, perform the required maintenance and repairs, and Tenant shall pay Landlord the cost thereof, plus a fee for Landlord's oversight and coordination of such work equal to five percent (5%) of its cost, within thirty (30) days after receipt of Landlord's request for payment, together with reasonable, supporting backup documentation. Landlord shall have the right to maintain one or more signs at the Premises in a prominent location near the entrance to the Building identifying the property manager and the identity of Landlord or its direct or indirect ownership group in a manner similar to that shown on Exhibit G attached, subject to Tenant's approval of the size and location of such signage, such approval not to be unreasonably withheld, conditioned or delayed.

10.9 Choice of Law. This Lease shall be governed by the Applicable Laws of the State of California.

10.10 CASp Inspection. For purposes of Section 1938(a) of the California Civil Code, Landlord hereby discloses to Tenant, and Tenant hereby acknowledges, that neither the Buildings nor any portion of the Premises has undergone inspection by a Certified Access Specialist (CASp) (defined by California Civil Code Section 55.52). Pursuant to California Civil Code Section 1938, Tenant is hereby notified as follows: "A Certified Access Specialist (CASp) can inspect the subject premises and determine whether the subject premises comply with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the subject premises, the commercial property owner or lessor may not prohibit the lessee or tenant from obtaining a CASp inspection of the subject premises for the occupancy of the lessee or tenant, if requested by lessee or tenant. The parties shall mutually agree on the arrangements for the time and manner of any CASp inspection, the payment of the fee for the CASp inspection and the cost of making any repairs necessary to correct violations of construction-related accessibility standards within the premises." If Tenant requests to perform a CASp inspection of the Premises, Tenant shall, at its cost, retain a CASp approved by Landlord to perform the inspection of the Premises at a time agreed upon by the parties. Tenant shall provide Landlord with a copy of any report or certificate issued by the CASp (the "**CASp Report**"). Landlord and Tenant agree that any modifications necessary to correct violations of construction related accessibility standards identified in the CASp Report shall be the responsibility of Tenant. Tenant agrees to keep the information in the CASp Report confidential except as necessary for the Tenant to complete such modifications.

10.11 Landlord Access. Landlord, its affiliates, and their respective contractors and agents, subject to the terms of this Section 10.11, may, (a) at any and all reasonable times during normal business hours (or during non-business hours, if Landlord so requests and Tenant consents), and upon at least two (2) business days' prior notice (which may be oral or by email to the office manager or other Tenant-designated individual at the Premises; but provided that no time restrictions shall apply or advance notice be required if a bona fide emergency with an immediate threat to property damage or personal injury necessitates immediate entry and any oral notice will be followed immediately by email notice as provided above prior to entry), enter the Premises to (i) inspect the same and to determine whether Tenant is in compliance with its obligations hereunder, (ii) supply any service Landlord is required to provide hereunder, (iii) alter, improve or repair any portion of the premises under the Companion Lease for which access to or through the Premises is reasonably necessary, (iv) post notices of non-responsibility, (v) show the Premises to current and prospective investors, lenders and purchasers, and (vii) show the Premises, other than the Secure Access Areas, during the final eighteen (18) months of the Term (provided that Tenant has not timely exercised an Extension Option to extend the Term pursuant to Section 1.4) to prospective tenants, and (b) notwithstanding the foregoing, at any and all reasonable times during business and non-business hours and upon at least two (2) business days' prior notice enter the Premises for the purposes of performing any repairs or maintenance that Landlord is obligated or entitled to perform pursuant to this Lease (provided that no time restrictions shall apply if a bona fide emergency with an immediate threat to property damage or personal injury necessitates immediate entry); provided, however, that Landlord shall comply with Tenant's reasonable safety procedures and protocols with respect to the Premises, and with respect to portions of the Premises (if any) that are reasonably designated in writing by Tenant to Landlord as controlled or having restricted access (the "**Secure Access Areas**"), shall comply with Tenant's reasonable additional security and safety procedures and protocols related to such portions of the Premises including only entering such designated Secure Access Areas when accompanied by a Tenant representative (provided further, that Tenant shall provide a Tenant representative to accompany Landlord upon written request from Landlord at least two (2) business days' in advance). In no event shall Tenant's Base Rent abate as a result of Landlord's activities pursuant to this Section; provided, however, that all such activities shall be conducted in such a manner so as to cause as little interference to Tenant as is reasonably possible. Landlord shall at all times retain keys, key cards and access codes with which to unlock all of the doors in the Premises. Landlord acknowledges that the standard operating procedures set forth on Exhibit L shall apply to the issuance to Landlord of any key cards, electronic keypad codes, or door keys to any Secure Access Areas for any unaccompanied access too the Premises by Landlord, provided, however, that Tenant shall identify a single designee to act as Landlord's point of contact to administer the requirements of Tenant's standard operating procedures on behalf of Landlord and that in no event shall any such requirements prohibit Landlord's entry into Secure Access Areas (i) in the event of a bona fide emergency with an immediate threat to property damage or personal injury that necessitates immediate entry or (ii) when accompanied by a representative of Tenant. If an emergency necessitates immediate access to the Premises, Landlord may use whatever force is necessary to enter the Premises, and any such entry to the Premises shall not constitute a forcible or unlawful entry to the Premises, a detainer of the Premises, an eviction of Tenant from the Premises or any portion thereof, or a violation of the provisions of this Section 10.11. Notwithstanding anything herein to the contrary, in the event Tenant notifies Landlord within one (1) business day (which may be oral or by email to the Landlord-designated individual) following Landlord's request for access that the proposed day and/or time for entry will cause a disruption to a planned event, meeting or other programming for Tenant, Landlord and Tenant shall cooperate with one another to identify a better date and/or time Landlord's entry of the Premises.

ARTICLE 11
TENANT'S RIGHT OF FIRST OFFER

11.1 Right of First Offer.

11.1.1 Notwithstanding anything contained in this Lease to the contrary, provided that (i) no Event of Default by Tenant has occurred under this Lease, and (ii) the Tenant is Ionis Pharmaceuticals, Inc., or its affiliate, if Landlord intends to offer the Premises (or any portion thereof) for sale to an unaffiliated third party, Landlord shall promptly notify Tenant of the same in writing (the "**Offer Notice**") and indicate the terms and conditions upon which Landlord is willing to accept for the sale of the Premises to a third party. Tenant may elect to purchase the Premises (or portion thereof) on the terms and conditions set forth in the Offer Notice by notifying Landlord in writing (the "**Election Notice**") of its election no later than fifteen (15) days after the Offer Notice, which notice shall be accompanied by the Option Deposit (defined herein), and the sale of the Premises shall be consummated pursuant to the terms hereof on a date (the "**Closing Date**") within sixty (60) days after the Election Notice, such date to be mutually agreed upon by Landlord or Tenant. In the event of any of the following: (x) Tenant fails to deliver the Election Notice or the Option Deposit to Landlord on or before the expiration of the 15-day period set forth above, (y) Tenant fails to close on its acquisition of the Premises on or before the Closing Date, or (z) Landlord provides an Offer Notice to Tenant and Tenant does not exercise its right to purchase the Premises, then in each case Tenant shall be deemed to have waived its right to purchase the Premises and thereafter Tenant's rights under this Article 11 shall be null and void and of no further force or effect. The term "**Option Deposit**" shall mean the amount of cash deposit required in the Offer Notice or, if no cash deposit is specified in the Offer Notice, a sum equal to five percent (5%) of the purchase price for the Premises set forth in the Offer Notice.

11.1.2 If the Premises is not sold to Tenant pursuant to Section 11.1.1 above, Landlord shall have the right to direct the marketing of the Premises (including the unilateral right to select any broker to be utilized), and to take all actions in furtherance thereof, including, without limitation, the right and authority to execute, such agreements, documents, instruments and applications, including a purchase and sale agreement and a deed, assignment of leases, bills of sale and other conveyance documents conveying the Premises (collectively, "**Sale Documents**") as Landlord, may reasonably deem necessary or desirable in order consummate such sale, and, subject to Section 11.1.1 above and Section 11.2 below, Landlord shall be authorized to accept an offer for the sale of the Premises. If Landlord modifies the terms of its offer such that the purchase price is less than ninety-five percent (95%) of the consideration provided in the Offer Notice, then the proposed transaction shall again be subject to Tenant's rights under this Article 11, and Landlord shall deliver an amended Offer Notice to Tenant.

11.1.3 Tenant shall, at no material out-of-pocket cost to Tenant, reasonably cooperate with Landlord's efforts to sell the Premises, including by providing information with respect to the Premises, and by allowing and facilitating physical access to the Premises to prospective purchasers and their lenders and consultants, but such cooperation and execution by the Tenant shall not be a condition to the effectiveness of any actions taken by Landlord with respect to such sale or to the effectiveness of Sale Documents.

11.2 Tenant's Competitors. Provided that (i) no Event of Default by Tenant has occurred under this Lease, and (ii) the Tenant is Ionis Pharmaceuticals, Inc., or an affiliate, and such Tenant remains in possession of the Premises and operating for the Permitted Use, Landlord shall not sell the Premises (or any portion thereof, or all or substantially all of Landlord's interest therein) or enter into an agreement to that would transfer Landlord's interest in the Premises to a Competitor during the Term; provided, however, this Section 11.2 shall not prohibit Landlord from entering into an agreement to sell or transfer the Premises to a Competitor if the effective date of the transfer would occur after the expiration of the Term. As used herein, "**Competitor**" or "**Competitors**" means the companies expressly listed as competitors in Tenant's most recent publicly filed Annual Report (10-K); provided, however, (1) such companies shall be directly engaged in the development, manufacturing, or commercializing a medicine or other life sciences product, and "Competitor" shall not mean any affiliates, investors, parents, or other stake-holders of such companies, and (2) there shall not be more than twenty (20) Competitors at any one time. If Tenant's most recent publicly filed Annual Report (10-K) includes more than twenty (20) companies that would otherwise be deemed Competitors, only those companies that were previously listed in Tenant's Annual Report (10-K) shall be deemed a Competitor unless Tenant provides a written notice to Landlord specifying which companies listed in Tenant's most recent Annual Report (10-K) shall be included in the list of twenty (20) Competitors for the purposes of this Lease.

11.3 Excluded Transfers. Notwithstanding anything to the contrary herein, Tenant's rights under this Article 11 shall not apply to any transaction that meets at least one of the following criteria:

11.3.1 any sale/leaseback transaction made in connection with a bona fide financing, provided that the seller/lessee under any such transaction shall be bound by the provisions of this Article 11 at such time, if any, as such seller/lessee reacquires title to the Premises;

11.3.2 any sale or transfer of the Premises to a partnership, corporation, limited liability company, trust or other entity that is under control by, common control with, or controls Landlord or any direct or indirect owner of Landlord, but any such transferee shall hold title subject to Tenant's rights under this Article 11;

11.3.3 any transfer in the nature of a financing transaction with a financial institution that is made for a bona fide business purpose (i.e., other than in order to allow a transfer of the Premises in avoidance of Tenant's rights under this Article 11), including without limitation the granting of, foreclosure under, or giving of a deed-in-lieu of foreclosure under, a mortgage or the granting or exercise of any pledge of ownership interests; provided that, following any foreclosure of the Premises, deed in lieu thereof, or similar acquisition of title by a mortgagee, lender, or their affiliates, following the first sale of the Premises by such mortgagee, lender or their affiliates, the subsequent Landlord shall be bound by Tenant's rights under this Article 11;

11.3.4 any issuance or transfer of a direct or indirect interest in Landlord that represents a transfer of less than 80% of such interests (so long as such transfer does not also include the ability to control the day-to-day operations of Landlord); provided that any transferee of direct interests in Landlord otherwise described in this Section 11.3.4 is not a Competitor;

11.3.5 any issuance or transfer of a direct or indirect interest in Landlord on a nationally recognized stock exchange; and

11.3.6 any bona fide portfolio transaction that includes at least two other real estate assets (excluding the Premises and, if the Companion Lease is in effect, the Companion Premises) that in the aggregate have rentable space at least equal to 416,000 square feet.

11.4 Termination. Upon (x) any sale of the Premises, (y) any portfolio transaction sale that includes the Premises, or (z) any foreclosure of a Mortgage on the Premises or conveyance by deed-in-lieu of foreclosure, in each case to a third-party person or entity in accordance with the terms of this Article 11, Tenant's right of first offer to purchase the Premises under this Article 11 shall forever terminate.

11.5 Confidentiality. Any Offer Notice and information in connection therewith, and any information regarding a sale of the Premises, provided to Tenant by Landlord pursuant to this Article 11 shall be held confidential by Tenant and not disclosed to any third party except as required by law or in connection with any dispute between Landlord and Tenant regarding this Article 11 and for disclosures to Tenant's legal advisors and third-party consultants to the extent such legal advisors and consultants are reasonably required for Tenant to evaluate such information and, in each case, provided that such legal advisors and consultants are made subject to the provisions of this paragraph or are otherwise bound by provisional obligations of confidentiality. Any such information shall be returned by Tenant to Landlord if Tenant's rights under this Article 11 terminate in accordance with the terms hereof. Nothing in this Section 11.5 shall prevent Tenant from making disclosures required by applicable public company disclosure laws, provided, however, such disclosures shall include no more information than what is minimally necessary to satisfy the legal requirement, and provided further that Landlord shall have the right to reasonably approve any disclosure that exceeds what is minimally necessary to satisfy the legal requirement, and provided further that Landlord shall have the right to review any disclosure prior to the filing of the same for purposes of confirming compliance with the terms of this sentence, to the extent that such review is permitted pursuant to Applicable Law.

ARTICLE 12
LIMITATION OF LIABILITY

12.1 Landlord's Liability. Tenant agrees from time to time to look only to Landlord's interest in the Premises for satisfaction of any claim against Landlord hereunder or under any other instrument related to the Lease (including any separate agreements among the parties and any notices or certificates delivered by Landlord) and not to any other property or assets of Landlord. If Landlord from time to time transfers its interest in the Premises, then from and after each such transfer Tenant shall look solely to the interests in the Premises of Landlord's transferees for the performance of all of the obligations of Landlord hereunder (or under any related instrument). The obligations of Landlord shall not be binding on any direct or indirect partners (or members, trustees, or beneficiaries) of Landlord or of any successor, individually, but only upon Landlord's or such successor's interest described above. Further, if Landlord is, or one of the parties comprising Landlord is, or the Lease is assigned to, a real estate investment trust ("**REIT**"), the parties acknowledge and agree that the obligations of the REIT hereunder and under all documents delivered pursuant hereto (and all documents to which the Lease may be pursuant) or which give effect to, or amend or supplement, the terms of the Lease are not personally binding upon any trustee thereof, any registered or beneficial holder of units (a "**Unitholder**") or any annuitant under a plan of which a Unitholder acts as a trustee or carrier, or any officers, employees or agents of the REIT and resort shall not be had to, nor shall recourse or satisfaction be sought from, any of the foregoing or the private property of any of the foregoing.

12.2 Assignment of Rents.

12.2.1 With reference to any assignment by Landlord of Landlord's interest in this Lease, or the rents payable hereunder, conditional in nature or otherwise, which assignment is made to the holder of a mortgage on property that includes the Premises, Tenant agrees that the execution thereof by Landlord, and the acceptance thereof by the holder of such mortgage shall never be treated as an assumption by such holder of any of the obligations of Landlord hereunder unless such holder shall, by notice sent to Tenant, specifically otherwise elect and, except as aforesaid, such holder shall be treated as having assumed Landlord's obligations hereunder only upon foreclosure of such holder's mortgage and the taking of possession of the Premises.

12.2.2 In no event shall the acquisition of Landlord's interest in the Premises by a purchaser that, simultaneously therewith, leases Landlord's entire interest in the Premises back to the seller thereof be treated as an assumption by operation of Law or otherwise, of Landlord's obligations hereunder, but Tenant shall look solely to such seller-lessee, and its successors from time to time in title, for performance of Landlord's obligations hereunder. In any such event, this Lease shall be subject and subordinate to the lease to such purchaser. For all purposes, such seller-lessee, and its successors in title, shall be the Landlord hereunder unless and until Landlord's position shall have been assumed by such purchaser-lessor.

12.2.3 Except as provided in Section 12.2.2, in the event of any transfer of title to the Premises by Landlord, the transferring Landlord shall thereafter be entirely freed and relieved from the performance and observance of all covenants and obligations hereunder, and Tenant shall only look to any subsequent party becoming Landlord hereunder the same. Tenant hereby agrees to enter into such agreements or instruments as may, from time to time, be requested in confirmation of the foregoing.

(SIGNATURES APPEAR ON NEXT PAGE)

IN WITNESS WHEREOF, the parties hereto have duly executed this Lease on the day and year first above written.

LANDLORD:

2850 2855 & 2859 GAZELLE OWNER (DE) LLC, a Delaware limited liability company

By: _____
Name: _____
Title: _____

TENANT:

IONIS PHARMACEUTICALS, INC., a Delaware corporation

By: _____
Name: _____
Title: _____

EXHIBIT A

LEGAL DESCRIPTION OF THE PREMISES

Real property in the City of Carlsbad, County of San Diego, State of California, described as follows:

TRACT ONE:

PARCEL 1 OF MINOR SUBDIVISION NO. 2018-0009 IONIS CARLSBAD CAMPUS, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA ACCORDING TO PARCEL MAP NO. 21705 FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY ON AUGUST 1, 2019 AS DOCUMENT NO. 2019- 7000286 OF OFFICIAL RECORDS.

TRACT TWO:

INTENTIONALLY DELETED.

TRACT THREE:

INTENTIONALLY DELETED.

TRACT THREE-A:

INTENTIONALLY DELETED.

APN: 209-120-20-00 (Affects Portion of said land) and
APN : 209-120-27-00 (Affects Portion of said land)

EXHIBIT B

[RESERVED]

EXHIBIT C

FORM OF TENANT ESTOPPEL CERTIFICATE

The undersigned as Tenant under that certain Lease Agreement (the "**Lease**") made and entered into as of _____,with 2850 2855 & 2859 GAZELLE OWNER (DE) LLC, a Delaware limited liability company, as Landlord, for the Buildings, land, and parking facilities located at 2850, 2855 & 2859 Gazelle Court, Carlsbad, California (the "**Premises**"), certifies as follows:

1. Attached hereto as Exhibit A is a true and correct copy of the Lease and all amendments and modifications thereto. The documents contained in Exhibit A represent the entire agreement between the parties as to the leasing of the Premises. Capitalized terms used but not defined herein have the meanings ascribed to them in the Lease.

2. The undersigned has commenced occupancy of the Premises described in the Lease, currently occupies the Premises, and the Term commenced on _____, 20 ___.

3. The Lease is in full force and effect and has not been modified, supplemented or amended in any way except as provided in Exhibit A. Tenant is not entitled to receive any concession or benefit (rental or otherwise) or other similar compensation in connection with leasing the Premises other than as set forth in the Lease.

4. Tenant has not transferred, assigned, or sublet any portion of the Premises nor entered into any license or concession agreements with respect thereto except as follows _____.

5. Rent became payable on _____, 20 ___.

6. The current Term expires on _____, 20 ___.

7. The Lease is enforceable and neither Tenant nor, to Tenant's actual knowledge, Landlord is in default thereunder except as follows: _____. Without limiting the foregoing, (i) all construction and installation of tenant improvements required to be performed by or paid by Landlord under the Lease have been completed and paid and (ii) there are no unpaid allowances or rental concessions payable or creditable to Tenant which have not been paid or credited in full, except as follows: _____.

8. No rental has been paid in advance.

9. As of the date hereof, Tenant has no presently exercisable defenses or offsets which preclude enforcement of the Lease by Landlord except as follows: _____.

10. All monthly installments of Base Rent, Additional Rent, and Taxes have been paid when due through _____. The current monthly installment of Base Rent is $ _____.

11. Except for the Right of First Negotiation granted to Tenant pursuant to Article 11, Tenant does not have any option to purchase or right of first refusal or first offer to purchase the Premises, or any portion thereof, or any interest therein and the only interest of Tenant in such property is as the Tenant under the Lease.

12. The amount of the Security Deposit held by Landlord, to secure Tenant's performance under the Lease is _____ Dollars ($_____). No portion of the Security Deposit has been utilized or applied by Landlord.

13. Tenant is not the subject of any bankruptcy, insolvency, debtor's relief, reorganization, receivership or other similar proceeding.

The undersigned acknowledges that this Estoppel Certificate may be delivered to Landlord's prospective mortgagee, trust deed holder or a prospective purchaser or investor, and acknowledges that it recognizes that if same is done, in addition to Landlord, said mortgagee, prospective mortgagee, trust deed holder or prospective purchaser or investor will be relying upon the statements contained herein in making the loan or acquiring the Premises, and in accepting an assignment of the Lease as collateral security, and that receipt by it of this Estoppel Certificate is a condition of making the loan or acquisition of the Premises.

If Tenant is a corporation, limited liability company or partnership, each individual executing this Estoppel Certificate on behalf of Tenant hereby represents and warrants that Tenant is a duly formed and existing entity qualified to do business in the State of California, if required by law, and that Tenant has full right and authority to execute and deliver this Estoppel Certificate and that each person signing on behalf of Tenant is authorized to do so.

Tenant, by providing this Estoppel Certificate, does not waive (i) any of its claims, defenses, offsets, or rights against Landlord discovered after the date hereof, or (ii) any of Tenant's rights first arising after the date hereof provided by any federal, state or local laws, ordinances, rules and regulations, court orders, governmental directives and governmental orders and all interpretations of the foregoing.

Nothing in this Estoppel Certificate shall be deemed to amend, modify or alter the Lease and in the event of any conflict between the Lease and this Estoppel Certificate, the Lease shall prevail. This Estoppel Certificate is delivered in good faith and shall not subject Tenant or the individual signatory to any liability (other than estoppel effect) for any purpose, including, without limitation, damages for inaccuracies, errors or omissions, except to the extent resulting from fraud or an intentional and material misstatement of fact.

[Remainder of page intentionally left blank]

Executed at _____ on the _____day of _____, 20 _____.

"Tenant"

IONIS PHARMACEUTICALS, INC., a Delaware corporation

By: _____
Name: _____
Title: _____
Date Signed: _____

EXHIBIT D

FORM OF MEMORANDUM OF LEASE

This Memorandum of Lease (this "**Memorandum of Lease**") is made as of this [ ] day _____of [_____] , 20 ___, by and between 2850 2855 & 2859 GAZELLE OWNER (DE) LLC, a Delaware limited liability company with its principal mailing address of [___] ("**Landlord**"), and IONIS PHARMACEUTICALS, INC., a Delaware corporation, with its principal mailing address of [___] ("**Tenant**"). All capitalized terms not otherwise defined herein shall have the meaning ascribed to such term in the Lease (as defined below).

1. Premises. Landlord owns and leases, demises and grants to Tenant, and Tenant leases from Landlord, that certain real property located at 2850, 2855 & 2859 Gazelle Court, Carlsbad, California, 92010, as more particularly described on Schedule A attached hereto and made a part hereof (the "**Leased Premises**") pursuant to the terms, covenants and conditions of that certain Lease Agreement dated as of _____, 20__ (the "**Lease**"). Capitalized terms used herein shall have the same meaning as set forth in the Lease, except to the extent such terms are specifically defined in this Memorandum of Lease.

2. Term. The initial Term of the Lease shall be for a period of fifteen (15) years commencing on [_____], [20__] and expiring on the last day of the one hundred eightieth (180th) full calendar month next following such date.

3. Option to Extend. Landlord grants to Tenant the option to extend the term of the Lease at the expiration of the Initial Term for two (2) successive periods of five (5) years each, aggregating twenty (10) years. Each such renewal option must be exercised no later than twelve (12) months prior to the expiration of the initial Term or the then-current Renewal Term.

4. Successors and Assigns. The conditions and provisions hereof shall inure to the benefit of and shall be binding upon Landlord, Tenant, and their respective successors and assigns, and shall run with the land.

5. Memorandum. The rentals to be paid by Tenant and all of the obligations and rights of Landlord and Tenant are set forth in the Lease. This Memorandum of Lease is merely a memorandum of the Lease and is subject to all of its terms, conditions and provisions. In the event of any inconsistency between the terms of the Lease and this Memorandum of Lease, the terms, covenants and conditions of the Lease shall prevail.

6. Counterparts. This Memorandum of Lease may be executed in any number of counterparts, each of which shall be an original, but all of which shall together constitute one and the same document.

[No further text on this page. Signature page to follow.]

IN WITNESS WHEREOF, Landlord has caused its duly authorized officer to execute this Memorandum of Lease as of the date first noted above.

LANDLORD:
2850 2855 & 2859 GAZELLE OWNER (DE) LLC, a Delaware limited liability company

By: _____ [SEAL]
Name: _____
Title: _____

STATE/COMMONWEALTH OF _____)
CITY/COUNTY OF _____)

On the _____ day of _____ in the year 20 , before me, the undersigned, a Notary Public in and for said state, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument, and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed this instrument.

_____
Notary Public

My Commission Expires:_____

IN WITNESS WHEREOF, Tenant has caused its duly authorized officer to execute this Memorandum of Lease as of the date first noted above.

TENANT:

IONIS PHARMACEUTICALS, INC., a
Delaware corporation

By: _____
Name: _____
Title: _____

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
) §
County of _____)

On _____, before me, _____ a Notary Public, personally appeared _____ who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct

WITNESS my hand and official seal.

_____
Signature of Notary

(Affix seal here)

Schedule A to
Memorandum of Lease

[to be attached]

EXHIBIT E

FORM OF SNDA

SUBORDINATION, NON-DISTURBANCE AND ATTORNMENT AGREEMENT

WHEN RECORDED MAIL TO

Morrison & Foerster LLP
250 West 55th Street
New York, New York 10019
Attention: Chris Delson

SPACE ABOVE THIS LINE FOR RECORDER'S USE

SUBORDINATION, NON-DISTURBANCE AND ATTORNMENT AGREEMENT

This SUBORDINATION, NON-DISTURBANCE AND ATTORNMENT AGREEMENT (hereafter referred to as "Agreement") made as of October _____, 2022, by and between CRÉDIT AGRICOLE CORPORATE AND INVESTMENT BANK, having an address at 1301 Avenue of the Americas, New York, New York 10019, as administrative agent (with its successors and assigns, "Agent") for itself and certain lenders now or hereafter party to the Loan Agreement (as hereinafter defined) (the "Lenders"), IONIS PHARMACEUTICALS, INC., a Delaware corporation, having an address of 2855 Gazelle Ct., Carlsbad, CA 92008 ("Tenant") and 2850 2855 & 2859 GAZELLE OWNER (DE) LLC, a Delaware limited liability company, having an address at c/o Oxford Properties Group, 450 Park Avenue, 9th Floor, New York, New York 10022 ("Landlord").

The Lenders have made a loan to Landlord in the maximum principal amount of $170,000,000.00 in accordance with the terms of that certain Loan Agreement dated as of October _____, 2022 (the "Loan"), by and among Landlord, Agent and Lenders (as the same may hereafter be amended, reinstated, extended, supplemented or otherwise modified from time to time, the "Loan Agreement"),

Pursuant to the Loan Agreement, the Agent, for the benefit of the Lenders, is the holder of a certain Deed of Trust, Security Agreement, Assignment of Leases and Rents and Fixture Filing (as the same may be amended, extended, supplemented or otherwise modified or restated from time to time, the "Security Instrument") granted by Landlord to Agent, for the benefit of the Lenders, and recorded in the official records of San Diego County, California, which constitutes a first lien against the real property described on Schedule A attached hereto and the improvements thereon or to be constructed thereon (the "Property").

Tenant has entered into a lease with Landlord dated as of October _____, 2022 (the "Lease") covering all of the Property (the "Premises"). All capitalized terms used but not defined in this Agreement shall have the meanings set forth in the Lease.

For mutual consideration, including relying on the mutual covenants and agreements contained in this Agreement, the receipt and sufficiency of which are hereby acknowledged, Agent, Landlord and Tenant agree as follows:

1. **Subordination of Lease**. Subject to the terms of this Agreement, the Lease and all of Tenant's right, title, and interest in and to the Property thereunder (including, but not limited to, any option to purchase, right of first refusal to purchase, or right of first offer to purchase the Property or any portion thereof) is and shall be subject and subordinate to the Security Instrument and to all present and future advances under the obligations secured thereby and all renewals, amendments, modifications, consolidations, replacements and extensions thereof, to the full extent of the principal amount and other sums secured thereby and interest thereon, so that at all times the Security Instrument shall be and remain a lien on the Property prior to and superior to the Lease for all purposes, subject to the provisions set forth in this Agreement. Such subordination shall have the same force and effect as if the Security Instrument and such renewals, modifications, consolidations, replacements and extensions of the Security Instrument had been executed, acknowledged, delivered and recorded prior to the Lease, all amendments or modifications of the Lease, and any notice of the Lease.

2. **Attornment**. Tenant will attorn to and recognize: (i) Agent (including for this purpose any transferee or nominee of Agent), whether as mortgagee in possession or otherwise; or (ii) any purchaser at a foreclosure sale under the Security Instrument; or (iii) any transferee that acquires possession of or title to the Property (whether by acceptance of a deed in lieu of foreclosure or otherwise); or (iv) any successors and assigns of such purchasers and/or transferees (each of the foregoing persons or entities described in clauses (i) through (iv) above, a "Successor"), as its landlord for the unexpired balance (and any extensions, if exercised) of the term of the Lease upon the terms and conditions set forth in the Lease (as affected by this Agreement), and Tenant shall pay and perform in favor of Successor all of the obligations of Tenant under the Lease as if Successor were the original lessor under the Lease. Such attornment shall be effective and self- operative without the execution of any further instruments by any party hereto; provided, however, that Tenant will, upon request by Agent or any Successor, execute a reasonable written agreement attorning to Agent or such Successor, which agreement shall, in any event, be subject to the terms and provisions of this Agreement.

3. **Non-Disturbance**. So long as the Lease is in effect and Tenant complies with Tenant's obligations under this Agreement and is not in default (beyond the expiration of any applicable cure period) under the Lease, Agent and any Successor (i) will recognize the Lease and Tenant's rights and options under the Lease as the tenant of the Premises for the remainder of the term of the Lease (as affected by this Agreement), including any extension options, if exercised, and (ii) will not disturb Tenant's use, possession and quiet enjoyment of the Premises, nor will Tenant's rights under this Lease be impaired (except as provided in this Agreement), and (iii) shall not name or join Tenant as a defendant in any foreclosure action, sale under a power of sale or transfer in lieu of the foregoing (collectively, a "Foreclosure") unless a joinder is required by law to perfect a Foreclosure or other remedy, but then only for such purpose and not for the purpose of terminating the Lease.

4. **Assignment of Leases**. Tenant acknowledges that it has been advised that Landlord has assigned the Lease and the rents thereunder to Agent, for the benefit of the Lenders, pursuant to the Security Instrument. Tenant acknowledges that the interest of the Landlord under the Lease is to be assigned to Agent solely as security for the purposes specified in the Security Instrument, and, on account of the Security Instrument, Agent shall have no duty, liability or obligation whatsoever under the Lease or any extension or renewal thereof, either by virtue of the Security Instrument or by any subsequent receipt or collection of rents thereunder, unless Agent shall specifically undertake such liability in writing. The foregoing agreement by Tenant shall not adversely affect any rights of Tenant under the Lease with respect to the Landlord in the event of nonperformance by Landlord, subject to the terms of this Agreement. Tenant agrees that if Agent, pursuant to the Security Instrument, and whether or not it becomes a mortgagee in possession, shall give written notice to Tenant that Agent has elected to require Tenant to pay to Agent the rent and other charges payable by Tenant under the Lease, Tenant shall (without any duty to inquire as to the enforceability or validity of Agent's notice) until Agent shall have canceled such election in writing, thereafter pay to Agent all rent and other sums payable under the Lease and such payments to Agent shall be treated as payments made under the Lease. Any such payment shall be made notwithstanding any right of setoff, defense or counterclaim which Tenant may have against Landlord, or any right to terminate the Lease. Landlord authorizes and directs Tenant to immediately and continuously make all such payments at the direction of Agent, releases Tenant of any and all liability to Landlord for any and all payments so made, and agrees that payments actually made by Tenant to Agent shall be credited towards the amounts due under the Lease.

5. **Limitation of Liability**. In the event that Agent (including for this purpose any transferee or nominee of Agent) or any other Successor succeeds to the interest of Landlord under the Lease, or title to the Property, then none of Agent, any Lender or any Successor shall be: (i) liable in any way to Tenant for any act or omission, neglect or default on the part of any prior landlord under the Lease; provided, that, nothing in this clause being deemed to relieve Agent or any Successor of an ongoing default on the part of Landlord with respect to repair and maintenance of the Premises that first arose prior to such succession, provided that Tenant notified Agent of such default in accordance with Section 7 of this Agreement and Agent failed to cure same, and Agent or any Successor shall have the obligation to cure such ongoing repair and maintenance defaults on the part of Landlord that continue from and after Successor succeeds to the rights of Landlord under the Lease, regardless of when such default or obligation from arose, provided that Tenant notified Agent of such default in accordance with Section 7 of this Agreement and Agent failed to cure same; (ii) responsible for any monies (including security deposits) owing by or on deposit with (or any letter of credit on deposit with) Landlord to the credit of Tenant (except to the extent any such deposit or letter of credit is actually received by Agent or such Successor, as applicable); (iii) subject to any defense, counterclaim or setoff which theretofore accrued to Tenant against any prior landlord; provided, however, that the foregoing shall not limit Tenant's right to exercise against Agent or such Successor any offset right otherwise available to Tenant because of events occurring after the date of succession and attornment; (iv) bound by any termination, amendment or modification, or assignment/subletting of the Lease after the date hereof (unless Agent expressly approved in writing such termination, amendment or modification, or assignment or subletting or the same does not require the Agent's approval pursuant to the terms of the Loan Agreement) of the Lease (provided that, (A) as it relates to any assignments/subletting of Lease undertaken in connection with the terms and provisions set forth in the Lease, Agent shall have the same approval rights as the Landlord has with respect to same and (B) no such approval shall be required with respect to amendments solely evidencing the exercise of Tenant's option to extend the Lease and assignments or sublets that do not require the consent of the Landlord pursuant to the terms of the Lease); (v) bound by any previous prepayment of rent for more than one (1) month of the date due, which was not approved in writing by Agent; (vi) required after a fire, casualty or condemnation of the Property or Premises to repair or rebuild the same to the extent that such repair or rebuilding requires funds in excess of the insurance or condemnation proceeds specifically allocable to the Premises and arising out of such fire, casualty or condemnation which have actually been received by Agent, and then only to the extent required by the terms of the Lease (Agent acknowledging that the exercise by Tenant of its remedies pursuant to Article 9 of the Lease are unaffected by the provisions of this clause (vi)), (vii) be liable for or incur any obligation with respect to any representations or warranties made by Landlord under the Lease; (viii) liable beyond Agent's, such Lender's, or such Successor's, as applicable, interest in the Property and in the rents, proceeds and profits therefrom; or (ix) responsible for any obligation of Landlord to undertake or complete any work or fund any allowance for tenant improvements.

6. **Purchase Rights**. Each of the parties hereto acknowledges that pursuant to the Lease, Tenant holds a right of first offer to purchase the property pursuant to Article 11 of the Lease (the "Purchase Rights"). The parties hereto agree that the Purchase Rights shall remain valid and in full force and effect, but subject and subordinate to the lien(s) of the Security Instrument. In the event that Agent or a Successor succeeds to the interest of Landlord under the Lease, such Purchase Rights shall not be extinguished by a Foreclosure; provided, however, that Agent or Successor shall not be bound to the Purchase Rights, and such Purchase Rights shall not apply, with respect to (i) a Foreclosure, including, without limitation, the granting of, foreclosure under, or giving of a deed-in-lieu of foreclosure under, a mortgage or the granting or exercise of any pledge of ownership interests, or (ii) the first subsequent sale of the Property following Agent's or Successor's acquisition of title to the Property, but thereafter any, successor landlord to Agent or such Successor shall be bound by such Purchase Rights in accordance with the terms of the Lease.

7. **Right to Cure Defaults**. Tenant agrees to give to Agent, either by certified U.S. mail (return receipt requested) or overnight courier service (i.e., FedEx), a duplicate of each notice of any default by Landlord under the Lease at the time Tenant gives such notice to Landlord, specifying the nature of such default, and thereupon Agent shall have the right (but not the obligation) to cure such default, and Tenant shall not exercise its remedies under the Lease unless the Tenant first gives such notice to Agent and provides Agent with notice of such default, and an opportunity to cure the same within a period of time that shall be not less than the period of thirty (30) days beyond any period afforded to the Landlord to cure the default under the provisions of the Lease, and a reasonable period of time in addition thereto (i) if the circumstances are such that said default cannot reasonably be cured within such period and Agent has commenced and is diligently pursuing such cure, plus (ii) a reasonable period (not to exceed 270 days unless the cure cannot be effected without Agent taking possession of the Property) during any litigation or enforcement action or proceeding, including a foreclosure, bankruptcy, reorganization, possessory action or a combination thereof provided that Agent or any Successor provides Tenant with written notice of its intent to cure such default and then proceeds diligently to cure Landlord's default upon acquiring possession of the Premises. It is specifically agreed that Tenant shall not exercise its remedies under the Lease against Agent or any Successor for failure to cure any bankruptcy, insolvency or reorganization default on the part of Landlord, any breach by Landlord of any representation or warranty, or any other breach or default under the Lease that is personal to Landlord or otherwise not reasonably susceptible of cure by Agent or such Successor. Tenant shall accept performance by Agent of any term, covenant, condition or agreement to be performed by Landlord under the Lease with the same force and effect as though performed by Landlord. Without limitation on the foregoing, if the Lease is terminated for any reason other than (a) a termination which is effected unilaterally by Tenant in accordance with the express terms of the Lease, (b) the expiration of the term of the Lease, or (c) a termination that occurs in compliance with this Agreement, then upon Agent's written request given within thirty (30) days after Agent receives written notice of such termination, Tenant shall, within fifteen (15) days after such request, execute and deliver to Agent a new lease of the Premises for the remainder of the term of the Lease, such new lease to be upon all of the same terms, covenants and conditions of the Lease applicable to the remainder of the term of the Lease (as affected by this Agreement).

8. **Tenant's Agreements**. Tenant hereby represents, warrants, covenants and agrees that: (i) Tenant shall not pay any rent under the Lease more than one month in advance of the date due except as expressly required in the Lease with respect to security deposits, operating expenses, taxes and the like; (ii) Tenant shall have no right to appear in any Foreclosure action under the Security Instrument (unless named by Agent in such action, Agent agreeing however not to name Tenant unless required pursuant to applicable laws, and then only for such purposes); (iii) Tenant shall not amend or modify, or assign or sublet, the Lease and Tenant shall have no right to cancel or terminate the Lease, without Agent's prior written consent (provided that, (x) as it relates to any assignments/subletting of Lease undertaken in connection with the terms and provisions set forth in the Lease, Agent shall have the same approval rights as the Landlord has with respect to same and (y) no such approval shall be required with respect to amendments solely evidencing the exercise of Tenant's option to extend the Lease and assignments or sublets that do not require the consent of the Landlord pursuant to the terms of the Lease), and any attempted amendment or modification, assignment or subletting, cancellation or termination of the Lease in violation of the foregoing shall be of no force or effect as to Agent; (iv) Tenant shall not subordinate the Lease to any lien or encumbrance (other than the Security Instrument) without Agent's prior written consent; (v) except as expressly set forth in Section 6, above, Tenant has no right or option of any nature whatsoever, whether pursuant to the Lease or otherwise, to purchase the Property, or any portion thereof or any interest therein, and to the extent that Tenant hereafter acquires any such additional rights or options, the same is hereby acknowledged to be subject and subordinate to the Security Instrument and is hereby waived and released as against Agent and any Successor, (vi) Tenant shall promptly, to the same extent and within the same time period required by the Lease, deliver to Agent, from time to time, a written estoppel statement in the form, and with the certifications, required by the Lease; (vii) this Agreement supersedes and satisfies any requirement in the Lease relating to the granting of a non-disturbance agreement or providing for subordination of the Lease; (viii) Tenant is the sole owner of the leasehold estate created by the Lease; (ix) the interest of Landlord under the Lease is assigned to Agent solely as security for the obligations secured by the Security Instrument, and neither Agent nor the Lenders shall have any duty, liability or obligation under the Lease or any extension or renewal thereof, unless Agent either (a) specifically undertakes such liability in writing, or (b) subject to the express terms of this Agreement, Agent becomes a Successor; (x) if this Agreement conflicts with the Lease, then this Agreement shall govern as between the parties and any Successor, including upon any attornment pursuant to this Agreement; and (xi) upon Agent's transfer or assignment of Agent's interests in the Loan, the Lease (or any new lease executed pursuant to this Agreement), or the Property, Agent shall be deemed released and relieved of any obligations under this Agreement, the Lease (or any new lease executed pursuant to this Agreement), and with respect to the Property.

9. **Authority**. Each of Landlord, Agent, and Tenant warrants and represents to the other parties hereto that it has duly executed and delivered this Agreement and that the execution, delivery and performance by it of this Agreement (i) are within the its powers, (ii) have been duly authorized by all requisite action, and (iii) do not violate any provision of law or any order of any court or agency of government, or any agreement or other instrument to which it is a party or by which it or any of its property is bound.

10. Miscellaneous.

Section 10.1 The provisions hereof shall be binding upon and inure to the benefit of Tenant and Agent and their respective successors and assigns, the term "Agent" as used herein includes any successor or assign of the named Agent herein, and the terms "Tenant" and "Landlord" as used herein include any successor and assign of the named Tenant and Landlord herein, respectively; provided, however, that such reference to Tenant's or Landlord's successors and assigns shall not be construed as Agent's consent to any assignment or other transfer by Landlord in any instance where Agent's consent to such assignment or transfer is required hereunder, under the Security Instrument or under any other document executed in connection therewith.

Section 10.2 Any notices, demands or requests to be given under this Agreement shall be in writing and shall be deemed sufficiently given if served personally or upon the first to occur of receipt or the refusal of delivery if mailed by United States certified mail, return receipt requested, postage prepaid, or if sent by prepaid Federal Express or other similar overnight delivery service which provides a receipt, addressed to the Primary Address of Landlord, Tenant or Agent set forth below, along with copies to the applicable Supplemental Addresses set forth below, or such other address as such party may specify in writing from time to time;

If to Tenant:1

Primary Address:

_____
_____
_____

Supplement Addresses:

_____
_____
_____

1 NTD: Tenant contact info to be provided

If to Landlord:

Primary Address:

c/o Oxford Properties Group
450 Park Avenue, 9th Floor
New York, New York 10022
Attention: Legal Department_

Supplement Addresses:

DLA Piper LLP (US)
33 Arch Street, 26th Floor
Boston, Massachusetts 02110
Attention: John L. Sullivan

If to Agent:

Primary Address:

Crédit Agricole Corporate and Investment Bank
1301 Avenue of the Americas
New York, New York 10019
Attention: Hayden Arnoux, Jason Chrein, Parag Nagda_

Supplement Addresses:

Morrison & Foerster LLP
250 West 55th Street
New York, New York 10019
Attention: Chris Delson

Section 10.3 This Agreement may not be changed, terminated, amended, supplemented, waived or modified orally or in any manner other than by an instrument in writing signed by the party against which enforcement of the change, termination, amendment, supplement, waiver or modification is sought.

Section 10.4 The captions or headings at the beginning of each paragraph hereof are for the convenience of the parties and are not part of this Agreement;

Section 10.5 This Agreement shall be governed by and construed under the laws of the State New York (excluding the choice of law rules thereof);

Section 10.6 This Agreement represents the final agreement between the parties hereto with respect to the subject matter hereof and may not be contradicted by evidence of prior, contemporaneous or subsequent oral agreements of the parties. There are no unwritten oral agreements between the parties with respect to the subject matter hereof.

Section 10.7 If any provision of this Agreement is held to be invalid or unenforceable by a court of competent jurisdiction, such provision shall be deemed modified to the extent necessary to be enforceable, or if such modification is not practicable, such provision shall be deemed deleted from this Agreement, and the other provisions of this Agreement shall remain in full force and effect.

Section 10.8 This Agreement may be executed in one or more counterparts, each of which when so executed and delivered shall be deemed an original, but all of which taken together shall constitute but one and the same instrument.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties hereto have signed and sealed this instrument as of the day and year first above written.

TENANT:

IONIS PHARMACEUTICALS, INC.,
a Delaware corporation

By: _____
Name (Print) _____,
Title:

STATE OF _____)
) ss.:
COUNTY OF _____)

On the ____ day of _____ in the year 202_, before me, the undersigned, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he or she executed the same in his or her capacity, and that by his or her signature on the instrument, the person, or the entity upon behalf of which the person acted, executed the instrument.

_____
Notary Public

AGENT:

CRÉDIT AGRICOLE CORPORATE AND INVESTMENT BANK

By: _____
Name (Print) _____,
Title: _____

By: _____
Name (Print) _____,
Title: _____

STATE OF _____)
) ss.:
COUNTY OF _____)

On the ____ day of _____ in the year 202_, before me, the undersigned, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he or she executed the same in his or her capacity, and that by his or her signature on the instrument, the person, or the entity upon behalf of which the person acted, executed the instrument.

_____
Notary Public

STATE OF _____)
) ss.:
COUNTY OF _____)

On the ____ day of _____ in the year 202_, before me, the undersigned, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he or she executed the same in his or her capacity, and that by his or her signature on the instrument, the person, or the entity upon behalf of which the person acted, executed the instrument.

_____
Notary Public

LANDLORD

2850 2855 & 2859 GAZELLE OWNER (DE) LLC, a Delaware limited liability company

By: _____
Name (Print) _____,
Title: _____

By: _____
Name (Print) _____,
Title: _____

STATE OF _____)
) ss.:
COUNTY OF _____)

On the ____ day of _____ in the year 202_, before me, the undersigned, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he or she executed the same in his or her capacity, and that by his or her signature on the instrument, the person, or the entity upon behalf of which the person acted, executed the instrument.

_____
Notary Public

STATE OF _____)
) ss.:
COUNTY OF _____)

On the ___ day of _____ in the year 202_, before me, the undersigned, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he or she executed the same in his or her capacity, and that by his or her signature on the instrument, the person, or the entity upon behalf of which the person acted, executed the instrument.

_____
Notary Public

Schedule A (to Exhibit E)

PROPERTY DESCRIPTION

Real property in the City of Carlsbad, County of San Diego, State of California, described as follows:

PARCEL 1 OF MINOR SUBDIVISION NO. 2018-0009 IONIS CARLSBAD CAMPUS, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA ACCORDING TO PARCEL MAP NO. 21705 FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY ON AUGUST 1, 2019 AS DOCUMENT NO. 2019-7000286 OF OFFICIAL RECORDS.
APN: 209-120-20-00 (Affects Portion of said land) and
APN: 209-120-27-00 (Affects Portion of said land)

EXHIBIT F

FORM OF NON-DISCLOSURE AND CONFIDENTIALITY AGREEMENT

NON-DISCLOSURE AND CONFIDENTIALITY AGREEMENT

This Non-Disclosure and Confidentiality Agreement (this "***Agreement***") is entered into_____, 20__ (the "***Effective Date***"), by and between [_____], a [_____], whose address is [_____] ("***Prospective Purchaser***"), and **Ionis Gazelle, LLC**, a Delaware limited liability company, whose address is [_____] ("***Ionis***"). Prospective Purchaser and Ionis are sometimes referred to individually as a "***Party***" and collectively as the "***Parties***".

RECITALS

WHEREAS, Ionis currently leases and occupies that certain real property located at 2850, 2855 & 2859 Gazelle Court, Carlsbad, California, 92010 (the "***Property***") pursuant to that certain Lease Agreement dated as of [_____], 2022 (the "***Lease***"), by and between Ionis and 2850 2855 & 2859 Gazelle Owner (DE) LLC, a Delaware limited liability company ("***Landlord***");

WHEREAS, Prospective Purchaser has a bona fide interest in purchasing the Property from Landlord, and may thereby become Ionis' landlord under the Lease;

WHEREAS, in connection with (i) Prospective Purchaser's evaluation of a purchase of the Property, and (ii) Prospective Purchaser's actions as landlord under the Lease, if Ionis shall continue to lease and occupy the Property and in the event Prospective Purchaser purchases the Property (collectively, the "***Purpose***"), Prospective Purchaser may enter the Property and may gain access to materials and information and observe processes which are non-public, confidential or proprietary in nature; and

WHEREAS, the Parties recognize the critical importance of preserving the non- public, confidential or proprietary nature of any disclosed, observed or exchanged materials and information provided in the course of discussions regarding the Purpose and the Property, and Prospective Purchaser potentially becoming Ionis' landlord under the Lease.

NOW THEREFORE, the Parties agree, each with the other, as follows:

1. Confidential Information. Except as set forth in Section 2 below, "***Confidential Information***" means all non-public, confidential or proprietary information (i) disclosed by or on behalf of Ionis, its Affiliates, or their respective agents, or employees (collectively, the "***Ionis Parties***") to Prospective Purchaser, its Affiliates and subcontractors, or their respective agents, employees, or advisors, or any other person or entity providing the services by and through Prospective Purchaser (collectively, the "***PTP Parties***"), whether disclosed orally or in written, electronic or other form or media, and whether or not marked, designated or otherwise identified as "confidential," (ii) observed by any of the PTP Parties in entering on to the Property and (iii) as may be observed or obtained by Prospective Purchaser in the course of acting as landlord under the Lease (should Prospective Purchaser purchase the Property and Ionis shall continue to lease and occupy the Property pursuant to the Lease), including, without limitation, Trade Secret Information, any information that would reasonably be considered non-public, confidential or proprietary given the nature of the information and the Ionis Parties' businesses and all notes, analyses and other materials prepared by or for the Purpose that contain any of the foregoing. As used in this Agreement, "***Trade Secret Information***" means all information that is unique to Ionis' business and that is not commonly known by or available to the public or otherwise known through Prospective Purchaser's business and that: (i) derives or creates economic value for Ionis' business, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy. The Ionis Parties' Trade Secret Information may include, but is not limited to, all confidential information relating to Ionis' business and operations and in the form of the Ionis Parties' research and development plans and activities; design plans; compilations of data; product plans; inventions; engineering processes and activity; manufacturing plans, processes and activity; proprietary computer software and programs (including object code and source code); and proprietary computer and database technologies, systems, structures, and architectures.

2. Exclusions from Confidential Information. The term "Confidential Information" as used in this Agreement shall not include information that:

(a) at the time of disclosure is, or thereafter becomes, generally available to and known by the public other than as a result of any breach of this Agreement by Prospective Purchaser;

(b) at the time of disclosure is, or thereafter becomes, available to Prospective Purchaser on a non-confidential basis from a third-party source, provided that such third- party is not and was not, to Prospective Purchaser's knowledge, prohibited from disclosing the information to Prospective Purchaser by any legal, fiduciary or contractual obligation;

(c) was known by or in the possession of Prospective Purchaser prior to being disclosed by or on behalf of the Ionis Parties pursuant to this Agreement;

(d) was independently developed by Prospective Purchaser without reference to or use of, in whole or in part, any Confidential Information; or

(e) Ionis has agreed in writing is free of such obligations.

3. Confidential Information and Other Property of the Ionis Parties. All Confidential Information shall be deemed the property of the Ionis Parties. All information, documents, and electronic media (including, but not limited to Confidential Information) furnished by or on behalf of the Ionis Parties to the Prospective Purchaser shall be the property of the Ionis Parties.

4. Prospective Purchaser Obligations. Prospective Purchaser shall:

(a) protect the Confidential Information from unauthorized disclosure and use, with at least the same degree of care as the Prospective Purchaser would use in protecting its own confidential information, but no less than a commercially reasonable degree of care;

(b) not use the Confidential Information, or permit it to be accessed or used, for any purpose other than the Purpose;

(c) not disclose the Confidential Information to any person or entity, including, without limitation, to any of the PTP Parties, except to PTP Parties who: (i) need to know the Confidential Information to assist Prospective Purchaser, or act on its behalf, in relation to the Purpose; (ii) are informed by Prospective Purchaser of the confidential nature of the Confidential Information (each an "***Authorized Party***") (Prospective Purchaser acknowledging that a breach of this Agreement by a PTP Party shall be treated as a breach of this Agreement by Prospective Purchaser);

(d) not use any of the Ionis Parties' computers, computer systems, equipment, tools, or other property of the Ionis Parties without Ionis Parties' consent;

(e) not use any Confidential Information to compete or prepare to compete against the Ionis Parties, or for or on behalf of any competitor of the Ionis Parties;

(f) upon Ionis' written request, destroy or deliver promptly to Ionis, or Ionis' designee, all Confidential Information (including all copies thereof, regardless of the medium in which such information may be stored) and all computers, equipment, tools, and other property of the Ionis Parties that happen to be in Prospective Purchaser's possession;

(g) promptly notify Ionis upon discovery of any unauthorized disclosure of Confidential Information caused by Prospective Purchaser and reasonably cooperate with Ionis in any effort undertaken by Ionis to enforce its rights related to any such unauthorized disclosure;

(h) not record in any form, including by hand, video or audio, any Trade Secret Information observed on the Property, without Ionis' written consent;

(i) be responsible if any provisions of this Agreement are violated by any Authorized Party;

(j) at all times while on the Property be accompanied by an authorized representative of Ionis and not attempt to access areas of the Property without being accompanied by such authorized representative unless Ionis provides its express written consent to access without being accompanied; and

(k) at all times while on the Property follow all safety protocols as instructed by an authorized representative of Ionis.

5. Prospective Purchaser Representations and Warranties. Prospective Purchaser represents and warrants that:

(a) the performance of its obligations herein does not and will not violate any other contract or obligation to which Prospective Purchaser is a party, including covenants not to compete and confidentiality agreements; and

(b) unless and until becoming landlord under the Lease (as and to the extent Ionis continues to lease and occupy the Property pursuant to the Lease), it is entering upon the Property for the sole purpose of evaluating a potential purchase of the Property.

6. No Ionis Representations or Warranties; Disclaimer of Liability. The Ionis Parties make no representation or warranty, express or implied, as to the accuracy or completeness of the Confidential Information disclosed to Prospective Purchaser hereunder. The Ionis Parties shall not be liable to Prospective Purchaser for any losses relating to or resulting from the Prospective Purchaser's use of any of the Confidential Information or any errors therein or omissions therefrom.

7. Court Ordered Disclosure. Notwithstanding anything to the contrary herein, Prospective Purchaser may disclose certain Confidential Information, without violating the obligations of this Agreement, to the extent such disclosure is required by law or regulation or by a subpoena or other validly issued administrative or judicial process, provided that, Prospective Purchaser shall (a) provide Ionis with reasonable prompt notice of the disclosure(s) (to the extent legally permissible), (b) limit disclosure to only that portion of the Confidential Information which Prospective Purchaser is legally compelled to disclose and (c) reasonably cooperate in assisting Ionis (at Ionis' expense) in its efforts to ensure confidential treatment will be accorded any Confidential Information so furnished (to the extent legally permissible).

8. Survival of Obligations; Return or Destruction of Confidential Information. Prospective Purchaser's obligations to protect any Confidential Information received from the Ionis Parties shall continue for a period of three (3) years from the date of disclosure, notwithstanding whether or not Prospective Purchaser purchases the Property. At Ionis' written request, so long as the same is no longer necessary for Prospective Purchaser's use in connection with the Purpose, Prospective Purchaser shall promptly destroy all copies, whether in written, electronic or other form or media, of the Ionis Parties' Confidential Information and certify in writing to Ionis that such Confidential Information has been destroyed; provided that Prospective Purchaser shall not be required to destroy electronic copies of any portions of the Confidential Information created pursuant to standard archival or back-up procedures and not available to end users, and provided that Prospective Purchaser may retain one (1) copy of the Confidential Information for its legal archives for the sole purpose of documenting its receipt thereof.

9. No Proprietary Interest. Prospective Purchaser understands and agrees that Prospective Purchaser shall not obtain any proprietary interest in any Confidential Information. This Agreement shall not operate in a way to grant or confer any right or license in any of the Confidential Information, nor as a consent by the Ionis Parties to Prospective Purchaser for Prospective Purchaser's use of any Confidential Information which may become public knowledge through any breach of this Agreement by or on behalf of Prospective Purchaser.

10. Agreement Confidential. The existence of this Agreement shall be considered to be of a confidential nature and shall be accorded the same protections as the Confidential Information.

11. No Further Agreement. Nothing in this Agreement shall be construed as representing any commitment by either Party to enter into any other agreement, whether relating to the Purpose or otherwise. Neither the execution and delivery of this Agreement nor the delivery of any Confidential Information hereunder shall be construed as granting to Prospective Purchaser by implication, estoppel or otherwise, any right in or license under any present or future invention, trade secret, trademark, copyright, or patent, now or hereafter owned or controlled by the Ionis Parties.

12. Remedies. Prospective Purchaser acknowledges and agrees that the Confidential Information is a valuable, special and unique asset of the Ionis Parties' business which gives the Ionis Parties an advantage over the Ionis Parties' actual and potential competitors and any unauthorized disclosure or unauthorized use of the Confidential Information may irreparably injure the Ionis Parties. If any action should have to be brought by Ionis against Prospective Purchaser to enforce the provisions of this Agreement, Prospective Purchaser recognizes, acknowledges and agrees that Ionis shall be entitled to seek all of the civil remedies provided by federal, state and local law, including without limitation, preliminary and permanent injunctive relief restraining Prospective Purchaser from any actual or threatened unauthorized use or disclosure of any Confidential Information, in whole or in part. Nothing in this Agreement shall be construed as prohibiting Ionis from pursuing any other legal or equitable remedies available for breach or threatened breach of this Agreement.

13. Notice. Any and all notices or other communications or deliveries required or permitted to be given or made pursuant to any of the provisions of this Agreement shall be in writing and: (i) hand delivered; (ii) sent by a nationally recognized overnight courier, costs prepaid, or (iii) sent by email, provided that the sender promptly delivers a hard copy to the recipient by the method set forth in (i) or (ii), in each case to the applicable addresses set forth below or to such other address as such Party has designated by notice so given to the other Party:

If to Ionis:	Ionis Gazelle, LLC Attention: Email:
with a copy to:	Cooley LLP 4401 Eastgate Mall San Diego, CA 92121-1909 Attn: David L. Crawford, Esq. Email: [***]
If to Prospective Purchaser:	_____ _____ _____ _____

Such notice sent in accordance with clauses (i) or (ii) shall be deemed to have been given upon the date of actual receipt or delivery (or refusal to accept delivery), as evidenced by the notifying Party's receipt of written or electronic confirmation of such delivery or refusal, and such notice sent electronically in accordance with clause (iii) shall be deemed to have been given upon the date that such electronic notification was sent, provided such notice clearly confirms, without alteration of the email, the date and time the email was sent, in each case if such notice is received by the Party to be notified between the hours of 8:00 A.M. and 5:00 P.M. Pacific time on any business day, with delivery made after such hours to be deemed received the following business day.

14. Rules of Construction.

(a) This Agreement shall be governed and construed in accordance with the statutory and common law of the State of California and applicable federal law, without regard to any conflicts of law principles that. Any actions brought to enforce or interpret this Agreement shall be brought only in a court of competent jurisdiction located in the State of California.

(b) No change, modification or termination of any other terms, provisions, or conditions of this Agreement shall be effective unless made in writing and signed or initialed by both Parties to this Agreement. The waiver by a Party of a breach or a threatened breach of any provision of this Agreement by the other Party shall not be construed as a waiver of any subsequent breach.

(c) Each provision of this Agreement shall be valid and enforced to the fullest extent permitted by law. The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision.

(d) This Agreement constitutes the entire Agreement between the Parties pertaining to the subject matter hereof, and it supersedes all negotiations, preliminary agreements, and all prior and contemporaneous discussions and understandings of the Parties in connection with the subject matter hereof. Following the acquisition of the Property by Prospective Purchaser or its Affiliate, if it occurs, this Agreement shall be deemed incorporated into the Lease by reference and shall terminate at such time, if any, as Prospective Purchase or such Affiliate ceases to be the Landlord thereunder.

(e) This Agreement may be executed in any number of counterparts, and by facsimile or electronically transmitted signature and each such counterpart and signature shall be deemed to be an original and all of which shall constitute one agreement that is binding on all parties hereto.

(f) As used herein, "***Affiliates***" means any individual, partnership, corporation, limited liability company, limited liability partnership, trust or other entity that directly, or indirectly through one or more intermediaries, controls, is controlled by or is under common control with a Party. For the purposes of this definition, "control" means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of an individual, partnership, corporation, limited liability company, limited liability partnership, trust or other entity, whether through the ownership of voting securities, by contract or otherwise, and the terms "controlling" and "controlled" have the meanings correlative to the foregoing.

IN WITNESS WHEREOF, the Parties have executed this Agreement effective as of the date first set forth above.

IONIS GAZELLE, LLC		**[PROSPECTIVE PURCHASER]**	
By:	_____	By:	_____
Name:	_____	Name:	_____
Title:	_____	Title:	_____

EXHIBIT G

LANDLORD SIGNAGE

EXHIBIT H

PLANS AND SPECIFICATIONS FOR
CONFERENCE CENTER ALTERATIONS

The plans and specifications prepared by DGA | Planning | Architecture | Interiors for IONIS PHAMRACEUTICALS for the "CONFERENCE CENTER OFFICE CONVERSION TENANT IMPROVEMENT" (Project No. 22047) at 2850 GAZELLE COURT, CARLSBAD, CA 92010, referencing Schematic Design dated 3/18/2022, Design Development dated 4/15/2022, Construction Documents dated 5/17/2022, and Plan Check Resubmittal #1 dated 6/16/2022, copies of which are on file with Landlord.

EXHIBIT I

TENANT IMMEDIATE AND SHORT TERM REPAIRS

[***]

EXHIBIT J

COMMENCEMENT AND TERMINATION DATE AGREEMENT

THIS COMMENCEMENT AND TERMINATION DATE AGREEMENT, made as of _____, 20_____, is by and between 2850 2855 & 2859 Gazelle Owner (DE) LLC, a Delaware limited liability company ("Landlord"), and Ionis Pharmaceuticals, Inc., a Delaware corporation ("Tenant"). Reference is made to that certain Lease Agreement dated_____ , 2022, (the "Lease") pursuant to which Landlord leases to Tenant the Premises described therein.

1. Capitalized terms used, but not defined, herein shall have the same meanings given to them in the Lease.

2. The Commencement Date occurred on _____, 20 _____.

3. The Expiration Date is scheduled to occur on _____, 20 _____, unless Tenant exercises any option to extend the Term of the Lease or unless the Lease terminates earlier as provided in the Lease.

4. The date of commencement of the first Extension Option shall be _____, 20_____, if Tenant effectively exercises its option in respect thereof, and if Tenant does so, the Term of the Lease shall expire on _____, 20 ____, unless Tenant exercises any option to further extend the Term of the Lease or unless the Lease terminates earlier as provided in the Lease.

5. The date of commencement of the second Extension Option shall be _____, 20_____, if Tenant effectively exercises its option in respect thereof, and if Tenant does so, the Term of the Lease shall expire on _____, 20 ___, unless Tenant exercises any option to further extend the Term of the Lease or unless the Lease terminates earlier as provided in the Lease.

6. The parties agree that this Agreement may be electronically signed pursuant to the terms of the ESIGN Act of 2000 and is legally binding. The parties agree that any electronic signatures appearing on this Agreement are the same as handwritten signatures for the purposes of validity, enforceability and admissibility.

IN WITNESS WHEREOF, the parties hereto have caused this Commencement and Termination Date Agreement to be executed as of the date first above written.

LANDLORD:
2850 2855 & 2859 Gazelle Owner (DE) LLC

By: _____
Name: _____
Title: _____

TENANT:
Ionis Pharmaceuticals, Inc.

By: _____
Name: _____
Title: _____

EXHIBIT K

TENANT CONSTRUCTION MANUAL

[Attached]

Section 1: GENERAL INFORMATION

1.01 Introduction

These Construction Rules and Regulations been prepared to introduce Tenants and Contractors to the Oxford Properties Group Design, Systems and Building Regulations in order to assist in the design and construction of the leased premises. These Rules and Regulations are to be read in conjunction with the building lease document. In the event of any conflict between these Rules and Regulations and the lease, the provisions of the lease or any other specific written agreements between the Landlord and Tenant shall prevail.

Subject to the preceding paragraph, the Landlord reserves the right, from time to time, to add to or amend the information, procedures and regulations contained herein in a reasonable manner consistent with similar single tenant NNN facilities in the Carlsbad, California area and the Lease, upon reasonable prior notice to Tenant. Any such additions or amendments will affect any Construction work undertaken after the addition or amendment has been issued.

1.02 Tenant Coordination

The Landlord will appoint the Property Manager who will act as a point of contact within the Landlord's organization. All questions, comments and submissions are to be addressed to:

Oxford Properties Group

_____

_____

1.03 Tenant Design and Working Drawings

To the extent required by the Lease, please submit for review a detailed scope of work, PDF and CAD ver. 14 or later and three (3) sets of Tenant Design Working Drawings and Specifications of all work proposed within the Leased premises. The landlord requires that drawing packages are provided in the following stages:

- Preliminary space plan
- Building Permit submission
- Issued for Construction Submission
- As-built drawings as further outlined in the Lease

To the extent Landlord's approvals of such drawings is required by the Lease, once drawings have been reviewed the Landlord will forward an approval letter to the Tenant outlining any change if requested. Revised drawings are to include all the comments and corrections and a set of prints provided prior to commencing work. Drawings to be resubmitted shall be revised to conform to the requirements and re-submitted for subsequent Landlord review. Any revisions to the Landlord reviewed drawings must be submitted for further review, and work must not proceed until the revised drawings are returned to the contractor. A Copy of the Landlord reviewed drawings must be kept on the job site for viewing throughout the construction period. Landlord shall respond to requests for approval as provided in the Lease.

Additional or expanded information, for purposes of definition or clarification before giving approval may be required. Working drawings should supply the information listed below (depending on the stage).

1.03.01 ***Complete Floor Plans (drawing scale of 1/8" = 1')***

a) Location of all major fixed elements within the leased premises dimensionally related to grid lines and demising partitions.

b) Location and layout of rooms of unusual loading concentrations such as cranes, racking areas and calculations of unusual loadings which may result in floor damage.

c) Location of power, telephone, data and communications outlets. Room names and uses.

d) Floor materials and finishes throughout the premises.

e) Location of exit lights.

1.03.02 ***Complete Reflected Ceiling Plans (scale: 1/8" = 1')***

These should include lighting layout.

1.03.03 ***Complete Construction Details***

These plans should be appropriately scaled and indicate methods of construction.

1.03.04 ***Complete Electrical, Mechanical, Sprinkler, Building Automation, Security, Communications, Data, Life Safety System Drawings (scale: 1/8"=1') complete with Engineer's stamp.***

Details of all alterations and all additions to the **BASE BUILDING**, as well as base building conditions, which remain unchanged.

Details of all metering equipment changes to conform to base building standards. Schedule for any changes to fire, sprinkler and security systems.

1.03.06 ***Complete Structural Drawings***

These drawings must be supplied where special conditions warrant their production i.e. openings in slabs, erection of racking units, the addition of cranes, ramps, etc.

1.03.07 ***Completion***

Upon completion of construction, to the extent required by the Lease the Tenant is responsible to submit "as built" Architectural, Electrical, Mechanical, Security, Communications, Data and Structural Drawings on CAD ver. 14 or later disk to the Landlord for their records.

1.04 Certificates and Approvals

The Tenant is responsible for ensuring that all the following requirements have been complied with before construction begins:

1. **Insurance**. Landlord requires evidence of insurance for contractors and subcontractors as required by the Lease.

2. **Permits** Tenant's design and construction work must comply with all applicable by-laws. The Tenant must obtain all necessary permits and approvals or construction work in the leased premises from the appropriate government authorities. Permits and approval that are required to commence construction must be obtained before construction begins within the leased premises. A copy of all permits must be delivered to the Landlord. The Tenant must correct immediately any work, which does not meet with the approval of the building inspector, even though the Tenants drawings may have been reviewed previously by the appropriate government authorities and the Landlord.

3. **Applicable Hazardous Materials Law**. All contractors, sub-trades and suppliers shall abide by applicable laws governing use of Hazardous Materials when working in the Building.

4. **Workers Compensation** To the extent applicable, Tenant contractor shall furnish written evidence of good standing with the North Carolina Industrial Commission and that all employees engaged in the work are covered in accordance with the statutory requirements of authorities having jurisdiction.

5. **Occupational Health and Safety** The Tenant acknowledges that it is solely responsible for the health and safety of all its employees and workers, as well as for the continuing safe conditions in the Premises. The Tenant shall comply with and shall require all of its employees and workers to comply with the provisions of all Laws respecting Occupational Health and Safety, the Environment, Worker's Compensation and the safe condition of the Premises.

   All materials and supplies used by the Tenant's personnel in the Demised Premises and the Lands shall be used, handled, stored, otherwise dealt with and properly labeled in accordance with the Workplace Hazardous Materials Information System.

1.05 Appointment of Contractors

All Tenant contractors are subject to approval by the Landlord to the extent provided in the Lease.

1.06 Reserved

1.07 Commencement of Construction

For work subject to Landlord consent, the Tenant is required to carry out its construction work in strict accordance with the "Landlord Reviewed Drawings", subject to modifications permitted in accordance with the Lease.

Construction may proceed only after the Tenant has:

a) Submitted acceptable evidence of insurance coverage to the Landlord as set out in these Rules and Regulations.
b) Posted all required permits and safety signage on site, where applicable.
c) For work subject to Landlord's consent, made available on the leased premises one (1) set of prints, of the Tenant Design Working Drawings and Specifications for the duration of the construction period for reference by the Landlord's Tenant Coordinator.
d) For work subject to Landlord's consent, submitted a schedule showing the timetable for the progress and completion of the Tenant's work and a list of all trades requiring access to the premises including the trades address and telephone number.

1.08 Completion of Tenant's Construction

Following completion of the job, and within 30 days, the Tenant must submit to the Landlord a certificate from its architect or designer stating that all work, including that of the mechanical and electrical contractors (if any), has been completed substantially in accordance with the reviewed drawings if such work was subject to Landlord's consent. Upon the request of Landlord or the property manager, Tenant shall provide similar certifications for Minor Alterations previously performed (to the extent not already in the possession of Landlord).

A full set of architectural, mechanical and electrical "as built" CAD drawings ver. 14 or later shall accompany the above noted certificates where required by the Lease.

Further, the Landlord requires copies of all permits and certificates issued by authorities having jurisdiction over all or any part of the Tenant's Alterations. For work requiring Landlord's consent, such copies shall be provided prior to the commencement of work, or within 30 days following the completion of such work to the extent obtained during or following completion. Upon the request of Landlord or the property manager, Tenant shall provide copies of all permits and certificates issued by authorities having jurisdiction over all or any part of Minor Alterations previously performed (to the extent not already in the possession of Landlord).

Section 2: RULES AND REGULATIONS GOVERNING TENANT WORK

While carrying out work in the leased premises, the Tenant and all of its contractors, agents and employees are required to abide by the reasonable rules and regulations defined and communicated by the Landlord in advance. *Failure to comply will result in work stoppage.*

2.01 Inspection of Tenant Work in Progress

As and to the extent provided in the Lease, the Landlord and its agents, architects, engineers and consultants shall have reasonable access to the Tenant's premises for the purpose of inspecting the Tenant work in progress. If Landlord and its architects, engineers or consultants note deficiencies in the Tenant work, Tenant shall correct the same.
Contractor/Tenant must contact the appointed Property Manager to attend final inspection of work that is subject to Landlord's consent under the Lease.

2.02 Security Control

Tenant is responsible for providing its contractor's access to the Premises.

The Tenant is fully responsible for the physical security of the leased premises and the contents therein throughout the construction period.

2.03 Public Safety

It is the Tenants responsibility to ensure that the Tenant contractor observes and complies with all applicable construction safety regulations.

2.04 Emergency Contact

The Tenant and its contractor are required to post at the site the emergency contact name and telephone number with copies forwarded to Landlord.

2.05 Temporary Services

The Tenant's Contractor is responsible for the distribution of temporary power and telephone service within the leased premises during the construction period. The Tenant and Tenant's Contractor are responsible for providing operable fire extinguishers in the premises throughout the construction period. Landlord shall have no obligation to provide any services to Tenant's Contractor.

2.06 Work Areas

All construction materials, tools, equipment and workbenches must be kept within the leased premises throughout the construction period and not stored in areas outside of the building.

2.07 Waste Removal

Removal of garbage and construction debris generated by the work of a Tenant's contractor will be the total responsibility of the contractor, subject to the waste removal and recycling program of the complex, if any.

All disposals to comply with applicable law.

All cost incurred are responsibility of the Tenant and Contractor.

2.08 Drilling or Cutting

Tenant's contractor is not permitted to drill, cut or chase openings of any description in any part of the building structure without prior approval from the Landlord as and when provided under the Lease. If such work is approved by the Landlord, drilling, etc. shall be carried out by the Tenant's Landlord approved contractor at the Tenant's cost. Any work of this type may require x-ray inspection of the slab prior to drilling, which will also be at the Tenant's expense.

2.09 Welding

If pressurized gas cylinders are used for welding, cutting or other purposes, the Tenant's contractor shall ensure that their use is in accordance with requisite safety provisions and requirements. An operational fire extinguisher shall be available in the immediate vicinity of the work.

No welding or soldering on any part of a floor shall be done without knowledge of the Landlord as these activities may trigger a fire alarm. Work Permits requesting the deactivation of a floor's fire alarm system must be obtained from the Landlord.

2.10 Hot Work Permits

The Contractor is responsible for providing the required "Fire Watch" during and after the Hot Work is completed.

2.11 Wiring and Conduit

All wiring must be a minimum of #12 solid wire for runs under 75 feet and a minimum #10 solid wire for runs greater than 75 feet. Absolutely no BX cable is to be used in the electrical rooms.

All cabling and telephone type wiring used above the ceiling must be installed in conduit in accordance with the Building and Fire Codes. Conduit may not be required when cabling with FT6/IBM type 2 or 4 (fire rated) cable, if approved by the Landlord.

2.12 Smoking

There is no smoking allowed in any Oxford Property managed buildings or loading docks including the Construction areas.

2.13 PENALTIES FOR FALSE ALARMS

Tenant is responsible for all governmental penalties imposed on account of false alarms, except to the extent caused by Landlord or any of its agents or contractors or their respective employees.

Section 3: READY TO START

3.01 Are You Ready to Start Construction?

Prior to a work permit being issued by the Landlord for work requiring Landlord consent, the following items must be completed and submitted to the Landlord's Tenant Coordinator.

- Drawings, Specifications and Scope of Work as outlined within this document.
- Insurance Certificate provided on Landlord's standard form.
- Building Permit or copy of Building Permit application.
- List of Contractors and Trades to be used including contact names and phone numbers.
- Detailed Construction Schedule.
- Emergency Contact Numbers for all contractors and supervisors responsible for project.

3.02 Have You Completed Construction?

It is the tenant's responsibility to ensure the construction has been completed in accordance with this Document. The following documents must be complete and submitted to the Landlord's Tenant Coordinator for work requiring Landlord consent.

- Fire Alarm and Life Safety Verification.
- Architect's Certificate of Completion.
- Final Electrical and Mechanical engineers sign-off stating work is completed substantially in accordance with design drawings and specifications.
- Copies of all permits and certificates related to work.
- As-built Mechanical Drawings with the associated CAD disk ver. 14 or later. Disks are to be labeled as follows:
    - Indicate "As-Builts" – Mechanical
    - Name of Contractor
    - Project Name, Floor and Address
    - Project Date (Month-Year)
    - Name of Company Prepared By
- As and to the extent required by the Lease, As-built Electrical Drawings with the associated CAD disk ver. 14 or later. Disks are to be labeled as follows:
    - Indicate "As-Builts" – Electrical
    - Name of Contractor
    - Project Name, Floor and Address
    - Project Date (Month-Year)
    - Name of Company Prepared By

Exhibit A

REQUIRED CONTRACTOR AND SUBCONTRACTOR INSURANCE

Certificates of Insurance

Landlord requires all contractors and subcontractors performing work at the Property to carry insurance. Property Management collects certificates of insurance, which contain information about the vendor's insurance. This insurance must meet certain minimum requirements and name Landlord, Oxford Properties Group, Arcadia Management Group, Inc., and Oxford I Asset Management US as additional insureds.

Service Contractor Certificates

The specific insurance requirements for a particular service contractor are those written into their contract with the building owner/manager or tenant, and to the extent approved by Landlord these may differ from the guidelines listed below. When determining whether or not a certificate shows coverage that meets the actual requirements for a particular service contractor, always refer to the contract wording.

The standard operating procedures require having a certificate of insurance naming Landlord, Oxford Properties Group, Arcadia Management Group, Inc., and Oxford I Asset Management US as additional insured, and having a signed contract/service agreement in place listing the insurance requirements and having an indemnification section.

General Guidelines

The following are insurance guidelines for contractors and subcontractors performing work under $20,000,000; for work in excess of such amount, the limits of liability will be subject to Landlord's reasonable approval. Landlord and Tenant shall reasonably cooperate in good faith to determine such insurance liability limits within thirty (30) days after the Effective Date.

1. **Workers Compensation:** Statutory Coverage in accordance with the laws of your state.

2. **Employers Liability:** Limits of not less than $1,000,000 each accident/occurrence, $1,000,000 each employee/disease, $1,000,000 disease/policy limit.

3. **General Liability:** Please see the chart below for General Liability per Occurrence/General Aggregate.

   Commercial General Liability, including but not limited to comprehensive form, premises operations, explosion and collapse hazard and underground hazard, products and a minimum of twelve (12) months completed operations hazard, contractual liability on a "blanket" basis designating all written contracts related to the work, broad form property damage (including completed operations), independent contractors' protective, personal injury liability, automobile liability comprehensive form for owned, hired and non-owned vehicles, elevators and escalators hazards, and incidental medical malpractice coverage hazards, and as follows: combined single limits for (i) bodily injury and (ii) property damages, endorsed such that the policy aggregate applies to each property location where work occurs. Bodily injury shall include, without limitation, damages for care and loss of services because of bodily injury, including death at any time resulting therefrom, sustained by any person or persons. Property Damage Liability Insurance shall include, without limitation, losses due to damages to or destruction of tangible property, including loss of use of such property resulting therefrom in compliance with the amounts set forth above; Contractor shall provide X, C and U coverage if Contractor's operations involve any exposure to explosion, collapse or underground damage. Products and Completed Operations to be maintained for 3 years after final payment.

4. **Automobile Liability:** Bodily injury and property damage in an amount not less than $2,000,000 combined single limit covering all owned, non-owned, hired or leased vehicles.

5. **Excess / Umbrella Liability:** $1,000,000 in excess of the above primary Employer's Liability, General Liability, and Automobile Liability.

6. **Property:** Property Insurance will cover the physical loss, including theft, or damage to equipment, machinery, supplies or tools owned, leased, hired or borrowed by contractor, utilized or operated by contractor while performing contracted services. The valuation basis shall be "replacement cost".

7. **Professional Liability (Errors and Omissions):** If the nature of the work involves a professional liability exposure (e.g. design/build), contractor shall maintain professional liability (errors and omissions) coverage at a minimum limit of $2,000,000 or $5,000,000, depending on project size, for each claim.

8. **Contractors Pollution - Asbestos Legal Liability:** If the nature of the services performed involves pollutants or any other materials which would affect soil, water or structures, then the contractor shall maintain contractors pollution – asbestos legal liability coverage for a limit of not less than $1,000,000 each occurrence - $2,000,000 policy aggregate, including errors and omissions. However, see attached requirements for higher limits for asbestos abatement and hazardous material removal contractors.

Certificate Holders, Additional Insured's, and Additionally Insured Endorsement

Service contractors are required to add the Landlord as an additional insured with regard to the General Liability policy. An additional Additionally Insured Endorsement is required based on the required amounts contained in the Certificate of Insurance Limits chart below.

CERTIFICATE OF INSURANCE LIMITS REQUIREMENT

1. For insurance requirements for crane lifts or any special contract work; contact for the property team for specific coverage and language.

2. Commercial General Liability Coverage Required (millions, per occurrence and aggregate) is the sum of the basic coverage + excess umbrella.

See Example for Electrical Maintenance below:

- Commercial General Liability Coverage Required = 5MM. This requirement is met by:
- General Liability each Occurrence 3MM + Excess umbrella 2MM = 5MM
- General Liability General Aggregate 3MM + Excess umbrella 2MM = 5MM

Certificate of Insurance Limits

Type of Service	General Liability Each Occurrence / General Aggregate	Employers' Liability Each Accident / Disease – Each Employee / Disease – Policy Limit	Automobile Liability Combined Single Limit	Excess / Umbrella Liability Each Occurrence / Aggregate
Alarm Systems Service and Repair	1MM / 2MM	1MM	1MM	2MM
Appliance Repair & Maintenance	1MM / 1MM	1MM	1MM	1MM
Architectural *	3MM / 3MM	1MM	1MM	2MM
Asbestos Abatement and Hazardous Material Removal ****	5MM / 5MM	1MM	1MM	10MM
Audio-Visual Equipment	1MM / 1MM	1MM	1MM	1MM
Backflow Testing	1MM/1MM	1MM	1MM	1MM
Cabling	1MM / 1MM	1MM	1MM	2MM
Carpet/Floor Finishes	1MM / 2MM	1MM	1MM	2MM
Crane/Rigging	5MM / 5MM	1MM	1MM	10MM
Custom Fabrication & Installation Millwork	1MM / 1MM	1MM	1MM	2MM
Doors & Locks	1MM / 1MM	1MM	1MM	1MM
Electrical Maintenance	3MM / 3MM	1MM	1MM	2MM
Elevator/Escalator Service & Maintenance	5MM / 5MM	1MM	1MM	10MM
Elevator interior installation	2MM / 3MM	1MM	1MM	5MM
Engineering Consulting Service*	3MM / 3MM	1MM	1MM	2MM
Fire Extinguishing in Restaurants	1MM / 1MM	1MM	1MM	2MM
Fitness Equipment Maintenance	1MM / 2MM	1MM	1MM	2MM
Garbage Removal & Disposal, incl. dumpster maintained on premises	1MM / 2MM	1MM	1MM	2MM
General Contractors	3MM / 3MM	1MM	1MM	2MM
Generator Maintenance	1MM / 3MM	1MM	1MM	2MM
Glass Repair & Maintenance	1MM / 2MM	1MM	1MM	2MM
Glass Repair & Maintenance elevated	5MM / 5MM	1MM	1MM	10MM

Type of Service	General Liability Each Occurrence / General Aggregate	Employers' Liability Each Accident / Disease – Each Employee / Disease – Policy Limit	Automobile Liability Combined Single Limit	Excess / Umbrella Liability Each Occurrence / Aggregate
Graffiti Removal	1MM / 3MM	1MM	1MM	2MM
Handyman	1MM / 1MM	1MM	1MM	2MM
Heating, Ventilation & Air Conditioning Service/install	3MM / 3MM	1MM	1MM	2MM
Insulation/Fiberglass	1MM / 3MM	1MM	1MM	2MM
Interior Design Consulting*	1MM / 2MM	1MM	1MM	2MM
Life Safety/Fire Equipment	3MM / 3MM	1MM	1MM	2MM
Life Safety/Monitoring	3MM / 3MM	1MM	1MM	2MM
Lighting re-lamping (interior)	1MM / 2MM	1MM	1MM	2MM
Elevated Lighting Maintenance	5MM /5MM	1MM	1MM	5MM
Moves/Relocations/reconfiguration	3MM / 3MM	1MM	1MM	2MM
Office Equipment Service	1MM / 2MM	1MM	1MM	2MM
Overhead and Revolving Door	1MM / 2MM	1MM	1MM	2MM
Painting	1MM / 2MM	1MM	1MM	2MM
Parking Surface Maintenance/sweeping	2MM / 2MM	1MM	1MM	2MM
Paving and Striping	2MM / 3MM	1MM	1MM	2MM
Plumbing	3MM / 3MM	1MM	1MM	2MM
Power washing (non-elevated)	1MM / 2MM	1MM	1MM	2MM
Power washing (elevated)	5MM /5MM	1MM	1MM	5MM
Pump Maintenance	3MM / 3MM	1MM	1MM	2MM
Roofing	5MM /5MM	1MM	1MM	10MM
Signage non elevated	2MM / 2MM	1MM	1MM	2MM
Signage Elevated	5MM / 5MM	1MM	1MM	10MM
Sprinkler System Service and Repair	3MM / 3MM	1MM	1MM	2MM
Stonework/Marble/wood/metal cleaners and refinishers Repair & Maintenance	1MM / 2MM	1MM	1MM	2MM

Type of Service	General Liability Each Occurrence / General Aggregate	Employers' Liability Each Accident / Disease – Each Employee / Disease – Policy Limit	Automobile Liability Combined Single Limit	Excess / Umbrella Liability Each Occurrence / Aggregate
Telecommunications and TV Equip. Master Wiring and Antennas (non-elevated)	3MM / 3MM	1MM	1MM	2MM
Telecommunications and TV Equip. Master Wiring and Antennas (elevated or roof)	5MM / 5MM	1MM	1MM	5MM
UPS/SEP Equipment Maintenance	3MM / 3MM	1MM	1MM	2MM
Walk Off Mat Cleaning	1MM / 1MM	1MM	1MM	2MM
Water Treatment	1MM / 2MM	1MM	1MM	2MM
Window coverings (non-elevated)	1MM / 1MM	1MM	1MM	2MM
Window Washing and Swing Station Equipment Services	5MM / 5MM	1MM	1MM	10MM

* Design and Engineering vendors must include Professional Errors and Omissions Insurance in the following amounts:
  - Architects = 5MM
  - Engineers = 5MM
  - Interior Design = 2MM (or call Risk Management if limited scope)
  - Any deviation from requested amount should be cleared through Oxford Properties Risk Management.
  - Errors & Omissions is not based on spend, but rather the scope detail (access liability), such as no structural issues and what amount of damage/cost could be sustained if done incorrectly.

This Exhibit A may be updated from time to time as may be reasonably requested by Landlord at any time after the end of the fifth (5th) Lease Year and no more frequently than once every three

(3) Lease Years thereafter, but not in excess of the amounts and types of insurance then being required by landlords of buildings comparable to and in the vicinity of the Building.

EXHIBIT L

TENANT STANDARD OPERATING PROCEDURES

[Attached]

[***]

Exhibit 10.25

Execution Copy

CERTAIN CONFIDENTIAL PORTIONS OF THIS EXHIBIT HAVE BEEN OMITTED AND REPLACED WITH "[***]". SUCH IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THIS EXHIBIT BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL.

PURCHASE AND SALE AGREEMENT

Between

IONIS PHARMACEUTICALS, INC.

"Seller"

and

OXFORD I ASSET MANAGEMENT USA INC.

"Buyer"

with Escrow Instructions for

FIRST AMERICAN TITLE INSURANCE COMPANY

"Escrow Holder"

PROPERTY NAME: LOTS 21 and 22

LOCATION: CARLSBAD, CALIFORNIA

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EXHIBITS

PURCHASE AND SALE AGREEMENT

This **PURCHASE AND SALE AGREEMENT** (as the same may be amended, modified, or supplemented from time to time in accordance with the terms hereof, this "**Agreement**"), dated effective for all purposes as of October 20, 2022, is by and between **IONIS PHARMACEUTICALS, INC.**, a Delaware corporation ("**Seller**"), and **OXFORD I ASSET MANAGEMENT USA INC.**, a Delaware corporation (together with its successors and/or assigns, collectively, "**Buyer**").

ARTICLE I
CERTAIN DEFINITIONS

Section 1.1 Definitions. The parties hereby agree that the following terms shall have the meanings hereinafter set forth, such definitions to be applicable equally to the singular and plural forms, and to the masculine and feminine forms, of such terms:

"**Affiliate**" means any Person that directly, or indirectly through one or more intermediaries, controls, is controlled by or is under common control with Buyer or Seller, as the case may be. For the purposes of this definition, "control" means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a Person, whether through the ownership of voting securities, by contract or otherwise, and the terms "controlling" and "controlled" have the meanings correlative to the foregoing.

"**Agreement**" shall have the meaning set forth in the preamble.

"**Anti-Corruption Laws**" means all anti-bribery and anti-corruption laws, regulations or ordinances applicable to Seller, its affiliates and their respective operations from time to time, including without limitation (i) the FCPA, (ii) the Global Magnitsky Act, (iii) the Bribery Act 2010 (U.K.), (iv) legislation adopted in furtherance of the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, (v) the United States Bank Secrecy Act , as amended by the Anti Money Laundering Act of 2020; (vi) the Proceeds of Crime (Money Laundering) and Terrorist Financing Act (Canada), (vii) the Corruption of Foreign Public Officials Act (Canada), (viii) the U.K. Bribery Act, (ix) the Canadian Corruption of Foreign Public Officials Act, and (x) the Freezing Assets of Corrupt Foreign Public Officials Act (Canada), in each case as the same may be amended from time to time and including all rules, regulations, decrees, administrative orders, circulars, or instructions implementing or interpreting the same.

"**Anti-Money Laundering, Anti-Terrorism, and Sanctions Laws**" means all anti-money laundering-related laws, regulations, and codes of practice applicable to Seller, its affiliates and their operations from time to time, including without limitation (i) the U.S. Money Laundering Control Act of 1986, (ii) the United States Bank Secrecy Act, as amended by the Anti Money Laundering Act of 2020, (iii) the United States International Money Laundering Abatement and Anti-Terrorist Financing Act of 2001, (iv) the United States Trading with the Enemy Act, and the regulations promulgated thereunder in 31 CFR Subtitle B, Chapter 5, as amended, (v) the International Emergency Economic Powers Act and the regulations promulgated thereunder in 31 CFR Subtitle B Chapter 5, as amended, (vi) the regulations of OFAC and The Financial Enforcement Network (FINCEN) or any enabling legislation or executive order relating thereto, (vii) the EU Anti-Money Laundering Directives, (viii) the Patriot Act and (ix) the applicable financial recordkeeping and reporting requirements of the U.S. Currency and Foreign Transaction Reporting Act of 1970, as amended, in each case as the same may be amended from time to time and including all rules, regulations, decrees, administrative orders, circulars, or instructions implementing or interpreting the same.

"**Approved Concept Plans**" shall have the meaning ascribed to it in the Work Letter.

"**Architect**" shall have the meaning ascribed to in the Work Letter.

"**Assignment**" shall have the meaning set forth in Section 9.3(d).

"**Business Day**" shall mean any day other than a Saturday, Sunday or other day on which banks are authorized or required by applicable law to be closed in the States of California.

"**Buyer**" shall have the meaning set forth in the preamble.

"**Buyer Parties**" means, collectively, Buyer, any Affiliates of Buyer, and their actual and potential investors, lenders, representatives, contractors (including, without limitation, any engineers, architects, bankers, contractors, and other professionals), employees and agents of Buyer or any Affiliate of Buyer.

"**Buyer's Certificate**" shall have the meaning set forth in Section 9.4(d).

"**Buyer-Seller Lease**" means that certain Lease Agreement between Buyer and Seller in the form attached hereto as **Exhibit M** and to be entered into and dated as of the Closing Date, whereby Seller shall lease all of the Property from Buyer.

"**CERCLA**" shall have the meaning set forth in the definition of "Environmental Laws."

"**Changed Condition**" shall have the meaning set forth in Section 6.5.

"**Claims**" means any and all losses, damages, claims, causes of action, liens, judgments, damages, costs and expenses, including reasonable third-party attorneys' fees and court costs.

"**Close of Escrow**" shall have the meaning set forth in Section 9.2(a).

"**Closing**" shall have the meaning set forth in Section 9.2(a).

"**Closing Date**" means [thirty (30)] days following the satisfaction of the Development Conditions, subject, however to Section 3.3(d) of this Agreement.

"**Closing Document**" shall have the meaning set forth in Section 3.2(e).

"Closing Statement" shall have the meaning set forth in Section 9.5(a).

"Closing Tax Year" shall have the meaning set forth in Section 9.8.

"**Code**" shall have the meaning set forth in Section 5.5.

"**Control**" means, with respect to any Person, the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such Person, through the ownership of voting securities or through holding a majority of seats on the board of directors (or its functional equivalent), by contract or otherwise, and the terms "Controlled", "Controlling" and "Common Control" shall have correlative meanings; provided, that a Person shall not be deemed to lack Control based solely on the fact that certain decisions may be subject to customary "major decision" consent or approval rights in favor of another Person.

"**Construction Costs**" shall have the meaning ascribed to it in the Work Letter.

"**Costs**" shall have the meaning set forth in Section 11.8.

"**Deed**" shall have the meaning set forth in Section 9.3(a).

"**Deposit**" shall have the meaning set forth in Section 2.3.

"**Development Conditions**" shall have the meaning set forth in Section 3.3(a).

"**Disclosure Items**" shall mean those items set forth on **Exhibit C** attached hereto.

"**Due Diligence Activities**" shall have the meaning set forth in Section 3.2(b).

"**Due Diligence Items**" shall have the meaning set forth in Section 3.1(a).

"**Due Diligence Period**" shall have the meaning in Section 3.2(a).

"**Effective Date**" means the date this Agreement is executed and delivered by the last of Buyer and Seller.

"**Entitlements**" shall have the meaning ascribed to it in the Work Letter.

"**Environmental Laws**" means any applicable federal, state and local laws, statutes, ordinances, rules, and regulations, as well as common law, relating to protection of human health, natural resources or the environment in effect on the Effective Date. The term "Environmental Laws" includes, but is not limited to, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended ("**CERCLA**"), 42 U.S.C. §9601 et seq.; the Toxic Substance Control Act, 15 U.S.C. §2601 et seq.; the Hazardous Materials Transportation Act, 49 U.S.C. §5101 et seq.; the Resource Conservation and Recovery Act, 42 U.S.C. §6901, et seq.; the Clean Water Act, 33 U.S.C. §1251 et seq.; the Safe Drinking Water Act, 42 U.S.C. §300f et seq.; the Clean Air Act, 42 U.S.C. §7401 et seq.; Federal Water Pollution Control Act, 33 U.S.C. §§ 1251 et seq.; Clean Air Act, 42 U.S.C. §§ 7401 et seq.; Emergency Planning and Community Right-To-Know Act, 42 U.S.C. §§ 11001 et seq.; Occupational Safety and Health Act, 29 U.S.C. §§ 65 et seq.; Occupational Safety and Health Act, 29 U.S.C. §§ 65 et seq.; California Hazardous Substance Account Act, California Health & Safety Code §§ 25300 et seq.; California Asbestos Notification Laws, California Health & Safety Code §§ 25915 et seq.; California Hazardous Waste Control Law, California Health & Safety Code §§ 22100 et seq.; California Hazardous Materials Release Response Plans and Inventory Act, California Health & Safety Code §§ 25500 et seq.; California Clean Air Act, California Health & Safety Code §§ 39608 et seq.; California Toxic Pits Cleanup Act, California Health & Safety Code §§ 25208 et seq.; California Pipeline Safety Act, California Government Code §§ 51010 et seq.; California Toxic Air Contaminants Law, California Health & Safe Code §§ 39650 et seq.; California Porter-Cologne Water Quality Act, California Water Code §§ 13000 et seq.; California Toxic Injection Well Control Act, California Health & Safety Code §§ 25159.10 et seq.; California Underground Storage Tank Act, California Health & Safety Code §§ 25280 et seq.; California Occupational Carcinogens Control Act, California Labor Code §§ 9000 et seq., and all other applicable federal, state and local laws, regulations, ordinances, rules and orders that are equivalent or similar to the laws recited above, or otherwise relate to human health, natural resources or the environment, in each case together with their implementing regulations, guidelines, rules or orders, and all state, regional, county, municipal and other local laws, regulations, ordinances, rules or orders that are equivalent or similar to the federal and state laws recited above.

"**Escrow Holder"** means First American Title Insurance Company, with an address of 4380 La Jolla Village Drive, Suite 110, San Diego, CA 92122, Attention: Lynn Graham, lgraham@firstam.com.

"**Excluded Claim**" shall have the meaning set forth in Section 3.2(h).

"**Excluded Property**" means (a) any documents, materials or information which are subject to attorney/client, work product or similar privilege, which constitute attorney communications, or which are subject to a confidentiality agreement or that Seller is legally required to not disclose, (b) all cash on hand or on deposit in any operating account or other account maintained in connection with the ownership, operation or management of the Real Property, (c) any licenses, permits and authorizations presently or hereafter issued to or for the benefit of Seller or its Affiliates in connection with Seller's operation as a going concern and not otherwise necessary for the operation of the Real Property, (d) any intangible property whatsoever related to Seller or its Affiliates as a going concern, and (e) any Intellectual Property whatsoever owned or licensed by Seller or its Affiliates.

"**FIRPTA**" shall have the meaning set forth in Section 9.3(c).

"**First Right Agreement**" means that First Right Agreement substantially in the form attached hereto as Exhibit G-1.

"**Fundamental Requirements**" shall have the meaning ascribed to it in the Work Letter.

"**Government/Sanctions Lists**" means: (i) the lists maintained by the United States Department of Commerce (including the Denied Persons and Entities); (ii) the lists maintained by the United States Department of Treasury (OFAC) (Specially Designated National and Blocked Persons List, Sectoral Sanctions Identifications List and Foreign Sanctions Evaders List); (iii) the lists maintained by the United States Department of State (including the Terrorist Organizations, Munitions Control and Debarred Parties Lists); (iv) the Consolidated List of Financial Sanctions Targets and the Investment Ban List maintained by Her Majesty's Treasury; and (v) all other lists of terrorists, terrorist organizations, cyber criminals, foreign persons interference in US elections, foreign corruption, human rights violators, proliferators of WMD, transnational criminal organizations or narcotics traffickers maintained pursuant to any of the rules and regulations of OFAC, the U.S. Department of the Treasury, by any other Governmental Authority or by any executive order (including Executive Order 13224 of September 24, 2001, as amended Executive Order Blocking Property and Prohibiting Transactions With Persons Who Commit, Threaten to Commit, or Support Terrorism) and any similar list maintained by, or public announcement of Sanctions designation made by, any of the Sanctions Authorities.

"**Governmental Entity**" means the various federal, state and local governmental and quasi-governmental bodies or agencies having jurisdiction over Seller, the Real Property or any portion thereof.

"**Hazardous Materials**" means (a) any and all substances (whether solid, liquid or gas) defined, listed or otherwise classified or regulated as "hazardous wastes," "hazardous materials," "hazardous substances," "toxic substances," "pollutants," "contaminants," "radioactive materials", "toxic pollutants", "solid wastes," or other similar designations in, or otherwise subject to regulation under the Environmental Laws, and (b) any other substances, constituents or wastes that are subject to Environmental Law, now or hereafter in effect, including but not limited to (A) petroleum, (B) refined petroleum products, (C) waste oil, (D) waste aviation or motor vehicle fuel and their byproducts, (E) asbestos, (F) lead in water, paint or elsewhere, (G) radon, (H) Polychlorinated Biphenyls (PCBs), (I) urea formaldehyde, (J) volatile organic compounds (VOC), (K) total petroleum hydrocarbons (TPH), (L) benzine derivative (BTEX), (M) poly- and perfluoroalkyl substances, and (N) petroleum byproducts.

"**Indemnification Cap**" shall have the meaning set forth in Section 6.2.

"Independent Consideration" shall have the meaning set forth in Section 2.4.

"**Intellectual Property**" means with respect to any Person, collectively, (a) all copyright rights, copyright applications, copyright registrations and like protections in each work of authorship and derivative work thereof, whether published or unpublished and whether or not the same also constitutes a trade secret, (b) any trademark and service mark rights, whether registered or not, applications to register and registrations of the same and like protections, and all goodwill connected with and symbolized by such trademarks, (c) all patents, patent applications and like protections including without limitation improvements, divisions, continuations, renewals, reissues, extensions and continuations-in-part of the same, (d) any and all trade secrets and trade secret rights, including, without limitation, any rights to unpatented inventions, know-how and operating manuals, (e) any and all source code, (f) any and all design rights which may be available to such Person, (g) any and all claims for damages by way of past, present and future infringement of any of the foregoing, with the right, but not the obligation, to sue for and collect such damages for said use or infringement of the Intellectual Property rights identified herein, and (h) all amendments, renewals and extensions of any of the foregoing.

"**Known Environmental Condition**" means any Hazardous Materials at, on, under or migrating to or from, or have migrated to or from, the Property as of or prior to the Closing as described or referenced in the Due Diligence Items, Disclosure Items or in reports or other documents otherwise publicly available.

"**Known Misrepresentation**" shall have the meaning set forth in Section 6.5.

"**Landlord's Construction Work**" shall have the meaning ascribed to it in the Work Letter.

"**Leases**" means all unexpired leases, subleases, licenses, occupancy agreements, and any other agreements, written or oral, for the use, possession, or occupancy of any portions of the Real Property or otherwise relating thereto, together with any renewals, extensions, amendments, modifications or supplements thereto and guarantees thereof and all prepaid rent, tenant security deposits and other deposits, if any, thereunder; provided, however, the Leases shall not include the Buyer-Seller Lease.

"**Lien**" means any lien, mortgage, pledge, encumbrance, charge, security interest, adverse claim, liability, interest, charge, priority, transfer restriction (other than restrictions under the Securities Act and state securities laws), encroachment, tax, order, equitable interest, option, warrant, right of first refusal, easement, license, servitude, right of way, or zoning restriction.

"**Natural Hazard Expert**" shall have the meaning set forth in Section 4.3.

"**OFAC**" means the U.S. Department of the Treasury's Office of Foreign Assets Control.

"**OFAC List**" means any list of prohibited countries, individuals, organizations and entities that is administered or maintained by OFAC, including: (i) Section 1(b), (c) or (d) of Executive Order No. 13224 (September 23, 2001) issued by the President of the United States (Executive Order Blocking Property and Prohibiting Transactions with Persons Who Commit, Threaten to Commit, or Support Terrorism), any related enabling legislation or any other similar executive orders; (ii) the List of Specially Designated Nationals and Blocked Persons maintained by OFAC, and/or on any other similar list maintained by OFAC pursuant to any authorizing statute, executive order or regulation; or (iii) a "Designated National" as defined in the Cuban Assets Control Regulations, 31 C.F.R. Part 515.

"**Owner's Affidavit**" shall have the meaning set forth in Section 9.3(h).

"**Outside Satisfaction Date**" shall have the meaning set forth in Section 3.3(d).

"**Patriot Act**" means the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act (USA PATRIOT ACT) of 2001, as the same was restored and amended by Uniting and Strengthening America by Fulfilling Rights and Ensuring Effective Discipline Over Monitoring Act (USA FREEDOM Act) of 2015 and as the same may be further amended, extended, replaced or otherwise modified from time to time, and any corresponding provisions of future laws.

"**Permits and Approvals**" shall have the meaning ascribed to in the Work Letter.

"**Permits and Approvals Condition**" shall have the meaning set forth in Section 2.3(a).

"**Permitted Exceptions**" shall have the meaning set forth in Section 4.4.

"**Permitted Use**" shall have the meaning ascribed to it in the Buyer-Seller Lease.

"**Person**" means any individual, partnership, corporation, limited liability company, limited liability partnership, trust, or other entity.

"**Property**" means all of the Real Property, and all of Seller's right, title and interest in and to all tangible and intangible assets solely relating to the Real Property, including, without limitation, (a) all warranties, claims, and causes of action, (b) all claims and causes of action arising out of or in connection with the Real Property after the Closing Date (but excluding any claims or causes of action of Seller after the Closing arising from its rights under this Agreement or any documents to be delivered at the Closing), (c) the Licenses and Permits, (d) signage rights, utility and development rights and privileges, (e) site plans, surveys, environmental and other physical reports, plans and specifications pertaining to the foregoing, and (f) all licenses, covenants and other rights appurtenant to the Real Property, including, but not limited to, Seller's right, title and interest in and to all development, density and similar rights, rights-of-way, open or proposed streets, alleys, easements, strips or gores of land adjacent to, in front of, abutting, or adjoining the Real Property; provided, however, that "Property" shall not include the Excluded Property.

"Purchase Price" shall have the meaning set forth in Section 2.2.

"**Real Property"** means those certain parcels of land and any appurtenances thereto constituting Lots 21 and 22 in Carlsbad, California, as more particularly described on **Exhibit A** attached hereto. The Real Property shall include any easements, appurtenances, license, privileges, rights of way and other rights appurtenant thereto pursuant to the Title Commitment.

"**Reporting Person**" shall have the meaning set forth in Section 5.5(a).

"**Sanctions**" means the sanctions laws, regulations, embargoes or restrictive measures administered, enacted or enforced by any Sanctions Authority.

"**Sanctions Authority**" means each of: (i) the United States; (ii) the United Nations; (iii) the European Union; (iv) the United Kingdom; (v) Singapore; (vi) Canada; (vii) the respective governmental institutions and agencies of any of the foregoing, including, without limitation, OFAC, the United States Department of State, and Her Majesty's Treasury; and (viii) all other similar governmental bodies with regulatory authority over Buyer or its affiliates issuing, administering, enacting or enforcing economic sanctions laws, regulations, embargoes or restrictive measures of the nature set out above, from time to time.

"**Sanctioned Person**" means a Person that is: (i) the subject of Sanctions, (ii) located in or organized under the laws of a country or territory which is the subject of country-wide or territory-wide Sanctions (including without limitation Cuba, Iran, North Korea, Sudan, Syria, or the Crimea region of the Ukraine), or (iii) directly or indirectly Controlled by or under common Control with any of the foregoing.

"**Seller**" shall have the meaning set forth in the preamble.

"**Seller Control Affiliate**" means any Person that directly or indirectly Controls, is Controlled by or is under common Control with Seller.

"**Seller Indemnified Party**" or "**Seller Indemnified Parties**" shall have the meaning set forth in Section 3.2(b)(viii).

"**Seller's Certificate**" shall have the meaning set forth in Section 9.3(f).

"**Seller Representatives**" means the officers, directors, employees and agents of Seller.

"**Seller Significant Owner**" means any Person that directly or indirectly holds an interest of twenty percent (20%) or more in Seller.

"**Seller's Required Removal Items**" shall have the meaning set forth in Section 4.1.

"**Shell and Core Design Condition**" shall have the meaning set forth in Section 3.3(a).

"**SRO**" means a self-regulatory organization.

"**Step-In Outside Date**" shall have the meaning set forth in Section 3.3(c).

"**Step-In Right**" shall have the meaning set forth in Section 3.3(c).

"**Substantial Damage**" shall have the meaning set forth in Section 10.1(c).

"**Survey**" means a new ALTA survey of the Real Property.

"**Surviving Obligations**" shall mean any obligations of Buyer or Seller hereunder that expressly state they will survive (a) termination of this Agreement and/or (b) Closing.

"**Taking**" shall have the meaning set forth in Section 10.3.

"**Tenant Improvements**" shall have the meaning ascribed to it in the Work Letter.

"**Title Commitment**" shall have the meaning set forth in Section 4.1.

"**Title Company**" means First American Title National Commercial Services

"**Title Documents**" shall have the meaning set forth in Section 4.1.

"**Title Policy**" shall have the meaning set forth in Section 4.5.

"**Transaction Costs**" shall have the meaning set forth in Section 5.1.

"**Unknown Environmental Condition**" means any Hazardous Materials at, on, under or migrating to or from, or having migrated to or from, the Property as of or prior to the Closing and not a Known Environmental Condition.

"**Unsafe Conditions**" shall have the meaning set forth in Section 10.1(a).

"**Work Letter"** shall mean that certain Work Letter attached as Exhibit D to the Buyer- Seller Lease. Notwithstanding that the Buyer-Seller Lease has not yet been executed, all of the terms and conditions of the Work Letter are incorporated herein by reference as of the Effective Date to the extent related to the Development Conditions and Seller's obligation to achieve the same (such as Seller's retention of the Architect), with references to "Landlord" meaning "Buyer" and "Tenant" meaning "Seller".

Section 1.2 Rules of Construction. Article and section captions used in this Agreement are for convenience only and shall not affect the construction of this Agreement. All references to "Article" or "Section" without reference to a document other than this Agreement, are intended to designate articles and sections of this Agreement, and the words "herein," "hereof," "hereunder," and other words of similar import refer to this Agreement as a whole and not to any particular article or section, unless specifically designated otherwise. The use of the term "including" means in all cases "including but not limited to," unless specifically designated otherwise. No rules of construction against the drafter of this Agreement shall apply in any interpretation or enforcement of this Agreement, any documents or certificates executed pursuant hereto, or any provisions of any of the foregoing.

ARTICLE II
PURCHASE AND SALE AGREEMENT; PURCHASE PRICE

Section 2.1 Purchase and Sale Agreement. Seller agrees to sell, transfer, assign and convey to Buyer, and Buyer agrees to purchase, accept and assume, subject to the terms and conditions stated herein, all of the Property.

Section 2.2 Purchase Price. Buyer shall pay Seller the purchase price ("**Purchase Price**") in immediately available funds at Closing. The Purchase Price shall be equal to THIRTY-THREE MILLION AND NO/100 DOLLARS ($33,000,000.00). The Purchase Price, together with such other funds as may be necessary to pay Buyer's required payments hereunder, subject to closing adjustments, shall be deposited with the Escrow Holder on or before 2:30 p.m. Pacific Time on the Closing Date in accordance with this Agreement. The Purchase Price shall be paid to Seller upon satisfaction of all conditions precedent to the Closing as described herein.

Section 2.3 Deposit. Within three (3) Business Days of the Effective Date, Buyer shall deposit in escrow with Escrow Holder a deposit in the amount of TWO MILLION AND NO/100 DOLLARS ($2,000,000.00) (together with any interest earned thereon, the "**Deposit**"). All sums constituting the Deposit shall be held in an interest-bearing account as directed by Buyer, and interest accruing thereon shall be held for the account of the party entitled to the benefit of the Deposit pursuant to this Agreement. If the sale of the Property as contemplated hereunder is consummated, the Deposit shall be credited against the Purchase Price. Upon the Effective Date, the Deposit shall become non-refundable, except as otherwise expressly provided to the contrary herein. If Seller defaults under this Agreement or the sale of the Property is not consummated because of the failure of any condition precedent set forth in Section 9.2(c) or if this Agreement otherwise expressly provides for the return of the Deposit to the Buyer, then the Deposit plus interest accrued thereon shall immediately be returned to Buyer.

Section 2.4 Independent Contract Consideration. Contemporaneously with the execution and delivery of this Agreement, Buyer shall deliver to Seller or Escrow Holder funds in the amount of One Hundred and No/100 Dollars ($100.00) ("**Independent Contract Consideration"**), which amount the parties bargained for and agreed to as consideration for Buyer's right to inspect and purchase the Property pursuant to this Agreement, and for Seller's execution, delivery, and performance of this Agreement. The Independent Contract Consideration is in addition to and independent of any other consideration or payment provided in this Agreement, is nonrefundable, and is fully earned and shall be retained by Seller notwithstanding any other provision of this Agreement.

Section 2.5 Indivisible Economic Package. Buyer has no right to purchase, and Seller has no obligation to sell, less than all of the Property, it being the express agreement and understanding of Buyer and Seller that, as a material inducement to Seller and Buyer to enter into this Agreement, Buyer has agreed to purchase, and Seller has agreed to sell, all of the Property, subject to and in accordance with the terms and conditions hereof.

ARTICLE III
DUE DILIGENCE ITEMS; FIRST RIGHT AGREEMENT

Section 3.1 Due Diligence Items.

(a) On or prior to the Effective Date, Seller has delivered to Buyer, or made available to Buyer for inspection via an online due diligence data room relating to the Property (the "**Data Room**"), the items described on attached **Exhibit B** (the "**Due Diligence Items**"); provided, however, that Seller was and is not obligated to deliver any Excluded Property to Buyer or make any Excluded Property available for its review. Buyer acknowledges that any and all documents actually in such Data Room have been made available to Buyer. In addition to such items in the Data Room, Seller shall make available to Buyer (by electronic means) any such other documents in Seller's possession or control which relate to the Property, other than the Excluded Property, which Buyer shall reasonably request; provided, however, if Buyer requests information regarding the Excluded Property, then Seller shall, in good faith, consider whether it can make such information available to Buyer and make the same available to Buyer.

(b) All documents, materials, and information furnished to or made available to Buyer pursuant to this Section 3.1 are being furnished or made available to Buyer for information purposes only and without any representation or warranty by Seller with respect thereto, express or implied, except that, to Seller's knowledge, they are in all material respects true, correct and complete originals or copies of the version of such materials Seller has in its files, and except as may otherwise be expressly set forth in Article VI and elsewhere in this Agreement and any other document delivered at Closing by Seller to Buyer, and as limited by Section 6.2, and all such documents, materials, and information are expressly understood by Buyer to be subject to the confidentiality provisions of Section 3.2(d).

Section 3.2 Due Diligence Inspection.

(a) During the period commencing on June 22, 2022 and continuing thereafter until the Effective Date (the **"Due Diligence Period**"), Buyer had the opportunity to analyze the feasibility of its ownership, operation, and use of the Property. Buyer acknowledges that Buyer is solely responsible for any and all costs incurred by Buyer in connection with its review and/or investigations of the matters set forth in this Section 3.2, including without limitation the costs of any studies and investigations performed by Buyer.

(b) Seller shall provide the Buyer Parties with reasonable access to the Property in accordance with the terms and conditions of this Agreement in order for Buyer to investigate the Property and the physical conditions thereof, including without limitation such non-invasive environmental, engineering, and economic feasibility inspections, and testing as Buyer may elect (the "**Due Diligence Activities**"). Such access, investigation, inspections, tests, and discussions shall be on the following terms and conditions:

(i) Buyer shall pay for all inspections and tests ordered by Buyer.

(ii) In connection with any entry by the Buyer Parties onto the Property, Buyer shall give Seller not less than forty-eight (48) hours' written notice (which notice may be given by e-mail) of the date and time of any desired Due Diligence Activity by a Buyer Party or as otherwise mutually agreed to by the parties. Any such entry on to the Property shall be conducted during Seller's regular business hours; provided, however, that, in the event a Buyer Party requires access to the Property for conducting any Due Diligence Activities during hours outside Seller's regular business hours (e.g., evenings or weekends), such access may be granted to Buyer Party, subject to Seller's consent. Seller shall have the right to have a representative present during any visits to or inspections of the Property by a Buyer Party. Seller shall use reasonable efforts to make a representative available in connection therewith.

(iii) Buyer's rights under this Section 3.2, shall include the right to conduct non- invasive physical inspections of the Property, including, without limitation, surveys, physical assessments, so-called "Phase I" environmental site assessments, lead-based paint surveys, asbestos surveys or other non-invasive environmental inspections with respect to the Property, subject to the terms and conditions of this Agreement; provided, however, that such right shall in every instance be expressly subject to the condition that Buyer or its Affiliates shall be responsible for all payments or other financial obligations owed to the parties engaged by Buyer or its Affiliates to perform such non-invasive physical inspections. Notwithstanding anything in this Agreement to the contrary, any invasive physical inspections of the Property proposed to be conducted by Buyer, including without limitation so-called "Phase II" environmental site assessments or other environmental inspections or sampling with respect to the Property, shall require Seller's prior written consent, which may be withheld in Seller's sole and absolute discretion. In the event Buyer requests Seller's consent to an invasive physical inspection of the Property (e.g., soil or groundwater sampling), Buyer shall submit to Seller such materials as shall fairly summarize, in reasonable detail, the scope of the work intended to be performed. Seller shall respond in writing to any Buyer request within five (5) days of receipt of any such request. Buyer or its Affiliates shall be responsible for all payments or other financial obligations owed to the parties engaged by Buyer to perform such invasive physical inspections of the Property.

(iv) Prior to and during any entry on the Property, Buyer shall secure and maintain at Buyer's expense (or cause the relevant independent contractor hired by Buyer to enter on the Property to secure and maintain at that independent contractor's expense) the following policies of insurance, which are to include coverage of Buyer, its agents', employees' and contractors' activities at the Property: (a) comprehensive general liability insurance (including property damage, bodily injury, personal injury, and contractual liability coverage) in amounts of Two Million and 00/100 Dollars ($2,000,000.00) per occurrence and Two Million and 00/100 Dollars ($2,000,000.00) annual aggregate; and (b) comprehensive automobile liability insurance, with limits of One Million and 00/100 Dollars ($1,000,000.00) combined single limit for each accident. The policies of insurance described in the preceding sentence shall name Seller as an additional insured. Buyer shall deliver certificates of insurance evidencing the insurance policies described in this (b)(iv) to Seller prior to the first entry on the Property by a Buyer Party. Any environmental contractor of Buyer which conducts environmental inspections of the Property shall, in addition to the insurance required of Buyer's agents described above, also provide evidence of environmental liability insurance of not less than One Million and 00/100 Dollars ($1,000,000.00).

(v) Buyer shall promptly repair any damage to the Property caused by a Buyer Party's entry or testing and shall, to the greatest extent feasible, restore the Property to its condition prior to such testing, at Buyer's sole cost and expense; provided, however, that Buyer will have no obligation to restore any damage to the extent caused by Seller's negligence or misconduct (as well as that caused by any of Seller's agents, employees, contractors, shareholders, partners, members, officers and directors) or to repair, remediate or restore any existing defects or conditions discovered by Buyer or a Buyer Party. Until restoration is complete, Buyer will take commercially reasonable steps to cause any conditions on the Property created by Buyer's or Buyer Party's testing to not interfere with the normal operation of the Property or create any dangerous conditions on the Property. Buyer shall not commit or suffer to be committed, any waste upon the Property. No Buyer Party may construct, erect or place on the Property any monuments or permanent improvements.

(vi) Buyer shall conduct the Due Diligence Activities in accordance with all applicable laws and, if required by applicable laws, under the supervision of Governmental Entities having jurisdiction over the Due Diligence Activities.

(vii) Buyer agrees to keep and maintain the Property free and clear of all labor liens, mechanics and materialmen liens, or other clouds, encumbrances and charges occurring as a result of any act done, suffered, or committed or indebtedness incurred by a Buyer Party in connection with any Due Diligence Activities.

(viii) Buyer hereby indemnifies, protects, defends and holds harmless Seller, its Affiliates, their directors, officers, employees, agents, successors and assigns (collectively, the "**Seller Indemnified Parties**", and each a "**Seller Indemnified Party**") from and against any and all actual, out of pocket Claims that any Seller Indemnified Party suffers or incurs as a result of a Buyer Party's entry or conduct upon the Property or performance of any Due Diligence Activity pursuant to this Agreement; provided, however, that the foregoing indemnity shall not extend to protect the Seller Indemnified Parties from any pre-existing liabilities for matters merely discovered or observed by a Buyer Party, including, without limitation, any physical conditions at the Property or any existing environmental contamination, a Known Environmental Condition, or an Unknown Environmental Condition, or any Claims due to or arising from acts or omissions attributable to Seller, except to the extent exacerbated by Buyer.

(ix) Seller is not an insurer of Buyer's person or property. To the maximum extent allowed by applicable laws, Seller shall not be liable to Buyer for any bodily injury or property damage suffered by any Buyer Party as a result of a Buyer Party's entry or conduct upon the Property or performance of any Due Diligence Activity pursuant to this Agreement, except to the extent arising from Seller's gross negligence or willful misconduct. Buyer acknowledges and agrees that Buyer, by electing to exercise its rights of access hereunder, shall be deemed to have assumed all risk of loss of personal injury or property damage to any Buyer Party as a result of a Buyer Party's entry or conduct upon the Property or performance of any Due Diligence Activity pursuant to this Agreement, except to the extent arising from Seller's negligence or willful misconduct.

The provisions of this (b) shall survive the termination of this Agreement and delivery of the Deed for a period of nine (9) months.

(c) Waiver of Termination. By execution of this Agreement, Buyer has waived its right to deliver written notice of its disapproval of the Property, except as expressly set forth in this Agreement. As a result thereof, the Deposit is non-refundable except as otherwise expressly stated herein.

(d) Confidentiality. Until the Closing, except as permitted hereunder, Buyer and Seller shall each (and Buyer shall cause the Buyer Parties to) maintain in confidence all non-public information concerning the Property which Seller or its representatives have disclosed or delivered, or shall hereafter disclose or deliver to Buyer and/or the Buyer Parties, including, but not limited to, (i) any Due Diligence Items and information provided by Seller to Buyer or the Buyer Parties in the conduct of its Due Diligence or that was posted to the diligence website, and (ii) the results of any inspections of the Property conducted by Buyer pursuant to this Agreement (collectively, the "**Confidential Information**"), and, shall not, without Seller's prior written consent, which may be withheld in Seller's sole and absolute discretion, deliver or disclose the same, or any part thereof, to any other Person or entity except as may be required by applicable law, regulation or legal process; provided, however, Buyer and Seller may disclose any such confidential information to its agents, attorneys, advisors, consultants, prospective lenders or investors, and employees involved in the review and inspection of the Property or as may be required by law or by any court or administrative order. For the avoidance of doubt, "Confidential Information" shall not include: (i) information already in Buyer's or any Buyer Parties' possession prior to its receipt thereof from Seller or its representative; (ii) information which is obtained by Buyer or any Buyer Parties from a third person who is not prohibited from disclosing such information to it by any contractual, legal or fiduciary obligation to Seller; (iii) information which is or becomes publicly disclosed through no fault of the Buyer or any Buyer Parties; or (iv) information which is required to be disclosed by a court of competent jurisdiction in connection with any litigation between the parties hereto. Notwithstanding the foregoing, Buyer may disclose and deliver Confidential Information to the Buyer Parties on a need to know basis. Buyer shall not use nor permit the Buyer Parties to use any of the Confidential Information for any purpose other than the evaluation of the Property and the transaction described herein. Notwithstanding anything to the contrary in this Agreement, neither Seller nor Buyer shall release or permit to be released any press release or other similar communication relating to the transaction contemplated by this Agreement before Closing without the prior written consent of the other party. Nothing in this Section 3.2(d) shall be deemed to void, supersede, or modify any other confidentiality, nondisclosure or similar agreements entered into between Buyer and Seller prior to the Effective Date hereof. The provisions of this Section 3.2(d) shall survive the Closing or any termination of this Agreement.

(e) AS-IS. Buyer hereby acknowledges that except as is otherwise expressly provided in this Agreement and subject to Seller's representations and warranties expressly set forth herein, or in any other documents delivered to Buyer upon the Closing (each such document, a "**Closing Document**"), it is relying upon its own inspections, investigations and analyses of the Property in entering into this Agreement and, except as otherwise provided in this Agreement or in any Closing Document, and subject to Seller's covenants, representations and warranties expressly set forth herein and in any Closing Document, is not relying in any way upon any representations, statements, agreements, warranties, studies, reports, descriptions, guidelines or other information or material furnished by Seller or its representatives, whether oral or written, express or implied, of any nature whatsoever regarding any such matters, including, without limitation, as to the following:

(i) The condition, value, nature, or quality of the Property, including any construction on the Property and any materials or systems incorporated into the Property.

(ii) The soil, water or geology relating to the Property.

(iii) Any income to be derived from the Property.

(iv) The suitability of the Property for any activities or uses which Buyer may wish to conduct on or relating to the Property.

(v) The zoning or developability of the Property.

(vi) Compliance of the Property or its operation with any law, ordinance, rule, regulation, or the status of any permits or approvals relating to or required in connection with the Property, including without limitation the Americans with Disabilities Act, 42 U.S.C. §12101 et seq. (or any successor statute or similar state and local laws).

(vii) The presence or absence of any Hazardous Materials on or about the Property or in the vicinity of the Property or the compliance of the Property with Environmental Laws; and Buyer expressly acknowledges that the Property Documents constitute written notice to Buyer as may be required by California Health and Safety Code Section 25359.7.

Buyer specifically acknowledges and agrees that, to the extent Seller has made or in the future makes any information (including without limitation the Due Diligence Items) regarding any aspect of the Property available to Buyer, Seller has done or will be doing so only as an accommodation to Buyer and that, except as expressly provided elsewhere in this Agreement and in any Closing Document, and subject to Seller's express covenants, representations and warranties in this Agreement and the Closing Documents, Seller has not made, is not making, and shall make no representation or warranty of any nature concerning the accuracy or completeness of Seller's files or concerning the authenticity, source, accuracy or completeness of any information contained in them or furnished or to be furnished by Seller to Buyer (including without limitation the Due Diligence Items). As to certain of the materials furnished to Buyer from Seller's files, Buyer specifically acknowledges that they have been prepared by third parties with whom Seller has no privity and Buyer acknowledges and agrees that no warranty or representation, express or implied, has been made, nor shall any be deemed to have been made, to Buyer either by Seller or by any third parties that prepared the materials in question, except as otherwise provided in this Agreement and in any Closing Document and subject to Seller's express representations and warranties in this Agreement and the Closing Documents. Except as otherwise provided in this Agreement, in any Closing Document and subject to the Excluded Claims, Buyer waives any claim of any nature against Seller if any information, conclusion, projection, or other statement of any nature contained in any of those materials should prove not to be true, complete, or accurate for any reason. By its execution of this Agreement, Buyer acknowledges and agrees that a material inducement to Seller's decision to sell the Property to Buyer at the Purchase Price provided in this Agreement was Buyer's agreement to conduct its own feasibility studies and purchase the Property in an "AS-IS" condition, subject to the express covenants, representations and warranties of Seller set forth in this Agreement or in any Closing Document. Subject to the express covenants, representations and warranties of Seller set forth in this Agreement or in any Closing Document, Buyer has completed all of its diligence during the Due Diligence Period and Buyer acknowledges and agrees that it shall accept the Property in its condition as of the Closing.

(f) No Liability for Information. BUYER REPRESENTS THAT IT IS A KNOWLEDGEABLE, EXPERIENCED AND SOPHISTICATED BUYER OF REAL ESTATE, AND THAT IT IS RELYING SOLELY ON THE EXPRESS REPRESENTATIONS AND WARRANTIES OF SELLER MADE IN THIS AGREEMENT AND ANY OTHER CLOSING DOCUMENT, ITS OWN EXPERTISE, AND THAT OF BUYER'S CONSULTANTS IN PURCHASING THE PROPERTY. ANY INFORMATION PROVIDED OR TO BE PROVIDED WITH RESPECT TO THE PROPERTY IS SOLELY FOR BUYER'S CONVENIENCE AND WAS OR WILL BE OBTAINED FROM A VARIETY OF SOURCES. SELLER HAS NOT MADE ANY INDEPENDENT INVESTIGATION OR VERIFICATION OF SUCH INFORMATION AND MAKES NO (AND EXPRESSLY DISCLAIMS ALL) REPRESENTATIONS AS TO THE ACCURACY OR COMPLETENESS OF SUCH INFORMATION (EXCEPT TO THE EXTENT EXPRESSLY SET FORTH IN THIS AGREEMENT AND THE CLOSING DOCUMENTS). EXCEPT TO THE EXTENT EXPRESSLY SET FORTH IN THIS AGREEMENT AND THE CLOSING DOCUMENTS AND THE EXCLUDED CLAIMS, SELLER SHALL NOT BE LIABLE FOR ANY MISTAKES, OMISSIONS, MISREPRESENTATION OR ANY FAILURE TO INVESTIGATE THE PROPERTY NOR SHALL SELLER BE BOUND IN ANY MANNER BY ANY VERBAL OR WRITTEN STATEMENTS, REPRESENTATIONS, APPRAISALS, ENVIRONMENTAL ASSESSMENT REPORTS, OR OTHER INFORMATION PERTAINING TO THE PROPERTY OR THE OPERATION THEREOF, FURNISHED BY (A) SELLER, (B) ANY PARTNERSHIP, LIMITED LIABILITY COMPANY, CORPORATION, TRUST OR OTHER ENTITY THAT HAS OR ACQUIRES A DIRECT OR INDIRECT INTEREST IN SELLER, (C) ANY DIRECT OR INDIRECT MEMBER, MANAGER, MANAGING MEMBER, PARTNER, ADVISOR, TRUSTEE, BENEFICIARY, DIRECTOR, OFFICER, SHAREHOLDER, EMPLOYEE, PARTICIPANT, REPRESENTATIVE OR AGENT IN OR OF SELLER OR OF ANY ENTITY THAT HAS OR ACQUIRES A DIRECT OR INDIRECT INTEREST IN SELLER, OR (D) ANY REAL ESTATE BROKER, AGENT, OR OTHER PERSON OR ENTITY ACTING ON SELLER'S BEHALF. EXCEPT TO THE EXTENT EXPRESSLY SET FORTH IN THIS AGREEMENT AND THE CLOSING DOCUMENTS, BUYER WILL ACQUIRE THE PROPERTY SOLELY ON THE BASIS OF ITS OWN PHYSICAL AND FINANCIAL EXAMINATIONS, REVIEWS AND INSPECTIONS AND THE TITLE INSURANCE PROTECTION AFFORDED BY THE TITLE POLICY. EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT OR THE CLOSING DOCUMENTS (INCLUDING, WITHOUT LIMITATION, SELLER'S REPRESENTATIONS AND WARRANTIES HEREIN AND THEREIN), SELLER SPECIFICALLY DISCLAIMS, AND NEITHER IT NOR ANY OTHER PERSON IS MAKING, ANY REPRESENTATION, WARRANTY OR ASSURANCE WHATSOEVER TO BUYER AND NO WARRANTIES OR REPRESENTATIONS OF ANY KIND OR CHARACTER, EITHER EXPRESS OR IMPLIED, ARE MADE BY SELLER OR RELIED UPON BY BUYER WITH RESPECT TO THE STATUS OF TITLE TO OR THE MAINTENANCE, REPAIR, CONDITION, DESIGN OR MARKETABILITY OF THE PROPERTY, OR ANY PORTION THEREOF, INCLUDING BUT NOT LIMITED TO (I) ANY IMPLIED OR EXPRESS WARRANTY OF MERCHANTABILITY, (II) ANY IMPLIED OR EXPRESS WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, (III) ANY IMPLIED OR EXPRESS WARRANTY OF CONFORMITY TO MODELS OR SAMPLES OF MATERIALS, (IV) ANY RIGHTS OF BUYER UNDER APPROPRIATE STATUTES TO CLAIM DIMINUTION OF CONSIDERATION, (V) ANY CLAIM BY BUYER FOR DAMAGES BECAUSE OF DEFECTS, WHETHER KNOWN OR UNKNOWN, WITH RESPECT TO THE IMPROVEMENTS OR THE PERSONAL PROPERTY, AND (VI) THE FINANCIAL CONDITION OR PROSPECTS OF THE PROPERTY, IT BEING THE EXPRESS INTENTION OF SELLER AND BUYER THAT, EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, THE PROPERTY WILL BE CONVEYED AND TRANSFERRED TO BUYER IN ITS PRESENT CONDITION AND STATE OF REPAIR, "AS IS" AND "WHERE IS", WITH ALL FAULTS. BUYER, WITH BUYER'S COUNSEL, HAS FULLY REVIEWED THE DISCLAIMERS, RELEASES AND WAIVERS SET FORTH IN THIS AGREEMENT, AND UNDERSTANDS THE SIGNIFICANCE AND EFFECT THEREOF. BUYER ACKNOWLEDGES AND AGREES THAT THE DISCLAIMERS, RELEASES, WAIVERS AND OTHER AGREEMENTS SET FORTH HEREIN ARE AN INTEGRAL PART OF THIS AGREEMENT, AND THAT SELLER WOULD NOT HAVE AGREED TO SELL THE PROPERTY TO BUYER FOR THE PURCHASE PRICE WITHOUT THE DISCLAIMERS, RELEASES, WAIVERS AND OTHER AGREEMENTS SET FORTH IN THIS AGREEMENT.

(g) Release by Buyer. Notwithstanding any other provisions contained herein, or in any Closing Document, to the contrary (including, without limitation, any language providing for survival of certain provisions hereof or thereof), Buyer hereby acknowledges and agrees that (a) prior to Closing, Buyer's sole recourse in the event of a breach by Seller under this Agreement only shall be as set forth in Section 5.1 hereof, and (b) Seller shall, upon consummation of Closing, be deemed to have satisfied and fulfilled all of Seller's covenants, indemnities, and obligations contained in this Agreement which do not expressly survive Closing and the documents delivered pursuant hereto, and Seller shall have no further liability to Buyer or otherwise with respect to this Agreement, the Property, the transfers contemplated hereby, or any documents delivered pursuant hereto, except to the extent of any obligation or liability Seller may expressly have under this Agreement, the Closing Documents or with respect to any Excluded Claim. Except for the Excluded Claims or as otherwise provided in this Agreement or any of the Closing Documents, Buyer hereby waives its right to recover from, and fully and irrevocably releases Seller and its Indemnified Parties from any and all Claims other than the Excluded Claims that it may now have or hereafter acquire against any Seller or any of the Indemnified Parties arising from or related to any defects, errors, omissions or other conditions, latent or otherwise, affecting the Property. With respect to the release set forth in this Section 3.2, Buyer specifically waives the provision of California Civil Code Section 1542. Section 1542 provides as follows:

> "A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR OR RELEASING PARTY DOES NOT KNOW OR EXPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN TO HIM OR HER WOULD HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR OR RELEASED PARTY."

BUYER'S INITIALS: /s/ KB

(h) Excluded Claims. Notwithstanding anything to the contrary contained in this Section 3.2 or elsewhere in this Agreement, the parties acknowledge and agree that the waivers and releases by Buyer set forth in this Section 3.2 or elsewhere in this Agreement or any Closing Document shall not apply to, limit or affect, and the released Claims shall expressly not include, any Claims resulting or arising from any of the following (each, an "**Excluded Claim**") (i) a breach of any representation or warranty of Seller set forth in this Agreement or any of the Closing Documents, (ii) Seller's fraud or intentional misrepresentation, (iii) third party tort claims arising prior to the Closing Date, (iv) the Surviving Obligations of Seller including all of Seller's indemnity obligations set forth in this Agreement, or (v) obligations or matters under the Buyer- Seller Lease.

(i) Survival. The provisions of Sections 3.2(f)-(i) shall survive the Closing or any earlier termination of this Agreement and delivery of the Deed.

Section 3.3 Development Conditions.

(a) Buyer shall not be obligated to close this transaction unless (a) Seller shall have obtained the Entitlements required in connection with the development of the Property as contemplated by the Work Letter and, which at a minimum, satisfy the Fundamental Requirements and other requirements set forth in the Work Letter, with all appeals periods having expired without any appeal having been filed (or any appeal therefrom having been dismissed with prejudice and not subject to further appeal) (the "**Permits and Approvals Condition**") and (b) otherwise completed the schematic design documents for the Landlord's Construction Work and advanced the design of the Tenant Improvements to the point contemplated by the Work Letter as of the effective date of the Buyer-Seller Lease (the "**Shell and Core Design Condition**"; collectively with the Permits and Approvals Condition, the "**Development Conditions**"). The Permits and Approvals and schematic design documents for Landlord's Construction Work shall be subject to the final written approval of Buyer as further set forth in the Work Letter, as incorporated herein.

(b) Seller shall diligently and continuously pursue the Entitlements as required by the Work Letter, including by appearing at public hearings, city staff meetings, and other meetings related to the Entitlements and taking all other actions necessary and appropriate to obtain the Entitlements and cause the Permits and Approvals Condition to be satisfied on or before the Outside Satisfaction Date.

(c) If the Permits and Approvals Condition has not been satisfied by February 1, 2023 (the "**Step-In Outside Date**"), Buyer shall have the right (but not the obligation) (the "**Step-In Right**") upon five (5) Business Days' written notice to Seller at any time thereafter during the term of this Agreement to take over the process to obtain the Entitlements, at Seller's sole cost and expense (but such costs and expenses shall be treated as Construction Costs under the Work Letter). Seller shall reasonably cooperate with Buyer in connection with Buyer's exercise of the Step-In Right in all respects and take all commercially reasonable actions necessary and appropriate in connection therewith, including, without limitation, attending any meetings related to obtaining the Entitlements, executing any documents, instruments or agreements related to the Entitlements, and effectuating the assignment or transfer of any permits, licenses, or approvals (to the extent assignable) if requested by Buyer.

(d) Further, if the Development Conditions have not been satisfied by April 1, 2023 (as it may be extended pursuant to this Section 3.3(d), the "**Outside Satisfaction Date**") or Buyer determines at any time before the Outside Satisfaction Date that Seller has been or will be unable to satisfy the Development Conditions, then Buyer may, by delivering written notice to Seller, (i) terminate this Agreement; (ii) waive such condition and proceed with the Closing on a date designed by Buyer not later than [thirty (30)] days after the Outside Satisfaction Date; or (iii) extend the Outside Satisfaction Date one (1) or more times to provide additional time for the Development Conditions to be satisfied, such extension not to exceed one hundred twenty (120) days in the aggregate. In the event Buyer desires to exercise such extension right, Buyer shall give written notice to Seller and Escrow Holder on or before five (5) Business Days prior to the then-applicable Outside Satisfaction Date. If Buyer terminates this Agreement in accordance with this Section 3.3(d), Escrow Holder shall promptly return the Deposit to Buyer and neither Party shall have any further rights or obligations hereunder, except for the Surviving Obligations.

Section 3.4 **First Right Agreement**. If the sale of the Property is not consummated on the Closing Date for any reason other than a default by Buyer, then Buyer shall have a right of first offer and right of first refusal to purchase or otherwise acquire Seller's interest in the Property, subject to and in accordance with the terms and conditions of the First Right Agreement. Concurrently with the execution and delivery of this Agreement, the parties shall each deliver to Escrow Holder an executed and acknowledged counterpart to the First Right Agreement as well as a memorandum of the First Right Agreement in the form of Exhibit G-2 attached hereto (the "**First Right Memo**"). Escrow Holder is hereby instructed to record the First Right Memo in the Official Records of San Diego County in the event the sale of the Property is not consummated on the Closing Date for any reason other than a default by Buyer.

ARTICLE IV
TITLE AND SURVEY

Section 4.1 **Title to Real Property**. Buyer may obtain (a) a commitment to issue an owner's policy of title insurance with respect to the Property issued by the Title Company in favor of Buyer (the "**Title Commitment**"), and (b) copies of all documents referred to on Schedule B of the Title Commitment as exceptions to coverage (the "**Title Documents**"). Buyer hereby acknowledges that it has received a preliminary title report ("**Preliminary Report**") attached hereto as **Exhibit D**.

Section 4.2 **Objections and Certain Exceptions to Title**. Prior to the Effective Date, Buyer delivered to Seller a notice (the "**Title Objection Notice**") of any matters affecting title to the Real Property contained in the Preliminary Report, or any matters reflected on a survey obtained by Buyer, to which Buyer objects (the "**Title Objections**"). Seller has agreed to use commercially reasonable efforts to obtain an estoppel certificate from Techbuilt Construction Corp or its successor in interest as declarant in the form previously provided by Buyer to Seller or Seller's counsel with respect to that certain Declaration of Covenants, Conditions and Restrictions for Carlsbad Oaks North Business Park recorded on February 5, 2007 as Instrument Number 2007- 0081082 with the Official Records of the San Diego County Recorder's Office. Notwithstanding anything to the contrary in this Agreement, Seller will be obligated to remove or cure on or before the Closing (whether or not Buyer has objected thereto in writing), in each case, exceptions to title to the Property which are (a) any mortgage liens or other monetary liens affecting the Property (except to the extent created by or arising from the acts or omissions of a Buyer Party), (b) mechanics' liens, materialmen's liens and claims of liens for labor materials furnished or supplied to the Property or any portion thereof by or on behalf of Seller or its property manager (if applicable), affecting the Property (except to the extent created by or arising from the intentional acts or omissions of a Buyer Party), (c) code violations and other violations with respect to the Property that can be satisfied by payment of a liquidated amount or bonding, (d) encumbrances that have been placed against the Property by, through or under Seller after the date of this Agreement without Buyer's prior written consent, (e) so called "standard" exceptions that can be removed from the Title Policy by Seller's delivery of the Owner's Affidavit, (f) tax liens for real property taxes and assessments which are due and payable or any judgment liens, and (g) any other voluntary or involuntary liens or utility liens created or suffered by Seller (not otherwise covered by clauses (a)-(f)) capable of being cleared from title by the payment of a sum certain (the liens described in clauses (a) through (g) are collectively referred to as, "**Seller's Required Removal Items**"). If Seller fails to remove Seller's Required Removal Items at or prior to Closing, such failure shall constitute a Seller default and the terms of Section 5.1 herein shall apply. Except with respect to Seller's Required Removal Items and the other matters expressly set forth in this Section 4.2, Seller shall have no obligation whatsoever to expend or agree to expend any funds, to undertake or agree to undertake any obligations or otherwise to cure or agree to cure any title objections.

Section 4.3 **Natural Hazard Expert**. Buyer and Seller acknowledge that Seller is required to disclose if any portion of the Property lies within a natural hazard area or zone. Buyer and Seller agree that Seller may employ the services of Escrow Holder, a company recommended by Escrow Holder, or an affiliate of Escrow Holder (as so employed, the "**Natural Hazard Expert**") to examine the maps and other information specifically made available to the public by government agencies for the purposes of enabling Seller to fulfill its disclosure obligations with respect to the natural hazards referred to above and to report the results of its examination to Buyer and Seller in writing. No later than five (5) days after the Effective Date, Seller, at its sole cost and expense, shall provide Buyer with a Natural Hazard Disclosure Statement prepared by a Natural Hazard Expert.

Section 4.4 **Additional Title Matters**. If the Title Company revises the Title Commitment after the Effective Date to add or modify exceptions (other than new or modified exceptions that do not have a material adverse effect on the value, use and/or functionality of the Property) or if a Survey is modified as a result thereof in an adverse manner to Buyer, then Buyer shall have two (2) Business Days after Buyer obtains knowledge of such addition or modification to notify Seller that such additions or modifications are not acceptable to Buyer (in Buyer's sole and absolute discretion) (a "**Title Notice**"). If Buyer fails to deliver a Title Notice as aforesaid, then such addition or modification shall be deemed a Permitted Exception. To the extent Buyer timely delivers a Title Notice, then Seller shall deliver, within two (2) Business Days of its receipt of such Title Notice, written notice to Buyer and Title Company identifying which disapproved items (other than Seller's Required Removal Items, which Seller is obligated to cure regardless of such notification) Seller shall undertake to cure or not cure ("**Seller's Response**"). If Seller does not timely deliver a Seller's Response, Seller shall be deemed to have elected to not remove or otherwise cure any exceptions disapproved by Buyer. If Seller elects, or is deemed to have elected, not to remove or otherwise cure an exception disapproved in the Title Notice, Buyer may terminate this Agreement upon written notice to Seller within the sooner of two (2) Business Days after receipt or deemed receipt of the Title Notice, and the Closing Date. If Seller elects, in Seller's Response, to cure an exception disapproved in the Title Notice, and Seller fails to cure such matter at or prior to Closing, Buyer may terminate this Agreement. The term "**Permitted Exceptions**" will mean, (i) Title Objections which Seller did not elect to cure pursuant to Section 4.2 above, (ii) real estate taxes not yet due and payable but otherwise subject to proration as provided in this Agreement, and (iii) any exceptions caused by Buyer, its agents, representatives, or employees. Notwithstanding anything to the contrary set forth herein, Seller will have the obligation to cure and cause to be released of record concurrent with, or prior to, the Closing, the Seller's Required Removal Items.

Section 4.5 **Title Insurance**. At Closing, and as a condition thereto for Buyer's benefit, the Title Company shall issue to Buyer or be irrevocably committed to issue to Buyer a standard coverage ALTA owner's form title policy in the form of the Pro Forma (the "**Title Policy**"), in the amount of the Purchase Price, insuring that fee simple title to the Real Property is vested in Buyer subject only to the Permitted Exceptions.

ARTICLE V
REMEDIES AND DEPOSIT INSTRUCTIONS

Section 5.1 **Seller Default**. If the sale of the Property is not consummated due to the permitted termination of this Agreement by Buyer as expressly provided in this Section 5.1 or due to the failure of a condition precedent set forth in Section 9.2(c), the Deposit shall be returned to Buyer, Seller shall reimburse Buyer for Buyer's actual reasonable out-of-pocket, third party costs and fees (including attorneys' fees) incurred by Buyer in connection with the transaction contemplated by this Agreement (including, but not, limited to such costs associated with due diligence investigation of the Property, negotiation of this Agreement and/or efforts to finance the acquisition of the Property) not to exceed a total aggregate amount of TWO HUNDRED FIFTY THOUSAND AND 00/DOLLARS ($250,000.00) (the "**Transaction Costs**") and Buyer will have no liability hereunder except for the Surviving Obligations. If the sale of the Property is not consummated due to a breach or default by Seller in the performance of any of its obligations under this Agreement, then Buyer shall be entitled, as its sole and exclusive remedy, either: (a) to terminate this Agreement and receive the return of the Deposit, together with a reimbursement to Buyer for its Transaction Costs, whereupon the parties shall be released from all further obligations under this Agreement, except the Surviving Obligations; or (b) to enforce specific performance of the sale of the Property pursuant to this Agreement. Buyer shall be deemed to have elected to terminate this Agreement and receive back the Deposit and a reimbursement of the Transaction Costs as set forth hereinabove if Buyer fails to file suit for specific performance against Seller in a court prescribed by Section 11.4 hereof, on or before sixty (60) days following the date upon which Closing was to have occurred (and Seller shall not be obligated to reimburse the Transaction Costs until Buyer has so elected or been deemed to have so elected). Notwithstanding the foregoing, nothing contained herein shall limit Buyer's remedies at law, in equity or as herein provided in the event Seller shall convey or encumber all or any interest in the Property to or in favor of a party other than Buyer in violation of the terms hereof. Except in connection with a claim brought under the preceding sentence, each of Seller and Buyer hereby waives any claim for special, punitive, or consequential damages with respect to this Agreement. Nothing in this Section 5.1 shall be deemed to limit a party's right to recover reasonable third-party attorneys' fees pursuant to Section 11.8.

Section 5.2 BUYER DEFAULT; LIQUIDATED DAMAGES. IF THE SALE IS NOT CONSUMMATED SOLELY DUE TO A DEFAULT BY BUYER IN ITS OBLIGATIONS ON THE CLOSING DATE, THEN THE DEPOSIT SHALL BE DEEMED TO CONSTITUTE A REASONABLE ESTIMATE OF SELLER'S DAMAGES UNDER THE PROVISIONS OF SECTION 1671 OF THE CALIFORNIA CIVIL CODE AND SELLER SHALL RETAIN THE DEPOSIT AS LIQUIDATED DAMAGES, WHICH RETENTION SHALL OPERATE TO TERMINATE THIS AGREEMENT AND RELEASE BUYER FROM ANY AND ALL LIABILITY HEREUNDER EXCEPT FOR THE SURVIVING OBLIGATIONS. SELLER HEREBY WAIVES THE PROVISIONS OF CALIFORNIA CIVIL CODE SECTION 3389. THE PARTIES HAVE AGREED THAT DUE TO, AMONG OTHER THINGS, CHANGES IN MARKET CONDITIONS OR FACTS AND CIRCUMSTANCES REGARDING THE PROPERTY, SELLER'S ACTUAL DAMAGES, IN THE EVENT OF A FAILURE TO CONSUMMATE THIS SALE SOLELY DUE TO BUYER'S DEFAULT, WOULD BE EXTREMELY DIFFICULT OR IMPRACTICABLE TO DETERMINE. BUYER DESIRES TO LIMIT THE AMOUNT OF DAMAGES FOR WHICH BUYER MIGHT BE LIABLE SHOULD THE CLOSING NOT OCCUR AS A RESULT OF BUYER'S DEFAULT UNDER THIS AGREEMENT. BUYER AND SELLER WISH TO AVOID THE COSTS AND LENGTHY DELAYS WHICH WOULD RESULT IF SELLER FILED A LAWSUIT TO COLLECT ITS DAMAGES FOR THE FAILURE OF THE CLOSING DUE TO BUYER'S DEFAULT IN ITS OBLIGATIONS ON THE CLOSING DATE UNDER THIS AGREEMENT. AFTER NEGOTIATION, THE PARTIES HAVE AGREED THAT, CONSIDERING ALL THE CIRCUMSTANCES EXISTING ON THE EFFECTIVE DATE, THE AMOUNT OF THE DEPOSIT IS A REASONABLE ESTIMATE OF THE DAMAGES THAT SELLER WOULD INCUR IN SUCH EVENT. BY PLACING THEIR INITIALS BELOW, EACH PARTY SPECIFICALLY CONFIRMS THE ACCURACY OF THE STATEMENTS MADE ABOVE AND THE FACT THAT EACH PARTY WAS REPRESENTED BY WOULD INCUR IN SUCH EVENT. BY PLACING THEIR INITIALS BELOW, EACH PARTY SPECIFICALLY CONFIRMS THE ACCURACY OF THE STATEMENTS MADE ABOVE AND THE FACT THAT EACH PARTY WAS REPRESENTED BY COUNSEL WHO EXPLAINED, AT THE TIME THIS AGREEMENT WAS MADE, THE CONSEQUENCES OF THIS LIQUIDATED DAMAGES PROVISION. NOTHING IN Tms SECTION 5.2 SHALL BE DEEMED TO LIMIT SELLER'S RIGHT TO RECOVER REASONABLE OUT OF POCKET THIRD-PARTY ATTORNEYS' FEES PURSUANT TO SECTION 11.8 BELOW.

Section 5.3 **Intentionally Omitted**

Section 5.4 **Escrow Instructions.** The Escrow Holder joins in this Agreement to evidence its agreement to act in accordance with the terms and conditions of this Agreement. Further, the following provisions shall control with respect to the rights, duties, and liabilities of the Escrow Holder.

(a) The Escrow Holder acts hereunder as a depository only and is not responsible or liable in any manner whatsoever for the (i) sufficiency, correctness, genuineness, or validity of any written instrument, notice or evidence of a party's receipt of any instruction or notice which is received by the Escrow Holder, or (ii) identity or authority of any person executing such instruction notice or evidence.

(b) The Escrow Holder shall have no responsibility hereunder except for the performance by it in good faith of the acts to be performed by it hereunder, and the Escrow Holder shall have no liability except for its own willful misconduct or gross negligence.

(c) The Escrow Holder shall be reimbursed on an equal basis by Buyer and Seller for any reasonable expenses incurred by the Escrow Holder arising from a dispute with respect to the amount held in escrow, including the cost of any reasonable, out of pocket legal expenses and court costs incurred by the Escrow Holder, should the Escrow Holder deem it necessary to retain an attorney with respect to the disposition of the amount held in escrow.

(d) In the event of a dispute between the parties hereto with respect to the disposition of the amount held in escrow, the Escrow Holder shall be entitled, at its own discretion, to deliver such amount to an appropriate court of law pending resolution of the dispute.

(e) The Escrow Holder shall invest the amount in escrow in accounts which are federally insured, or which invest solely in government securities and shall belong to Buyer other than as set forth in Section 5.2 herein above. Interest earned thereon shall be added to the funds deposited by Buyer.

Section 5.5 Designation of Reporting Person. In order to assure compliance with the requirements of Section 6045 of the Internal Revenue Code of 1986, as amended (for purposes of this Section 5.5, the "**Code**"), and any related reporting requirements of the Code, the parties hereto agree as follows:

(a) Provided the Escrow Holder shall execute a statement in writing (in form and substance reasonably acceptable to the parties hereunder) pursuant to which it agrees to assume all responsibilities for information reporting required under Section 6045(e) of the Code, Seller and Buyer shall designate the Escrow Holder as the person to be responsible for all information reporting under Section 6045(e) of the Code (the "**Reporting Person**"). If the Escrow Holder refuses to execute a statement pursuant to which it agrees to be the Reporting Person, Seller and Buyer shall agree to appoint another third party as the Reporting Person.

(b) Seller and Buyer hereby agree:

(i) to provide to the Reporting Person all information and certifications regarding such party, as reasonably requested by the Reporting Person or otherwise required to be provided by a party to the transaction described herein under Section 6045 of the Code; and

(ii) to provide to the Reporting Person such party's taxpayer identification number and a statement (on Internal Revenue Service Form W-9 or an acceptable substitute form, or on any other form the applicable current or future Code sections and regulations might require and/or any form requested by the Reporting Person), signed under penalties of perjury, stating that the taxpayer identification number supplied by such party to the Reporting Person is correct.

Each party hereto agrees to retain this Agreement for not less than four (4) years from the end of the calendar year in which the Closing occurred, and to produce it to the Internal Revenue Service upon a valid request therefor.

ARTICLE VI
REPRESENTATIONS AND WARRANTIES OF SELLER

Section 6.1 Representations and Warranties of Seller. Subject to the provisions of Section 6.2, Seller makes the following representations and warranties with respect to the Property as of the date hereof and as of Closing:

(a) Status. Seller is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware and is qualified to transact business in the State of California.

(b) Authority. The execution and delivery of this Agreement (and all ancillary documents delivered pursuant hereto including, without limitation, the Closing Documents) by Seller and the performance of its obligations hereunder and thereunder have been or will be duly authorized by all necessary action on the part of Seller, and this Agreement constitutes the legal, valid, and binding obligation of Seller, subject to equitable principles and principles governing creditors' rights generally.

(c) Non-Contravention. The execution and delivery of this Agreement by Seller and the consummation of the transactions by Seller contemplated hereby or in the other Closing Documents will not (i) violate any judgment, order, injunction, decree, regulation or ruling of any court or Governmental Entity, or (ii) conflict with, result in a breach of, or constitute a default under the organizational documents (including any amendments thereto) of Seller, any note or other evidence of indebtedness, any mortgage, deed of trust or indenture, or any lease or other material agreement or instrument to which Seller is a party or by which Seller may be bound.

(d) Suits and Proceedings. Except as set forth on attached **Exhibit C**, there are no legal actions, suits or similar proceedings at law, in equity, or otherwise pending and served or threatened in writing against Seller (with respect to the Property, as opposed to actions against Seller as a going concern) or the Property which would be reasonably likely to adversely affect, individually or in the aggregate, (i) the ability of Seller to perform its obligations hereunder, or (ii) the ownership or operation of the Property.

(e) Non-Foreign Entity. Seller is not a "foreign person" or "foreign corporation" as those terms are defined in the Internal Revenue Code of 1986, as amended, and the regulations promulgated thereunder.

(f) Consents. No consent, waiver, approval, or authorization is required from any Person (that has not already been obtained) in connection with the execution and delivery of this Agreement by Seller or the performance by Seller of the transactions contemplated hereby.

(g) Condemnation. Seller has no knowledge of and has not received any written notice of any pending or contemplated condemnation or action in eminent domain from a Governmental Entity with respect to all or part of the Property.

(h) Bankruptcy. Seller has not (i) commenced a voluntary case, or had entered against it a petition, for relief under any federal bankruptcy act or any similar petition, order or decree under any federal or state law or statute relative to bankruptcy, insolvency or other relief for debtors, (ii) caused, suffered or consented to the appointment of a receiver, trustee, administrator, conservator, liquidator or similar official in any federal, state or foreign judicial or non-judicial proceedings, to hold, administer and/or liquidate all or substantially all of its property, or (iii) made an assignment for the benefit of creditors.

(i) Governmental Notices. Except as set forth on attached **Exhibit C** or included in the Due Diligence Items made available on or prior to the Effective Date, Seller has no knowledge of and has not received written notice from any Governmental Entity of (i) any pending or threatened zoning, building, fire, or health code violations or violations of other governmental requirements, laws, policies or regulations with respect to the Property that have not previously been corrected, (ii) violations with respect to the Title Documents that have not previously been corrected, or (iii) violation of any applicable laws, ordinances, rules, requirements, regulations or codes of any governmental agency, body or subdivision thereof bearing on the Property.

(j) Contracts. Except as set forth on attached **Exhibit C** and any agreements expressly disclosed as exceptions on the Title Commitment, there are no property management contracts, real property service contracts, construction contracts, reciprocal easement agreements, or any other contracts related to the leasing, subleasing, ownership, operation, maintenance, construction or development of any part of the Property to which Seller is a party, or, to Seller's knowledge, to which any other Person is a party, which would be binding on Buyer after Closing.

(k) Leases. Other than the Buyer-Seller Lease to be entered into at Closing, there are no Leases in effect granting any party the right to use or occupy any portion of the Property.

(l) Environmental. Except as set forth on attached **Exhibit C** or included in the Due Diligence Items made available on or prior to the Effective Date, Seller represents that Seller has not received written notice of nor is Seller actually aware of: (i) any actual or alleged violation of, or obligations or liability under, any applicable Environmental Laws with respect to the Property or operation at the Property; (ii) any existing, pending, anticipated, or threatened investigation of or pending, anticipated or threatened claims against Seller or the Property by any Governmental Entity or third party; (iii) the presence of Hazardous Materials on, under, above or emanating to or from, or having emanated to or from the Property or, to Seller's knowledge, in the vicinity of the Property; (iv) any remedial obligations with respect to Seller or the Property under any Environmental Laws; (v) any Known Environmental Condition or Unknown Environmental Condition; (vi) any noncompliance, anticipated noncompliance, or threatened noncompliance of the Property or its operation with any Environmental Law, including any Permits or Licenses; or (vii) any Permits or Licenses required with respect to the Property or operation at the Property. Seller has delivered or otherwise made available all material and final reports and correspondence with Governmental Entities in Seller's possession or control relating to the environmental condition of the Property.

(m) Anti-Money Laundering, Anti-Terrorism and Sanctions Laws.

(i) Seller is aware of, and acknowledges its obligations under, the Anti-Corruption Laws and Anti-Money Laundering, Anti-Terrorism and Sanctions Laws.

(ii) At all times while this Agreement is in effect, Seller shall comply with all applicable Anti-Corruption, Anti-Terrorism, Anti-Money Laundering and Sanctions Laws. Without limiting the foregoing, Seller covenants that it shall not use any amounts paid pursuant to this Agreement to lend, contribute or otherwise make available such proceeds to any Sanctioned Person or for any use in violation of applicable Anti-Corruption, Anti-Terrorism, Anti-Money Laundering or any Sanctions Laws.

(iii) Seller maintains, and covenants to continue to maintain during the term of this Agreement, compliance policies, procedures and internal controls designed to ensure compliance with applicable Anti-Corruption, Anti-Terrorism, Anti-Money Laundering and Sanctions Laws.

(iv) Neither Seller, any Seller Control Affiliate or, to Seller's knowledge, any Seller Significant Owner or Seller Representative: (i) is listed on any Government/Sanctions List; (ii) is a Sanctioned Person or otherwise the subject of any Sanctions; (iii) is or has been the subject of any investigation relating to Sanctions; (iv) has been found by a Sanctions Authority to have been engaged in sanctionable conduct under any Sanctions; (v) has directly or indirectly conducted, conducts or is otherwise involved with any business with or involving any sanctioned government (or any sub-division thereof), or any Person that is the subject of Sanctions or is located in any country that is the subject of Sanctions; (vi) directly or indirectly supports or facilitates, or plans to support or facilitate or otherwise become involved with, any such Person, government, entity or project; or (vii) has taken or failed to take any action that would cause it to be in non-compliance with any Anti-Corruption, Anti-Terrorism, Anti-Money Laundering or Sanctions Laws;

(v) No action, suit, investigation or proceeding relating to any Anti-Corruption, Anti-Terrorism, Anti-Money Laundering, or Sanctions Laws involving Seller or any Seller Control Affiliate is pending or, to Seller's knowledge, threatened. To Seller's knowledge, no action, suit, investigation or proceeding relating to any Anti-Corruption, Anti-Terrorism, Anti-Money Laundering, or Sanctions Laws involving any Seller Significant Owner or any Seller Representative is pending or threatened;

(n) Due Diligence Items. The Due Diligence Items delivered to Buyer are in all material respects true, correct and complete originals or copies of the versions of the Due Diligence Items. Seller has not received written notice from any Person that any information in the Due Diligence Items is not true, accurate or complete. To Seller's knowledge, Seller has delivered or made available to Buyer all of the Due Diligence Items in its possession or control that could be reasonably expected to have a material effect on the operations, use, condition, or value of the Property.

(o) Tax Appeals. Seller has not filed any tax certiorari or other appeals with respect to the Property which remain outstanding.

(p) ROFOs/ROFRs. Neither Seller nor its direct or indirect owners have granted any outstanding exclusive negotiation period, purchase option, right of first refusal to purchase, right of first offer to purchase or similar right to purchase in connection with all or any portion of the Property (or any direct or indirect interests therein [other than with respect to indirect interests constituting publicly-traded securities]), except in favor of Buyer.

(q) Defaults. Seller is not in default and, to Seller's knowledge, no other party is in default under any declaration or covenant recorded against title to the Property, and no event has occurred which, with the giving of notice or passage of time or both, would constitute a default thereunder.

(r) Warranties. Attached hereto as Exhibit E is a true, complete, correct and complete list of all material warranties or guaranties issued in connection with the development, construction, operation, maintenance or repair of the Property, and all amendments and modifications thereto, which are currently in effect (collectively, the "**Warranties**"). True and correct copies of all of the Warranties have been delivered to Buyer. To Seller's knowledge, the Warranties are in full force and effect.

(s) Seller Knowledge Parties. Seller represents and warrants that the Seller Knowledge Parties are the most knowledgeable employees of Seller with respect to (i) the representations and warranties made by Seller under this Agreement, (ii) the Property, and (iii) the transaction contemplated by this Agreement.

Section 6.2 **Limited Liability**. The representations and warranties of Seller set forth in Section 6.1 of this Agreement will survive the Closing for a period expiring on the date that is nine (9) months after the Closing (unless Buyer has given written notice to Seller of a breach of any such representation or warranty (specifying the specific claim and breach) prior to the expiration of the nine (9) month period following Closing, in which event Buyer's right to recover amounts from Seller for such noticed breach of a representation or warranty shall survive such period). Buyer will not have any right to bring any action against Seller as a result of any untruth or inaccuracy of such representations and warranties unless and until the aggregate amount of all liability and losses arising out of any such untruth or inaccuracy exceeds Twenty Five Thousand and 00/100 Dollars ($25,000.00) (the "**Basket**") in which event Buyer may claim indemnification for the full amount of such claim(s) up to the Indemnification Cap (as defined below), and Seller's liability for any untruth or inaccuracy of such representations and warranties shall not exceed, in the aggregate, one percent (1%) of the Purchase Price (the "**Indemnification Cap**"); it being understood and agreed, however, that such Basket and Indemnification Cap shall not apply to and shall expressly exclude Seller's liabilities under Section 9.5 (Prorations and Closing Costs), Section 9.6 (Brokers) and Section 9.8 (Tax Protests; Tax Refunds and Credits). Seller shall have no liability with respect to any of Seller's representations, warranties and covenants herein if, prior to the Closing, Buyer is "deemed to know" of such breach of a representation, warranty or covenant of Seller herein and Buyer nevertheless consummates the transaction contemplated by this Agreement. Buyer shall be "deemed to know" of such a breach if: (i) it is disclosed in this Agreement or any Exhibit or Schedule hereto; (ii) it is disclosed in the Due Diligence Items or other information that is in the Data Room not less than two (2) business days before the Closing; (iii) it is disclosed in any written reports obtained by Buyer before the Closing; or (iv) it is within the actual knowledge of the Buyer Designated Person (as hereinafter defined) before the Closing. The provisions of this Section 6.2 shall survive the Closing or any earlier termination of this Agreement and delivery of the Deed.

Section 6.3 **Knowledge Parties**.

(a) If a representation, warranty or other statement is made in this Agreement or in any document or instrument to be delivered at Closing pursuant to this Agreement, on the basis of the "knowledge," "actual knowledge" or "best of knowledge" (or similar phrases) of Seller then such representation, warranty or other statement is made based on the actual, current, conscious express awareness of facts or other information of Elizabeth L. Hougen, EVP & CFO ("**Seller Knowledge Parties**"), as distinguished from implied, imputed and/or constructive knowledge, as of the Effective Date and as of any time thereafter up to and including the Closing, and without undertaking any special inquiry or investigation by such person(s). Seller is not under a duty of inquiry or investigation in order to make any such representation, warranty, or other statement.

(b) If a representation, warranty or other statement is made in this Agreement or in any document or instrument to be delivered at Closing pursuant to this Agreement, on the basis of the "knowledge," "actual knowledge" or "best of knowledge" (or similar phrases) of Buyer then such representation, warranty or other statement is made based on the actual, current, conscious express awareness of facts or other information of Tycho Suter ("**Buyer Designated Person**"), as distinguished from implied, imputed and/or constructive knowledge, as of the Effective Date and as of any time thereafter up to and including the Closing, and without undertaking any special inquiry or investigation by such person(s). Buyer represents and warrants to Seller that such individuals are the persons most knowledgeable in connection with the representations and warranties made by Buyer under this Agreement. Buyer is not under a duty of inquiry or investigation in order to make any such representation, warranty, or other statement.

Section 6.4 Liability of Representations and Warranties. The parties acknowledge that the individuals named above are named solely for the purpose of defining and narrowing the scope of Seller's and Buyer's knowledge, as applicable, and not for the purpose of imposing any liability on or creating any duties running from such individuals to the counterparty under this Agreement, as applicable. Each of Seller and Buyer covenants that it will bring no action of any kind against such individuals, as applicable, or related to or arising out of these representations and warranties.

Section 6.5 Notice of Breaches of Representations and Warranties. Seller shall promptly notify Buyer in writing of any changed condition, receipt of notice or documentation, or acquired knowledge, that would cause any material inaccuracy of any representation or warranty of Seller contained herein (any such changed condition, received notice or documentation, or acquired knowledge being defined as a "**Changed Condition**"). Buyer shall promptly notify Seller in writing of any material inaccuracy in any representation or warranty of Seller contained herein of which Buyer obtains knowledge (within the meaning of Section 6.3(b)) prior to the Close of Escrow ("**Known Misrepresentation**"). Within three (3) Business Days after either notification in writing by Seller to Buyer of any such Changed Condition or notification by Buyer to Seller of any Known Misrepresentation, Seller, at Seller's own option and expense, may elect by written notice to Buyer to remedy the Changed Condition or Known Misrepresentation such that Seller's representations have no material inaccuracy, and the Closing Date may be extended for up to fifteen (15) calendar days after the scheduled Closing Date in order for Seller to effectuate such remedy. If Seller does not elect to effectuate such remedy so as to cause Seller's representations to have no material inaccuracy, or if Seller so elects but then fails to complete such remedy within such fifteen (15) day period, then Buyer may elect, by written notice to Seller given at any time thereafter, to terminate this Agreement, in which event (i) neither Buyer nor Seller shall have any further obligation under this Agreement, except for the Surviving Obligations, (ii) the Deposit shall be promptly returned to Buyer by Escrow Holder and Seller shall reimburse Buyer for its Transaction Costs, and (iii) if such Changed Condition resulted from Seller's intentional acts or breach of its obligations herein and was not cured by Seller pursuant to the provisions above, then Seller shall be in breach of a material obligation under this Agreement and Buyer shall have the remedies set forth in Section 5.1. If, notwithstanding Seller's election not to effectuate such remedy (or Seller's failure to complete such remedy within such fifteen (15) day period, Buyer elects to consummate the purchase of the Property, Seller shall not be liable to Buyer as a result of any inaccuracy in any representation or warranty of Seller contained herein that results from such Changed Condition or Known Misrepresentation identified in any such written notice from one party to the other.

ARTICLE VII
REPRESENTATIONS AND WARRANTIES OF BUYER

Section 7.1 Buyer's Representations and Warranties. Buyer represents and warrants to Seller the following:

(a) Status. Buyer is a limited liability company duly organized or formed, validly existing and in good standing under the laws of the State of Delaware and is qualified to transact business in the State of California.

(b) Authority. The execution and delivery of this Agreement and the performance of Buyer's obligations hereunder have been or will be duly authorized by all necessary action on the part of Buyer and this Agreement constitutes the legal, valid, and binding obligation of Buyer, subject to equitable principles and principles governing creditors' rights generally.

(c) Non-Contravention. The execution and delivery of this Agreement by Buyer and the consummation by Buyer of the transactions contemplated hereby will not violate any judgment, order, injunction, decree, regulation or ruling of any court or Governmental Entity or conflict with, result in a breach of, or constitute a default under the organizational documents (including any amendments thereto) of Buyer, any note or other evidence of indebtedness, any mortgage, deed of trust or indenture, or any lease or other material agreement or instrument to which Buyer is a party or by which it is bound.

(d) Consents. No consent, waiver, approval, or authorization is required from any Person (that has not already been obtained or, in the case of authorization by Buyer and its direct and indirect members, will be obtained prior to the Closing) in connection with the execution and delivery of this Agreement by Buyer or the performance by Buyer of the transactions contemplated hereby.

(e) Bankruptcy. Buyer has not (i) commenced a voluntary case, or had entered against it a petition, for relief under any federal bankruptcy act or any similar petition, order or decree under any federal or state law or statute relative to bankruptcy, insolvency or other relief for debtors, (ii) caused, suffered or consented to the appointment of a receiver, trustee, administrator, conservator, liquidator or similar official in any federal, state or foreign judicial or non-judicial proceeding, to hold, administer and/or liquidate all or substantially all of its property, or (iii) made an assignment for the benefit of creditors.

(f) Patriot Act. Buyer is in compliance with all applicable anti-money laundering and anti-terrorist laws, regulations, rules, executive orders and government guidance, including the reporting, record keeping and compliance requirements of the Bank Secrecy Act, as amended by The International Money Laundering Abatement and Financial Anti-Terrorism Act of 2001, Title III of the Patriot Act, and other authorizing statutes, executive orders and regulations administered by OFAC, and related Securities and Exchange Commission, SRO or other agency rules and regulations, and has policies, procedures, internal controls and systems that are reasonably designed to ensure such compliance.

(g) OFAC. None of: (i) Buyer, any direct Affiliate of Buyer nor any Person controlled by Buyer; nor (ii) any Person who owns a controlling interest in or otherwise controls Buyer; nor (iii) to the best of knowledge of Buyer, after making due inquiry, if Buyer is a privately held entity, any Person otherwise having a direct or indirect beneficial interest (other than with respect to an interest in a publicly traded entity or beneficiaries of a pension plan that holds indirect interests in Buyer) in Buyer; nor (iv) any Person for whom Buyer is acting as agent or nominee in connection with this investment, is a country, territory, Person, organization, or entity named on an OFAC List, nor is a prohibited country, territory, Person, organization, or entity under any economic sanctions program administered or maintained by OFAC.

ARTICLE VIII
INTERIM OPERATING COVENANTS

Section 8.1 **Buyer-Seller Lease**. The parties acknowledge and agree that, pursuant and subject to the terms of the Buyer-Seller Lease, Seller, as tenant thereunder, shall occupy the Property from and after Closing without interruption. Seller shall have no obligation to remove any personal property or otherwise vacate or discontinue use of the Property upon or after Closing, or to make repairs or improvements to the Property before, upon or following Closing, except as expressly provided in this Agreement or in the Buyer-Seller Lease.

Section 8.2 **Operation of Property**. Seller, from and after the Effective Date up to and including the Closing Date: (i) shall maintain and repair the Property in substantially the same condition as the Property exists as of the Effective Date, reasonable wear and tear excepted; and (ii) shall continue to manage the Property in substantially the same manner as the Property is managed as of the Effective Date and shall not defer maintenance or otherwise change its current operating procedures. Furthermore, from and after the Effective Date up to and including the Closing Date, Seller shall comply with all covenants, conditions, restrictions, easements, rights of way and other rights of third parties relating to the Property. Seller hereby covenants that, from the Effective Date up to and including the Closing Date, without the express prior written consent of Buyer, which may be granted or withheld in Buyer's sole but reasonable discretion, Seller shall not, directly or indirectly, grant or otherwise create, allow, or consent to the creation of any easement, restriction, lien, assessment or encumbrance respecting the Property or the operation at the Property, including without limitation, any lease, license or other contract affecting the Property in any material respect.

Section 8.3 **Insurance**. From and after the Effective Date through the Closing Date, Seller shall carry and maintain in full force and effect, at its sole cost and expense, the policies now in effect, including, without limitation, any fire and extended coverage insurance policies (or substitute policies in equal or greater amounts).

Section 8.4 **Transfers/Leases**. From and after the Effective Date through the Closing Date, Seller shall not sell, assign, or transfer any interest or option in any portion of the Property nor shall Seller enter into any lease, license, occupancy agreement or other agreement, document or instrument permitting any third party to occupy any portion of the Property.

Section 8.5 **Alterations**. From and after the Effective Date to the Closing Date, Seller shall not make or permit any capital improvements (or other improvements and alterations which would require Buyer's consent as "Landlord" under the Buyer-Seller Lease) to any portion of the Property, without the express written consent of Buyer, which may be granted or withheld in Buyer's sole but reasonable discretion.

Section 8.6 **New Contracts**. Seller is not party to and will not enter into any service, supply, equipment rental and/or other service contracts related to the operation of the Property or other contract that will be an obligation affecting the Property or operation at the Property subsequent to Closing, except (i) contracts expressly approved by Buyer in its sole and absolute discretion or entered into in the ordinary course of business that are terminable without cause and without the payment of any termination penalty on not more than thirty (30) days' prior notice, and (ii) contracts that the Seller is either required or permitted to maintain in its own name under the terms of the Buyer-Seller Lease. Seller shall not permit any mortgages, deeds of trust or other encumbrances to be recorded against title to the Property without Buyer's prior written consent, which may be given or withheld in Buyer's sole and absolute discretion.

Section 8.7 **Warranty Transfer**. With respect to any Warranties in effect on the Closing Date, Seller shall: (i) deliver written notice to any party ("**Warrantor**") that is liable for each Warranty that is being assigned to Buyer pursuant to this Agreement that such Warranty is being assigned, (ii) use commercially reasonable efforts to cause the Warrantor to deliver to Seller all forms and other requirements for the assignment of the Warranty, if any ("**Warranty Assignment Package**"), and (iii) execute the necessary documents in the Warranty Assignment Package and take any other actions that are reasonably necessary to assign the respective Warranty in accordance with the procedures of the respective Warrantor. To the extent that any Warranty is not transferred to Buyer at or prior to the Closing as aforesaid, such failure shall not be deemed a default by Seller of this Agreement or otherwise entitle Buyer to terminate this Agreement, but Seller shall continue to use commercially reasonable efforts following the Closing to take actions reasonably necessary to assign the respective Warranty to Buyer and shall enforce any such Warranty on Buyer's behalf at the direction of Buyer. This Section 8.7 shall survive the Closing.

ARTICLE IX
CLOSING AND CONDITIONS

Section 9.1 **Escrow Instructions**. Upon execution of this Agreement, the parties hereto shall deposit an executed counterpart of this Agreement with the Escrow Holder, and this Agreement shall serve as escrow instructions to the Escrow Holder as the escrow holder for consummation of the purchase and sale contemplated hereby. Seller and Buyer agree to execute such reasonable additional and supplementary escrow instructions as may be appropriate to enable the Escrow Holder to comply with the terms of this Agreement; provided, however, that in the event of any conflict between the provisions of this Agreement and any supplementary escrow instructions, the terms of this Agreement shall control.

Section 9.2 **Closing**.

(a) **Closing**. The closing hereunder ("**Closing**" or "**Close of Escrow**") shall be held and delivery of all items to be made at the Closing under the terms of this Agreement shall be made through escrow at Escrow Holder's office on the Closing Date. At least two (2) Business Days prior to the Closing Date, Buyer shall request that the Escrow Holder prepare and deliver to Buyer and Seller a preliminary closing statement (the "**Closing Statement**"). On the Closing Date, Buyer shall deposit in escrow with the Escrow Holder the Purchase Price (subject to adjustments described in Section 9.5), together with all other costs and amounts to be paid by Buyer at the Closing pursuant to the terms of this Agreement, by Federal Reserve wire transfer of immediately available funds to an account to be designated by the Escrow Holder. No later than 3:00 p.m. Pacific Time on the Closing Date and provided all conditions to Closing set forth in Section 9.2(c) have been satisfied, or waived or deemed waived by Buyer, (A) Buyer and Seller will authorize the Escrow Holder to (i) pay to Seller by Federal Reserve wire transfer of immediately available funds to an account designated by Seller, the Purchase Price (subject to adjustments described in Section 9.5), less any costs or other amounts to be paid by Seller at Closing pursuant to the terms of this Agreement and the Closing Statement, and (ii) pay all appropriate payees the other costs and amounts to be paid by Buyer at Closing pursuant to the terms of this Agreement, and (iii) record the Deed and distribute fully-executed copies of all Closing Documents to each of Buyer and Seller, and (B) to otherwise pay to the appropriate payees out of the proceeds of Closing payable to Seller all costs and amounts to be paid by Seller at Closing pursuant to the terms of this Agreement.

(b) **Seller Closing Conditions**. It shall be a condition precedent to Seller's obligation to sell the Property that:

(i) all of Buyer's representations and warranties contained in or made pursuant to this Agreement shall be true and correct in all material respects as of the Closing Date;

(ii) there shall be no material breach of Buyer's covenants and obligations set forth in this Agreement; and

(iii) Buyer shall have delivered the items described in Section 9.4 to Seller or to Escrow Holder, as applicable.

It is understood and agreed that Seller may waive any such condition precedent in Seller's sole and absolute discretion. In the event any such condition is not timely satisfied or waived by Seller, then the same shall be a material breach of this Agreement by Buyer and Seller shall have the remedies set forth in Section 5.2. Buyer hereby covenants that it shall exercise reasonable and diligent efforts to cause the conditions set forth in this Section 9.2(b) and the condition set forth in Section 9.2(c)(iv) below to be fully satisfied by the Closing Date.

(c) **Buyer Closing Conditions**. The following shall each constitute a condition precedent to Buyer's obligation to consummate the Closing hereunder:

(i) all of Seller's representations and warranties contained in or made pursuant to this Agreement shall be true and correct in all material respects as of the Closing Date;

(ii) there shall be no material breach of Seller's covenants and obligations set forth in this Agreement;

(iii) Seller shall have delivered the items described in Section 9.3 to Buyer or to Escrow Holder, as applicable;

(iv) the Title Company shall be unconditionally and irrevocably committed to issue the Title Policy (subject only to the payment of the premium, satisfaction of all requirements set forth in the Title Commitment that are the sole responsibility of Buyer to satisfy [and Buyer's satisfaction of its part of any joint requirements, if any], delivery by Buyer to the Title Company of all documents and instruments requested by the Title Company from Buyer and payment of all other amounts specified in this Agreement to be paid by Buyer) showing no exceptions other than the Permitted Exceptions;

(v) subject to Section 10.1, the Property shall be in substantially the same condition as it existed on the Effective Date, subject to ordinary wear and tear;

(vi) the Development Conditions have been satisfied;

(vii) there is no pending or threatened review or appeal of, and there is no right to review or appeal the Entitlements by any Governmental Entity or Person other than Buyer;

(viii) there is no pending or threatened moratorium on development of the Property; and

(ix) there is no pending or threatened governmental or quasi-governmental action which does not constitute a pending or threatened moratorium (which is addressed in clause (viii) above) which could reasonably be expected to prohibit or delay Buyer's development of the Property.

It is understood and agreed that Buyer may waive any such condition precedent in Buyer's sole and absolute discretion; and Buyer's failing to terminate this Agreement prior to the Closing shall be deemed to constitute Buyer's waiver of such conditions precedents; provided, however, nothing set forth herein shall constitute a waiver of Buyer's post-Closing remedies for any Changed Condition of which Buyer was not deemed to know (within the meaning of Section 6.3) prior to the Closing. In the event any such condition is not timely satisfied or waived by Buyer, then Buyer shall have the right to terminate this Agreement by written notice to Seller and Escrow Holder, in which event, Buyer shall be entitled to the immediate return of the Deposit; provided, however, that, to the extent, any of the condition precedents set forth in sub-sections (i), (ii), (iii), and (v), is not satisfied, Buyer shall also receive a reimbursement of its Transaction Costs. Seller hereby covenants that it shall exercise reasonable and diligent efforts to cause the conditions set forth in this Section 9.2(c) to be fully satisfied by the Closing Date.

Section 9.3 Seller's Closing Documents and Other Items. At or before Closing, Seller shall deposit into escrow the following items:

(a) a duly executed and acknowledged Grant Deed in the form of attached **Exhibit F** (the "**Deed**");

(b) two (2) duly executed counterparts of the Buyer-Seller Lease, one (1) duly executed and acknowledged counterpart of a memorandum of the Buyer-Seller Lease and at least one (1) original of any other agreements, documents or instruments contemplated by the Buyer-Seller Lease to be executed and delivered by Seller, as tenant, in connection therewith;

(c) an executed California Form 593 Real Estate Withholding Certificate;

(d) two (2) duly executed counterparts of a Bill of Sale and Assignment and Assumption Agreement in the form of attached **Exhibit H** (the "**Assignment**");

(e) an affidavit pursuant to Section 1445(b)(2) of the Code, on which Buyer is entitled to rely, that Seller (or, if Seller is a disregarded entity for federal income tax purposes, the person treated as the owner of the Property for such purposes) is not a "foreign person" within the meaning of Section 1445(f)(3) of the Code in the form attached as **Exhibit L** ("**FIRPTA Certificate**");

(f) documentation to establish to the Title Company's satisfaction the due authority of Seller's disposition of the Property and Seller's delivery of the documents required to be delivered by Seller pursuant to this Agreement (including, but not limited to, the organizational documents of Seller, as they may have been amended from time to time, resolutions of Seller and incumbency certificates of Seller);

(g) a duly executed certificate, stating that each of the representations and warranties of Seller set forth in this Agreement are, as of the Closing Date, true and accurate in all material respects, duly authorized and executed by Seller, in the form of attached **Exhibit I** (the "**Seller's Certificate**");

(h) a duly executed title affidavit in the form of **Exhibit K** (the "**Owner's Affidavit**");

(i) if any plats or approvals required in connection with the Entitlements are to be recorded at or immediately after the Closing, the final executed plat or approvals in form for recording according to applicable law;

(j) any consents then-obtained by Seller in order to transfer the Warranties to Buyer, subject to Section 8.7 above;

(k) a counterpart signature to the Closing Statement executed by Seller; and

(l) such other documents as may be reasonably required by the Title Company or as may be agreed upon by Seller and Buyer to consummate the purchase of the Property as expressly contemplated by this Agreement.

Section 9.4 Buyer's Closing Documents and Other Items. At or before Closing, Buyer shall deposit into escrow the following items:

(a) the balance of the Purchase Price, subject to prorations and adjustments set forth in this Agreement, and such additional funds as are necessary to close this transaction;

(b) two (2) duly executed counterparts of the Buyer-Seller Lease, one (1) duly executed and acknowledged counterpart of a memorandum of the Buyer-Seller Lease and at least one (1) original of any other agreements, documents or instruments contemplated by the Buyer-Seller Lease to be executed and delivered by Buyer, as landlord, in connection therewith;

(c) two (2) duly executed counterparts of the Bill of Sale and Assignment;

(d) documentation to establish to Title Company's reasonable satisfaction the due authority of Buyer's acquisition of the Property and Buyer's delivery of the documents required to be delivered by Buyer pursuant to this Agreement (including, but not limited to, the organizational documents of Buyer, as they may have been amended from time to time, resolutions of Buyer and incumbency certificates of Buyer);

(e) a duly executed certificate, stating that each of the representations and warranties of Buyer set forth in this Agreement are, as of the Closing Date, true and accurate in all material respects, duly authorized and executed by Buyer, in the form of attached **Exhibit J** (the "**Buyer's Certificate**");

(f) a counterpart signature to the Closing Statement executed by Buyer;

(g) a duly completed and signed Preliminary Change of Ownership Report (pursuant to California Revenue & Taxation Code Section 480.3) for the Property; and

(h) such other documents as may be reasonably required by the Title Company or as may be agreed upon by Seller and Buyer to consummate the purchase of the Property as contemplated by this Agreement.

Section 9.5 Prorations and Closing Costs.

(a) Real estate and personal property taxes, utilities and all other proratable items shall remain the responsibility of Seller pursuant to the Buyer-Seller Lease and all payments of the same that may be due and payable as of Closing shall remain Seller's responsibility; provided, however, that solely for accounting purposes, all such proratable items paid by Seller upon Closing but attributable to amounts accruing on and after of 12:01 a.m. Pacific Time on the Closing Date shall be credited to Seller's obligation to pay such expenses as the "tenant" under the Buyer-Seller Lease.

(b) Seller shall pay (a) one-half (1/2) of Escrow Holder's escrow fee, (b) the document-drafting and recording charges for the Deed, (c) all city and county documentary transfer taxes required by law, (d) the costs for all title insurance search fees and commitment fees, and all premiums for the Title Policy and costs of any curative endorsements to remove certain disapproved title matters thereto, and (e) the cost of any Seller's Required Removal Items. Buyer shall pay (i) one-half (1/2) of Escrow Holder's escrow fee, (ii) all document-drafting and recording charges for any loan documents for Buyer, (iii) the cost of all third party studies and reports obtained by Buyer in connection with Buyer's inspections and investigation, (iv) the cost for any Title Policy endorsements requested by Buyer, and (v) any other costs customarily charged Buyers in the City of Carlsbad. If Escrow fails to close due to either Party's default, then defaulting Party shall pay all Escrow cancellation and title charges. If Escrow fails to close for any reason other than the foregoing, Buyer and Seller shall each pay one-half (½) of all Escrow cancellation and title charges, which means all fees, charges and expenses incurred by Escrow Holder, including all expenses incurred in connection with issuance of the Preliminary Report and other title matters. All other closing costs shall be allocated as is customary in the City of Carlsbad. Except as expressly set forth otherwise in this Agreement, each Party shall pay its own legal fees.

Section 9.6 **Brokers**. Buyer and Seller covenant and represent to each other that, to their knowledge, there is no party entitled to a real estate commission, finder's fee, cooperation fee, or other brokerage-type fee or similar compensation in connection with this Agreement and the transactions contemplated hereby other than CBRE, Inc. Each party agrees to defend, indemnify, and hold the other party, its employees, representatives and agents safe and harmless from and against any and all such Claims from any other broker, agent, individual or entity claiming by or though the indemnifying party.

Section 9.7 **Expenses**. Except as provided in Sections 9.5 and 9.6, each party hereto shall pay its own expenses incurred in connection with this Agreement and the transactions contemplated hereby, including, without limitation in the case of Buyer, all third-party engineering and environmental review costs and all other due diligence costs.

Section 9.8 **Tax Protests; Tax Refunds and Credits**. Seller shall have the right to control the progress of and to make all decisions with respect to any contest of the real estate taxes and personal property taxes for the Real Property due and payable during all tax years through and including the tax year in which the Closing occurs (the "**Closing Tax Year**"); provided Seller shall keep Buyer fully informed regarding the status of any contest with respect to the taxes attributable to such period. To the extent any real estate or personal property tax refunds or credits are received after Closing with respect to the Property and such refunds or credits are attributable to real estate and personal property taxes paid for any tax year prior to and including the Closing Tax Year, Seller shall be entitled to the entirety of such refunds and credits. Any contest of the real estate taxes and personal property taxes for the Property due and payable for all years subsequent to the Closing Tax Year, and any real estate or personal property tax refunds or credits attributable to such period, shall be governed by the terms of the Buyer-Seller Lease.

ARTICLE X
CASUALTY AND CONDEMNATION

Section 10.1 **Casualty**. If all or any part of the Property is damaged by fire or other casualty occurring after the Effective Date and prior to Closing, whether or not such damage affects a material part of such Property, then:

(a) Notice. Seller shall provide written notice thereof to Buyer within three (3) days of such fire or casualty. In addition, Seller shall promptly notify Buyer of the estimated cost to repair as determined by a licensed architect or general contractor selected by Seller and reasonably approved by Buyer (the "**Cost Estimator**").

(b) Assignment of Insurance; Repairs. In the event Buyer elects not to terminate this Agreement (or fails to timely give Seller notice of a termination) pursuant Section 10.1(c) below, the parties shall consummate this transaction in accordance with this Agreement, without any abatement of the Purchase Price or any liability or obligation on the part of Seller by reason of said destruction or damage. In such event, Seller shall assign to Buyer any casualty insurance proceeds payable under Seller's casualty insurance policies (including, without limitation, business interruption proceeds applicable to the period of time from and after the Closing Date), if any, in effect with respect to the Property on account of said physical damage or destruction, and Seller shall cooperate with Buyer with initiating and pursuing any such claim. In addition to assigning all rights under and proceeds payable under casualty insurance policies with respect to such damage and destruction, Seller shall also pay to Buyer an amount equal to any "deductible" under such policies. Other than remedying unsafe conditions at the Property, Seller shall not remedy or repair any damage or destruction on account of such fire or casualty without the consent of Buyer, which consent shall not be unreasonably withheld or delayed, and the amount spent by Seller to remedy or repair the condition consented to by Buyer shall be deducted from the insurance proceeds otherwise made available to Buyer. Notwithstanding the foregoing, should the casualty not have been repaired prior to Closing then any proceeds of insurance with respect to such casualty actually received by Seller shall be promptly given to Buyer.

(c) (i) Termination Right. Following a material casualty event, Buyer shall have the right to terminate this Agreement by giving a written notice of termination to Seller within ten (10) Business Days after Buyer receives a written estimate of the casualty or the estimated time to repair and cost to repair and/or replace the damage caused by the casualty, obtained pursuant to Section 10.2 below. In the event of any termination by Buyer pursuant to this Section 10.1(c)(c), then the Deposit, shall be promptly returned to Buyer by Escrow Holder, and this Agreement shall be and become null and void, and neither Party shall have any further rights or obligations hereunder, except for the Surviving Obligations. As used in this Section 10.1, a "material casualty event" means a casualty resulting in a cost to repair that is in excess of three percent (3%) of the Purchase Price.

(ii) If Buyer does not timely give Seller notice of a termination pursuant Section 10.1(c), then Buyer shall be deemed to have waived its right contained in Section 10.1(c)(i) to terminate this Agreement, and Buyer's obligations under this Agreement shall remain in effect notwithstanding such casualty.

Section 10.2 Time for Repair. The estimated cost to repair and/or restore and the estimated time to complete such repairs contemplated in Section 10.1 shall be established by estimates obtained by independent contractors retained by Seller, subject to the reasonable approval of Buyer. The Closing Date may be extended up to a maximum extension of thirty (30) calendar days as reasonably required to obtain such estimates and give the notices required under this Article X, and up to an additional sixty (60) days to determine the availability and amount of insurance proceeds available for such repairs. Seller and Buyer shall cooperate and exercise due diligence to obtain damage estimation and insurance proceeds.

Section 10.3 Condemnation. If, prior to Closing, any part of the Property is taken or if Seller shall receive notice from any Governmental Entity having eminent domain power over all or any part of the Property of its intention to take, by eminent domain proceeding, any material part of the Property (a "**Taking**"), then Buyer shall have the option, exercisable within twenty (20) days after receipt of written notice of such Taking, (and if necessary, Closing Date shall be extended to give the full period to make such election) time being of the essence, to terminate this Agreement by delivering notice thereof to Seller (a copy of such notice of termination shall be given to Escrow Holder), whereupon the Deposit shall be promptly returned to Buyer by Escrow Holder and this Agreement shall be deemed canceled and of no further force or effect, and neither Party shall have any further rights or liabilities against or to the other except for the Surviving Obligations. If a Taking shall occur and Buyer shall fail to terminate this Agreement in a timely fashion, then Buyer and Seller shall consummate this transaction in accordance with this Agreement, without any abatement of the Purchase Price or any liability or obligation on the part of Seller by reason of such Taking; provided, however, Seller shall (i) assign and remit to Buyer the full amount of any award or other proceeds of such Taking which may have been collected by Seller as a result of such Taking, or (ii) if no award or other proceeds shall have been collected, deliver to Buyer an assignment of Seller's right to any such award or other proceeds which may be payable to Seller as a result of such Taking.

ARTICLE XI
MISCELLANEOUS

Section 11.1 **Amendment and Modification**. Subject to applicable law, this Agreement may be amended, modified, or supplemented only by a written agreement signed by the party against whom enforcement is sought.

Section 11.2 **Notices**. All notices required or permitted hereunder shall be in writing and shall be served on the parties at the following address(es):

If to Seller: Ionis Pharmaceuticals, Inc.
2855 Gazelle Ct.
Attention: General Counsel
Email: [***]

with a copy to: Cooley LLP
4401 Eastgate Mall
San Diego, CA 92121
Attention: David Crawford
Email: [***]

If to Buyer: c/o Oxford Properties Group
125 Summer Street, 12th Floor
Boston, MA 02110
Attn: Kristen Binck
Email: [***]

With a copy to: c/o Oxford Properties Group
450 Park Avenue, 9th Floor
New York, NY 10022
Attn: Legal Department
Email: [***]

With a copy to: DLA Piper LLP (US)
33 Arch Street, 26th Floor
Boston, MA 02110
Attn: John L. Sullivan, Esq.
Email: [***]

If to Escrow Holder: First American Title Insurance Company
4380 La Jolla Drive
Suite 110
San Diego, CA 92122
Attn: [***]

Any such notices may be sent by (a) certified mail, return receipt requested, in which case notice shall be deemed delivered upon actual or attempted but refused delivery, (b) a nationally recognized overnight courier, in which case notice shall be deemed delivered upon actual or attempted but refused delivery, (c) personal delivery, in which case notice shall be deemed delivered upon actual or attempted but refused delivery, or (d) Email transmission. The above addresses and Email addresses may be changed by written notice to the other party; provided that no notice of a change of address or Email address shall be effective until actual receipt of such notice.

Section 11.3 Assignment. Buyer shall not have the right to assign this Agreement, without the prior written consent of Seller, in its sole and absolute discretion. Notwithstanding the foregoing, Buyer may assign its interests herein (in whole or in part) to an Affiliate upon written notice to Seller (delivered, via email transmission, at least five (5) Business Days prior to the scheduled Closing Date), and assumption by such assignee of Buyer's obligations hereunder, provided that such assignment will not relieve the original Buyer of its obligations hereunder until the Closing. This Agreement will be binding upon and inure to the benefit of Seller and Buyer and their respective successors and permitted assigns, and no other party will be conferred any rights by virtue of this Agreement or be entitled to enforce any of the provisions hereof. Whenever a reference is made in this Agreement to Seller or Buyer, such reference will include the successors and permitted assigns of such party under this Agreement.

Section 11.4 Governing Law and Consent to Jurisdiction. **THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF CALIFORNIA, WITHOUT REGARD TO ANY OTHERWISE APPLICABLE PRINCIPLES OF CONFLICTS OF LAWS. ANY ACTION ARISING OUT OF THIS AGREEMENT MUST BE COMMENCED BY BUYER OR SELLER IN THE STATE COURTS OF THE STATE OF CALIFORNIA OR IN U.S. FEDERAL COURTS HAVING JURISDICTION OVER THE STATE OF CALIFORNIA AND EACH PARTY HEREBY CONSENTS TO THE JURISDICTION OF THE ABOVE COURTS IN ANY SUCH ACTION AND TO THE LAYING OF VENUE IN THE STATE OF CALIFORNIA**.

Section 11.5 Counterparts; Electronic Signatures. This Agreement may be executed in counterparts, each of which shall be deemed an original, but such counterparts, when taken together, shall constitute one agreement. This Agreement may be executed by a Party's signature transmitted by email, and copies of this Agreement executed and delivered by means of emailed signatures shall have the same force and effect as copies hereof executed and delivered with original signatures. All parties hereto may rely upon emailed signatures (including signatures in Portable Document Format) as if such signatures were originals. All parties hereto agree that an emailed signature page may be introduced into evidence in any proceeding arising out of or related to this Agreement as if it were an original signature page.

Section 11.6 Entire Agreement. This Agreement and any other document (including, without limitation, non-disclosure agreements executed by Buyer and/or its Affiliates, investors, and other related parties with respect to the transactions contemplated by this Agreement) to be furnished pursuant to the provisions hereof embody the entire agreement and understanding of the parties hereto as to the subject matter contained herein. There are no restrictions, promises, representations, warranties, covenants, or undertakings other than those expressly set forth or referred to in such documents. This Agreement and such documents (including, without limitation, non-disclosure agreements executed by Buyer and/or its Affiliates, investors, and other related parties with respect to the transactions contemplated by this Agreement) supersede all prior agreements and understandings among the parties with respect to the subject matter hereof.

Section 11.7 Severability. Any term or provision of this Agreement that is invalid or unenforceable in any jurisdiction will, as to such jurisdiction, be ineffective to the extent of such invalidity or unenforceability without rendering invalid or unenforceable the remaining terms and provisions of this Agreement or affecting the validity or enforceability of any of the terms or provisions of this Agreement.

Section 11.8 Attorney Fees. If any action is brought by any party to this Agreement to enforce or interpret its terms or provisions, the prevailing party (whether by final judgment or out of court settlement) will be entitled to reasonable out of pocket third-party attorney fees and costs and expenses of suit incurred in connection with such action prior to and at trial and on any appeal therefrom. Any judgment or order entered in any final judgment shall contain a specific provision providing for the recovery of all costs and expenses of suit, including reasonable out of pocket third-party attorneys' fees (collectively "**Costs**") incurred in enforcing, perfecting and executing such judgment. For the purposes of this paragraph, Costs shall include, without limitation, reasonable out of pocket third-party attorneys' fees, costs and expenses incurred in (i) post-judgment motions, (ii) contempt proceeding, (iii) garnishment, levy, and debtor and third party examination, (iv) discovery, and (v) bankruptcy litigation.

Section 11.9 Payment of Fees and Expenses. Each party to this Agreement will be responsible for, and will pay, all of its own fees and expenses, including those of its counsel and accountants, incurred in the negotiation, preparation, and consummation of this Agreement and the transaction contemplated hereunder.

Section 11.10 No Joint Venture. Nothing set forth in this Agreement shall be construed to create a joint venture between Buyer and Seller.

Section 11.11 JUDICIAL REFERENCE. IT IS THE DESIRE AND INTENTION OF THE PARTIES TO AGREE UPON A MECHANISM AND PROCEDURE UNDER WHICH CONTROVERSIES AND DISPUTES ARISING OUT OF THE AGREEMENT, AS AMENDED, OR RELATED TO THE PROPERTY WILL BE RESOLVED IN A PROMPT AND EXPEDITIOUS MANNER. ACCORDINGLY, ANY ACTION, PROCEEDING OR COUNTERCLAIM BROUGHT BY EITHER PARTY HERETO AGAINST THE OTHER (AND/OR AGAINST ITS OFFICERS, DIRECTORS, EMPLOYEES, AGENTS OR SUBSIDIARIES OR AFFILIATED ENTITIES) ON ANY MATTERS WHATSOEVER ARISING OUT OF OR IN ANY WAY CONNECTED WITH THIS AGREEMENT, AS AMENDED, ANY CLAIM OF INJURY OR DAMAGE, WHETHER SOUNDING IN CONTRACT, TORT, OR OTHERWISE, SHALL BE HEARD AND RESOLVED BY A REFEREE UNDER THE PROVISIONS OF THE CALIFORNIA CODE OF CIVIL PROCEDURE, SECTIONS 638 — 645.1, INCLUSIVE (AS SAME MAY BE AMENDED, OR ANY SUCCESSOR STATUTE(S) THERETO) (THE "**REFEREE SECTIONS**"). ANY FEE TO INITIATE THE JUDICIAL REFERENCE PROCEEDINGS AND ALL FEES CHARGED AND COSTS INCURRED BY THE REFEREE SHALL BE PAID BY THE PARTY INITIATING SUCH PROCEDURE (EXCEPT THAT IF A REPORTER IS REQUESTED BY EITHER PARTY, THEN A REPORTER SHALL BE PRESENT AT ALL PROCEEDINGS WHERE REQUESTED AND THE FEES OF SUCH REPORTER – EXCEPT FOR COPIES ORDERED BY THE OTHER PARTIES – SHALL BE BORNE BY THE PARTY REQUESTING THE REPORTER); PROVIDED HOWEVER, THAT ALLOCATION OF THE COSTS AND FEES, INCLUDING ANY INITIATION FEE, OF SUCH PROCEEDING SHALL BE ULTIMATELY DETERMINED IN ACCORDANCE WITH THIS SECTION. THE VENUE OF THE PROCEEDINGS SHALL BE IN THE COUNTY IN WHICH THE PROPERTY IS LOCATED. WITHIN TEN (10) DAYS OF RECEIPT BY ANY PARTY OF A WRITTEN REQUEST TO RESOLVE ANY DISPUTE OR CONTROVERSY PURSUANT TO THIS SECTION 13, THE PARTIES SHALL AGREE UPON A SINGLE REFEREE WHO SHALL TRY ALL ISSUES, WHETHER OF FACT OR LAW, AND REPORT A FINDING AND JUDGMENT ON SUCH ISSUES AS REQUIRED BY THE REFEREE SECTIONS. IF THE PARTIES ARE UNABLE TO AGREE UPON A REFEREE WITHIN SUCH TEN (10) DAY PERIOD, THEN ANY PARTY MAY THEREAFTER FILE A LAWSUIT IN THE COUNTY IN WHICH THE PROPERTY IS LOCATED FOR THE PURPOSE OF APPOINTMENT OF A REFEREE UNDER THE REFEREE SECTIONS. IF THE REFEREE IS APPOINTED BY THE COURT, THE REFEREE SHALL BE A NEUTRAL AND IMPARTIAL RETIRED JUDGE WITH SUBSTANTIAL EXPERIENCE IN THE RELEVANT MATTERS TO BE DETERMINED, FROM JAMS, THE AMERICAN ARBITRATION ASSOCIATION OR SIMILAR MEDIATION/ARBITRATION ENTITY. THE PROPOSED REFEREE MAY BE CHALLENGED BY ANY PARTY FOR ANY OF THE GROUNDS LISTED IN THE REFEREE SECTIONS. THE REFEREE SHALL HAVE THE POWER TO DECIDE ALL ISSUES OF FACT AND LAW AND REPORT HIS OR HER DECISION ON SUCH ISSUES, AND TO ISSUE ALL RECOGNIZED REMEDIES AVAILABLE AT LAW OR IN EQUITY FOR ANY CAUSE OF ACTION THAT IS BEFORE THE REFEREE, INCLUDING AN AWARD OF ATTORNEYS' FEES AND COSTS IN ACCORDANCE WITH THIS AGREEMENT, AS AMENDED. THE REFEREE SHALL NOT, HOWEVER, HAVE THE POWER TO AWARD PUNITIVE DAMAGES, NOR ANY OTHER DAMAGES WHICH ARE NOT PERMITTED BY THE EXPRESS PROVISIONS OF THE AGREEMENT, AS AMENDED, AND THE PARTIES HEREBY WAIVE ANY RIGHT TO RECOVER ANY SUCH DAMAGES. THE PARTIES SHALL BE ENTITLED TO CONDUCT ALL DISCOVERY AS PROVIDED IN THE CALIFORNIA CODE OF CIVIL PROCEDURE, AND THE REFEREE SHALL OVERSEE DISCOVERY AND MAY ENFORCE ALL DISCOVERY ORDERS IN THE SAME MANNER AS ANY TRIAL COURT JUDGE, WITH RIGHTS TO REGULATE DISCOVERY AND TO ISSUE AND ENFORCE SUBPOENAS, PROTECTIVE ORDERS AND OTHER LIMITATIONS ON DISCOVERY AVAILABLE UNDER CALIFORNIA LAW. THE REFERENCE PROCEEDING SHALL BE CONDUCTED IN ACCORDANCE WITH CALIFORNIA LAW (INCLUDING THE RULES OF EVIDENCE), AND IN ALL REGARDS, THE REFEREE SHALL FOLLOW CALIFORNIA LAW APPLICABLE AT THE TIME OF THE REFERENCE PROCEEDING. THE PARTIES SHALL PROMPTLY AND DILIGENTLY COOPERATE WITH ONE ANOTHER AND THE REFEREE AND SHALL PERFORM SUCH ACTS AS MAY BE NECESSARY TO OBTAIN A PROMPT AND EXPEDITIOUS RESOLUTION OF THE DISPUTE OR CONTROVERSY IN ACCORDANCE WITH THE TERMS OF THIS SECTION. IN THIS REGARD, THE PARTIES AGREE THAT THE PARTIES AND THE REFEREE SHALL USE BEST EFFORTS TO ENSURE THAT (A) DISCOVERY BE CONDUCTED FOR A PERIOD NO LONGER THAN SIX (6) MONTHS FROM THE DATE THE REFEREE IS APPOINTED, EXCLUDING MOTIONS REGARDING DISCOVERY, AND (B) A TRIAL DATE BE SET WITHIN NINE (9) MONTHS OF THE DATE THE REFEREE IS APPOINTED. IN ACCORDANCE WITH SECTION 644 OF THE CALIFORNIA CODE OF CIVIL PROCEDURE, THE DECISION OF THE REFEREE UPON THE WHOLE ISSUE MUST STAND AS THE DECISION OF THE COURT, AND UPON THE FILING OF THE STATEMENT OF DECISION WITH THE CLERK OF THE COURT, OR WITH THE JUDGE IF THERE IS NO CLERK, JUDGMENT MAY BE ENTERED THEREON IN THE SAME MANNER AS IF THE ACTION HAD BEEN TRIED BY THE COURT. ANY DECISION OF THE REFEREE AND/OR JUDGMENT OR OTHER ORDER ENTERED THEREON SHALL BE APPEALABLE TO THE SAME EXTENT AND IN THE SAME MANNER THAT SUCH DECISION, JUDGMENT, OR ORDER WOULD BE APPEALABLE IF RENDERED BY A JUDGE OF THE SUPERIOR COURT IN WHICH VENUE IS PROPER HEREUNDER. THE REFEREE SHALL IN HIS/HER STATEMENT OF DECISION SET FORTH HIS/HER FINDINGS OF FACT AND CONCLUSIONS OF LAW. THE PARTIES INTEND THIS GENERAL REFERENCE AGREEMENT TO BE SPECIFICALLY ENFORCEABLE IN ACCORDANCE WITH THE CODE OF CIVIL PROCEDURE. NOTHING IN THIS SECTION SHALL PREJUDICE THE RIGHT OF ANY PARTY TO OBTAIN PROVISIONAL RELIEF OR OTHER EQUITABLE REMEDIES FROM A COURT OF COMPETENT JURISDICTION AS SHALL OTHERWISE BE AVAILABLE UNDER THE CODE OF CIVIL PROCEDURE AND/OR APPLICABLE COURT RULES.

Section 11.12 Time of Essence. Time is of the essence of this Agreement. If the deadline for performance of any act hereunder shall fall on a day that is not a Business Day, the deadline for such performance shall be deemed to be the next Business Day following such day.

Section 11.13 No Waiver. No waiver of any of the provisions of this Agreement shall be deemed, or shall constitute, a waiver of any other provision, whether or not similar, nor shall any waiver constitute a continuing waiver, nor shall a waiver in any instance constitute a waiver in any subsequent instance. No waiver shall be binding unless executed in writing by the Party making the waiver.

Section 11.14 Not an Offer. The preparation or distribution of drafts hereof by one party to the other shall not be deemed to constitute an offer and this Agreement shall only become binding and enforceable upon execution hereof by both parties.

Section 11.15 No Third Party Beneficiaries. Nothing in this Agreement is intended to benefit any third party, or create any third party beneficiary.

Section 11.16 Exculpation. Except as expressly set forth in this Agreement, (a) Seller's shareholders, partners, members, the partners or members of such partners or members, the shareholders of such partners or members, and the trustees, officers, directors, employees, agents and security holders of Seller and the partners or members of Seller assume no personal liability for any obligations entered into on behalf of Seller and its individual assets shall not be subject to any claims of any person relating to such obligations, (b) Buyer's shareholders, partners, members, the partners or members of such partners or members, the shareholders of such partners or members, and the trustees, officers, directors, employees, agents and security holders of Buyer and the partners or members of Buyer assume no personal liability for any obligations entered into on behalf of Buyer and their individual assets shall not be subject to any claims of any person relating to such obligations. The foregoing shall govern any direct and indirect obligations of Seller under this Agreement. The provisions of this Section 11.16 shall survive the Closing or any termination of this Agreement.

[**Balance of Page Intentionally Left Blank; signatures follow**]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed as of the day and year first above written.

SELLER:

IONIS PHARMACEUTICALS, INC.,
a Delaware corporation

By: /s/Elizabeth L. Hougen
Name: Elizabeth L. Hougen
Title: EVP & CFO

BUYER:

OXFORD I ASSET MANAGEMENT USA INC.,
a Delaware corporation

By: /s/Brian Barriero
Name: Brian Barriero
Title: Vice President, Operations

By: /s/Kristen E. Binck
Name: Kristen E. Binck
Title: Vice President

[Signature Page - Build to Suite -Purchase & Sale Agreement, Lots 21 & 22]

JOINDER BY ESCROW HOLDER:

The Escrow Holder is executing this Agreement to evidence its agreement to act as escrow agent in accordance with the terms and conditions of this Agreement, including, without limitation, Section 3.4.

FIRST AMERICAN TITLE INSURANCE COMPANY

By: /s/Lynn Graham
Name: Lynn Graham
Its: Escrow Officer

EXHIBIT A

Description of Real Property

The real property in the City of Carlsbad, County of San Diego, State of California, described as follows:

TRACT TWO:

LOTS 21 AND 22 OF CARLSBAD TRACT NO. 97-13-03, CARLSBAD OAKS NORTH PHASE 3, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 16145, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, OCTOBER 13, 2016 AS DOCUMENT NO. 2016-7000438 OF OFFICIAL RECORDS.

APN : 209-120-23-00 (Affects Lot 21 of Tract Two)
APN : 209-120-24-00 (Affects Lot 22 of Tract Two)

EXHIBIT B

List of Due Diligence Items

[***]

EXHIBIT C

Disclosure Items

Any item disclosed in any particular part of this **Exhibit C** will be deemed to be disclosed with respect to any other section and paragraph of Article VI of the Agreement to the extent its relevance or appropriateness is reasonably apparent from the context in which it is presented and to the extent of any cross-references and the like.

This **Exhibit C** and the information and disclosures contained in this **Exhibit C** are intended only to qualify and limit, and otherwise respond to requests for disclosures contained in, the representations and warranties of Seller contained in the Agreement and shall not be deemed to create any covenant. Any description of any document included in this **Exhibit C** is a summary only and is qualified in its entirety by the specific terms of such referenced document.

None.

EXHIBIT D

Preliminary Title Report

[To be attached]

EXHIBIT E

Warranties

None.

EXHIBIT F

Form of Deed

RECORDING REQUESTED BY
AND WHEN RECORDED MAIL TO:

[_____]
[_____]
[_____]

APN:
The undersigned grantor(s) declare(s)
Documentary transfer tax is $
( ) computed on full value of property conveyed, or
( ) computed on full value less value of liens or encumbrances remaining at time of sale,
( ) Unincorporated Area (X) City of Carlsbad

GRANT DEED

FOR VALUE RECEIVED, **IONIS PHARMACEUTICALS, INC.**, a Delaware corporation, ("***Grantor***"), grants to _____("***Grantee***"), all that certain real property (the "***Property***") situated in the City of Carlsbad, County of San Diego, State of California, described on Exhibit A attached hereto and by this reference incorporated herein. This conveyance is made subject and subordinate to all matters set forth on Exhibit B attached hereto.

IN WITNESS WHEREOF, the undersigned has executed this Grant Deed dated as of ____, 202__.

IONIS PHARMACEUTICALS, INC.,
a Delaware corporation

By: _____
Name: _____
Title: _____

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT CIVIL CODE §1189

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }
}
County of San Diego }

On _____, before me, _____, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

(Notary Seal)

_____

Signature of Notary Public

EXHIBIT A
LEGAL DESCRIPTION

The real property in the City of Carlsbad, County of San Diego, State of California, described as follows:

TRACT TWO:

LOTS 21 AND 22 OF CARLSBAD TRACT NO. 97-13-03, CARLSBAD OAKS NORTH PHASE 3, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 16145, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, OCTOBER 13, 2016 AS DOCUMENT NO. 2016-7000438 OF OFFICIAL RECORDS.

APN : 209-120-23-00 (Affects Lot 21 of Tract Two)
APN : 209-120-24-00 (Affects Lot 22 of Tract Two)

EXHIBIT B

Permitted Exceptions

1. General and special taxes and assessments for the fiscal year 2022-2023, a lien not yet due or payable.

   Affects APNs: 209-120-23-00 and 209-120-24-00

2. The lien of special tax for the following community facilities district, which tax is collected with the county taxes, a lien not yet due and payable.
   District: Carlsbad CFD #3 IMP 2

3. The lien of supplemental taxes, if any, assessed pursuant to Chapter 3.5 commencing with Section 75 of the California Revenue and Taxation Code, resulting from changes in ownership or completion of construction on or after the date of the policy.

4. The terms and provisions contained in the document entitled "Notice of Restriction on Real Property" recorded November 9, 2004 as Instrument No. 2004-1066056 of Official Records.

5. The terms and provisions contained in the document entitled "Notice and Waiver Concerning Proximity of the Planned or Existing Palomar Airport Road and Melrose Drive Transportation Corridors Case No: CT 97-13" recorded November 9, 2004 as Instrument No. 2004-1066058 of Official Records.

6. The terms and provision contained in the document entitled "Hold Harmless Agreement Drainage" recorded December 15, 2004 as Instrument No. 2004-1180067 of Official Records.

7. The terms and provision contained in the document entitled "Hold Harmless Agreement Geological Failure" recorded December 15, 2004 as Instrument No. 2004-1180068 of Official Records.

8. Covenants, conditions, restrictions, easements, assessments, liens, charges, terms and provision in the document entitled "Declaration of Covenants, Conditions and Restrictions for Carlsbad Oaks North Business Park" recorded February 5, 2007 as Instrument No. 2007-0081082 of Official Records, which provide that a violation thereof shall not defeat or render invalid the lien of any first mortgage or deed of trust made in good faith and for value, but deleting any covenant, condition or restriction indicating a preference, limitation or discrimination based on race, color, religion, sex, handicap, familial status, national origin, sexual orientation, marital status, ancestry, source of income or disability, to the extent such covenants, conditions or restrictions violate Title 42, Section 3604©, or the United States Codes. Lawful restrictions under state and federal law on the age of occupants in senior housing or housing for older persons shall not be construed as restrictions based on familial status.

Documents declaring modification thereof in document entitled “First Amendment to Declaration of Covenants, Conditions, and Restrictions for Carlsbad Oaks North Business Park”, recorded March 20, 2013 as Instrument No. 2013-0175873 of Official Records.

A declaration of annexation entitled “Declaration of Annexation to Declaration of Covenants, Conditions and Restrictions for Carlsbad Oaks North Business Park”, recorded October 25, 2016 as Instrument No. 2016-0576403 of Official Records.

9. The terms and provisions contained in the document entitled “Hold Harmless Agreement Drainage” recorded September 2, 2016 as Instrument No. 2016-0460153 of Official Records.

10. The terms and provisions contained in the document entitled “Hold Harmless Agreement Geological Failure” recorded September 2, 2016 as Instrument No. 2016-0460154 of Official Records.

11. Abutter’s rights of ingress and egress to or from Whiptail Loop except at access opening have been dedicated or relinquished on the map of Carlsbad Tract No. 97-13-03 of Tract Maps recorded as Map No. 16145.

12. The terms, provisions and easement(s) contained in the document entitled “Easement and Maintenance Agreement” recorded October 01, 2018 as Instrument No. 2018-407532 of Official Records.

EXHIBIT G-1

Form of First Right Agreement
FIRST RIGHT AGREEMENT

THIS FIRST RIGHT AGREEMENT (this **"Agreement"**) is effective as of _____ __, 20___ ("**Effective Date**"), by and between IONIS PHARMACEUTICALS, INC., a Delaware corporation ("**Owner**"), and [OXFORD], a Delaware limited liability company ("**Offeree**"). Owner and Offeree are sometimes hereinafter individually or collectively called a "**Party**" or the "**Parties**".

RECITALS

A. Owner owns the real property and associated improvements thereon in Carlsbad, California, more particularly described on Exhibit A attached hereto (the "**Property**").

B. Owner and Offeree had previously entered into a purchase and sale agreement with respect to the Property (the "**Prior PSA**"), and the transaction contemplated under such purchase and sale agreement did not close as contemplated therein. As a result thereof, the Parties have entered into this Agreement to provide Offeree with certain rights with respect to the Property if Owner desires to Transfer (as hereinafter defined) all or substantially all of the Property or any direct or indirect interest therein, subject to the terms, conditions and limitations set forth herein.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing recitals, which are hereby incorporated with the same force and effect as if contained in this Agreement below, and other valuable consideration, the receipt of which are hereby acknowledged, Owner hereby grants to Offeree the rights with respect to the Property as follows:

Section 1.1. The all cash gross purchase price, chosen by Owner in its sole and absolute discretion, at which Owner desires to offer the Property for sale or other transfer on a free and clear basis (the "**ROFO Price**"). A ROFO Notice shall constitute an irrevocable offer by the Owner to sell or otherwise transfer its entire interest in the Property to Offeree or its assignee for the ROFO Price, free and clear of all encumbrances. For the avoidance of doubt, the right of first offer described in this Section 1 shall not apply to any Excluded Transfer. Within thirty (30) days after receiving the ROFO Notice ("**ROFO Expiration Date**"), Offeree shall send Owner written notice stating either (i) that Offeree waives its rights under this Section 1 or (ii) Offeree accepts the ROFO Notice (the "**ROFO Acceptance Notice**"). If Offeree sends a ROFO Acceptance Notice, the parties shall use good faith efforts to negotiate the terms on which Offeree shall acquire the Property (or the direct or indirect interests therein), other than the purchase price, which shall be the ROFO Price, and shall enter into a purchase and sale agreement substantially similar to Prior PSA. If Offeree waives its rights with respect to the ROFO Notice or fails to provide a ROFO Acceptance Notice on or prior to the ROFO Expiration Date, or does not execute a purchase and sale agreement for the Property within sixty (60) days of its delivery of a ROFO Acceptance Notice, then Owner shall be free to Transfer (as hereinafter defined) the Property (or any interests therein) to any third party, subject to the terms of Section 2 of this Agreement. **Grant of Right of First Refusal**. **Sale or Transfer of Property**. Offeree shall have a right of first refusal to purchase or otherwise acquire Owner's interest in the Property (whether direct or indirect and whether by deed or ground lease or otherwise), subject to and in accordance with the terms and conditions set forth in this Section 2 (the "**ROFR**"). For the avoidance of doubt, the ROFR and the provisions of this Section 2 shall not apply to any Excluded Transfer.

Section 2.2. **Offer Notice**. Before Owner enters into any contract or consummates any transaction that would, whether in one transaction or a series of related transactions, result in the direct or indirect sale, transfer, or conveyance of the fee simple title in and to all or substantially all of the Property (or any parcel comprising the Property) or the legal or beneficial interest therein to a bona fide third party purchaser for value, whether by deed or ground lease or indirect entity transfer (each, a "**Transfer**"), Owner shall first afford Offeree the opportunity to purchase or ground lease, as applicable, the Property in accordance with the provisions of this Section 2 by delivering a written offer notice thereof to Offeree (the "**Offer Notice**") containing the following: (1) the cash purchase price (the "**Price**") that Owner will accept for the Property, provided that (i) if the Price is in excess of the purchase price proposed to be paid by Offeree under the Prior PSA (the "**Prior Price**"), then the purchase price to be paid by Offeree shall be the Prior Price and (ii) if the Price is less than the Prior Price, then the purchase price to be paid by Offeree shall be the Price; (2) the amount of any earnest money deposit required to be deposited into escrow by Offeree; (3) the length of the contingency period at the expiration of which the earnest money deposit will become non-refundable (other than with respect to Owner defaults, failures of conditions precedent in favor of the Offeree and casualty or condemnation provisions); and (4) the proposed outside closing date for the closing of the subject transaction (collectively (1) – (4), the "**Material Terms**").

Section 2.3. **Acceptance Notice**. Within ten (10) business days after receiving the Offer Notice ("**Expiration Date**"), Offeree shall send Owner and Escrow Agent (as defined in Section 7 below) written notice stating either (i) that Offeree waives its rights under this Section 2 (subject to Section 2.4 below) or (ii) Offeree accepts the Offer Notice (the "**Acceptance Notice**"). If Offeree sends an Acceptance Notice, then the parties will commence to negotiate the terms on which Offeree would acquire the Property or the interests therein, other than the Material Terms included in the Offer Price, and shall enter into a purchase and sale agreement substantially similar to Prior PSA.

Section 2.4. **Re-Offer Procedure**. If Offeree waives its rights with respect to the Offer Notice or fails to provide an Acceptance Notice on or prior to the Expiration Date or does not execute a purchase and sale agreement for the Property within sixty (60) days of its delivery of an Acceptance Notice, then the Offer Notice shall be deemed to have no further force or effect and Owner shall be free to Transfer the Property (or the interests therein) to any third party, *provided* that, if (a) Owner reduces the gross Price to an amount less than the gross Price set forth in the Offer Notice or (b) Owner does not enter into a purchase and sale agreement for the Property on or before the date that is three (3) months after the Expiration Date (or fails to close on such sale of the Property within three (3) months after the end of such three (3) month period), then Owner shall recommence the procedures under Section 2.2 prior to consummating a Transfer of its interest in the Property.

Section 3. **Termination of ROFO and ROFR**. The term of this Agreement shall commence as of the Effective Date and shall automatically terminate on the earlier of (a) the Transfer of the Property (or any indirect interest therein) to Offeree or its affiliate, (b) the Transfer of the Property (or any indirect interest therein) to a third party following Owner's compliance with the terms of this Agreement, or (c) the date that is five (5) years after the Effective Date, at which time the Parties shall execute (and notarize, if applicable) and deliver any and all documents reasonably requested by Escrow Agent at such time to remove this Agreement from the Official Records.

Section 4. **Excluded Transfers**. Notwithstanding anything to the contrary in this Agreement, this Agreement shall not apply to any of the following (each, an "**Excluded Transfer**"): (i) the granting or foreclosure of any mortgage on or other security interest in the Property (or collateral assignment of rights in respect of the Property), any foreclosure sale pursuant thereto, any deed in lieu of such foreclosure (whether to mortgagee or its designee), or any transfers by such mortgagees, purchasers at foreclosure or deed in lieu transaction, or their successors or assigns (and in connection with any such transfer, Offeree shall no longer have any right of first offer or ROFR) with respect to the Property, this Agreement shall terminate and the Property shall be conclusively released from the rights of Offeree under this Agreement); (ii) any utility, construction and other easements and encumbrances of title of any type; (iii) any transfer or sale of the Property to an entity that is wholly-owned and controlled by Owner, or any transfer or sale of publicly-traded shares in Owner (provided that this Agreement shall survive any transfer or sale of publicly-traded shares in Owner), or a merger or acquisition of Owner as a going concern (and not primarily for purposes of acquiring the Property); (iv) entering into the Buyer-Seller Lease or any amendments thereto; or (v) any condemnation or taking or agreement in lieu thereof.

Section 5. **Assignment**. Offeree may assign its rights and duties hereunder upon written notice, but without the consent of Owner, to any entity that is controlled or owned by, controls or owns or is under common control or ownership with Offeree. Owner may not assign its rights and duties hereunder without Offeree's consent, other than to any entity that is controlled or owned by, controls or owns or is under common control or ownership with Owner. **Default; Remedies**. If any Party defaults hereunder, the non-defaulting Party may pursue any and all rights and remedies that may be available at law or in equity. In the event of any action or proceeding at law or in equity between Owner and Offeree to enforce any provision of this Agreement or to protect or establish any right or remedy of any Party hereunder, the unsuccessful Party to such litigation shall pay the prevailing Party all costs and expenses, including reasonable attorneys' fees incurred therein by such prevailing Party.

Section 7. **Notices**. Any notice which a Party is required or may desire to give another Party shall be in writing and may be delivered (1) by hand delivery, (2) by United States registered or certified mail, postage prepaid, (3) by Federal Express or other reputable courier service regularly providing evidence of delivery (with charges paid by the Party sending the notice), or (4) by electronic mail, provided that (i) in the event of delivery by the methods described in clauses (1), (2) or (3) above, the Party shall also deliver such notice by electronic mail, and (ii) in the event of delivery by the method in clause (4) above, such electronic mail shall be immediately followed by delivery of such notice pursuant to clause (1), (2) or (3) above. Any such notice to a Party shall be addressed at the address set forth below (subject to the right of a Party to designate a different address for itself by notice similarly given). Service of any such notice or other communications so made shall be deemed effective on the day of actual delivery (whether accepted or refused) unless such party receives a "bounce-back" electronic mail response, as shown by the addressee's return receipt if by certified mail, and as confirmed by the courier service if by courier; provided, however, that if such actual delivery occurs after 6:00 p.m. (local time where received) or on a non-business day, then such notice or demand so made shall be deemed effective on the first business day after the day of actual delivery. Notices may be delivered by counsel to the Parties hereto with the same force and effect. The Parties' addresses for notices are as follows:

If to Owner:	Ionis Pharmaceuticals, Inc. 2855 Gazelle Ct. Carlsbad, California 92008 Attention: General Counsel Email: [***]
With a copy to:	Cooley LLP 4401 Eastgate Mall San Diego, CA 92121 Attention: David Crawford Email: [***]
If to Offeree:	c/o Oxford Properties Group 125 Summer Street, 12th Floor Boston, MA 02110 Attn: Kristen Binck Email: [***]
With a copy to:	c/o Oxford Properties Group 450 Park Avenue, 9th Floor New York, NY 10022 Attn: Legal Department Email: [***]
With a copy to:	DLA Piper LLP (US) 33 Arch Street, 26th Floor Boston, MA 02110 Attn: John L. Sullivan, Esq. Email: [***]
If to Escrow Agent:	First American Title Insurance Company (**"Escrow Agent"**) 4380 La Jolla Drive, Suite 110 San Diego, CA 92122 Attn: Lynn Graham Email: [***]

Section 8. **Survival**. This Agreement and the provisions hereof shall inure to the benefit of and be binding upon the Parties to this Agreement and their respective successors, heirs and permitted assigns.

Section 10. **Entire Agreement**. This Agreement, together with the other written agreements referred to herein, is intended by the Parties to be the final expression of their agreement with respect to the subject matter hereof, and is intended as the complete and exclusive statement of the terms of the agreement between the Parties.

Section 11. **Modifications**. No modification of this Agreement shall be effective unless set forth in writing and signed by the Parties.

Section 12. **Severability**. If any provision of this Agreement, or the application thereof, shall for any reason and to any extent be invalid or unenforceable, the remainder of this Agreement and application of such provision to other circumstances, shall be interpreted so as best to reasonably effect the intent of the Parties hereto.

Section 13. **Waiver**. The waiver by either Party of any breach by the other Party of any term, covenant or condition herein contained or either Party's failure or delay to exercise any right, power or privilege hereunder will not be deemed to be a waiver thereof or any subsequent breach, failure or delay.

Section 14. **Execution; Counterparts**. This Agreement may be executed in two (2) or more counterparts, all of which together as to the same such document shall constitute one and the same agreement.

Section 15. **Interpretation; Governing Law**. This Agreement shall be construed as if prepared by both Parties. Accordingly, any rule of law or legal decision that would require interpretation of any ambiguities in this Agreement against the Party that has drafted it is not applicable and is waived. This Agreement shall be construed, interpreted and governed by the laws of the State of California and the laws of the United States of America prevailing in California.

Section 16. **Further Assurances**. Each Party shall execute such further documents and take such further actions as may be necessary or appropriate to consummate the transaction contemplated by this Agreement.

Section 17. **Time of the Essence**. Time is of the essence of this Agreement and each and every term and provision hereof.

[Signatures on following page]

IN WITNESS WHEREOF, the undersigned have executed this Agreement as of the date first above written.

OWNER:

IONIS PHARMACEUTICALS, INC.
a Delaware corporation

By: _____
Name: _____
Title: _____

OFFEREE:

[OXFORD]

By: _____
Name: _____
Title: _____

EXHIBIT A

LEGAL DESCRIPTION

LOTS 21 AND 22 OF CARLSBAD TRACT NO. 97-13-03, CARLSBAD OAKS NORTH PHASE 3, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 16145, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, OCTOBER 13, 2016 AS DOCUMENT NO. 2016-7000438 OF OFFICIAL RECORDS.

APN : 209-120-23-00 (Affects Lot 21 of Tract Two)
APN : 209-120-24-00 (Affects Lot 22 of Tract Two)

EXHIBIT G-2

Form of Memorandum of First Right Agreement

RECORDING REQUESTED BY
WHEN RECORDED MAIL TO:

DLA Piper LLP
33 Arch Street, 26th Floor
Boston, Massachusetts 02110
Attention: John L. Sullivan

Above Space for Recorder's Use

MEMORANDUM OF FIRST RIGHT AGREEMENT

THIS MEMORANDUM OF FIRST RIGHT AGREEMENT (this "**Memorandum**") is made as of _____, 202__, by and between **IONIS PHARMACEUTICALS, INC.,** a Delaware corporation ("**Seller**") and _____, a Delaware limited liability company ("**Buyer**").

WITNESSETH:

1. Buyer and Seller are parties to that certain First Right Agreement dated as of _____,__202 (as amended from time to time, the "**Agreement**"), relating to Buyer's right of first offer and right of first refusal to purchase certain Property, as more particularly described on Exhibit A attached hereto.

2. Pursuant to provisions of the Agreement, until the earlier of (a) the transfer of the Property (or any interest therein) to Buyer or its affiliate, (b) the transfer of the Property (or any interest therein) to a third party following Seller's compliance with the terms of the Agreement, or (c) the date that is five (5) years after the date hereof, Buyer has (a) a right of first offer to purchase the Property in accordance with the terms of the Agreement, and (b) a right of first refusal with respect to any proposed transfer of the Property (or any interest therein) in accordance with the terms of the Agreement.

3. This Memorandum is not intended to set forth all of the terms of the Agreement, and reference is hereby made thereto for all of the terms. In the event of conflict between the terms of the Agreement and this Memorandum, the terms of the Agreement shall control. All provisions of the Agreement are incorporated herein by reference.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties have caused this Memorandum to be executed as of the date first set forth above.

SELLER:

IONIS PHARMACEUTICALS, INC., a Delaware corporation

By: _____
Name:
Title:

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of _____)
County of _____)

On _____, before me, _____, a Notary Public, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

[Signatures Continue on Following Page]

BUYER:

_____, LLC,
a Delaware limited liability company

By: _____
Name:
Title:

By: _____
Name:
Title

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of _____)
County of _____)

On _____, before me, _____, a Notary Public, personally appeared _____ and _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

EXHIBIT A

LEGAL DESCRIPTION OF PROPERTY

LOTS 21 AND 22 OF CARLSBAD TRACT NO. 97-13-03, CARLSBAD OAKS NORTH PHASE 3, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 16145, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, OCTOBER 13, 2016 AS DOCUMENT NO. 2016-7000438 OF OFFICIAL RECORDS.

APN : 209-120-23-00 (Affects Lot 21 of Tract Two)
APN : 209-120-24-00 (Affects Lot 22 of Tract Two)

EXHIBIT H

Form of Assignment and Assumption Agreement

ASSIGNMENT AND ASSUMPTION
AND BILL OF SALE

This Assignment and Assumption and Bill of Sale (this ***"Assignment"***) is made and entered into _____, 2022, between **IONIS PHARMACEUTICALS, INC**, a Delaware corporation (***"Assignor"***), and _____, a _____ (***"Assignee"***). This Assignment is made with reference to the Purchase and Sale Agreement dated _____ between Assignor and Assignee (or Assignee's predecessor-in-interest) (the ***"Purchase and Sale Agreement"***) with respect to the real property described on attached **Schedule "1"** (the ***"Property"***).

For good and valuable consideration paid by Assignee to Assignor, the receipt and sufficiency of which are hereby acknowledged, Assignor does hereby assign, transfer, set over and deliver unto Assignee all of Assignor's right, title and interest (if any) in and to all assets, rights, materials and/or claims used, owned or held in connection with the use, management, development or enjoyment of the Property, including, without limitation: (i) the service contracts, if any, listed on attached **Schedule "2"** (the ***"Service Contracts"***); (ii) all entitlements, agreements relating to the Property; (iii) all plans, specifications, maps, drawings and other renderings relating to the Property; (iv) all warranties, guarantees, claims and any similar rights relating to and benefiting the Property or the assets transferred hereby; (v) all intangible rights, goodwill and rights benefiting the Property; (vi) all development rights benefiting the Property; (vii) all rights, claims or awards benefiting the Property; and (viii) all rights to receive a reimbursement, credit or refund from the applicable agency or entity of any deposits or fees paid in connection with the development of the Property.

Except as otherwise set forth in the Purchase and Sale Agreement, all such assignment, transfer, setting over and/or delivery by Assignor is on a where-is and as is basis, without warranty or representation of any kind, whether expressed or implied.

Except as otherwise expressly provided in the Purchase and Sale Agreement, by accepting this Assignment and by its execution of this Assignment, Assignee assumes the payment and performance of, and agrees to pay, perform and discharge, all the debts, duties and obligations to be paid, performed or discharged which accrue from and after the Close of Escrow (as defined in the Purchase and Sale Agreement) by the owner under the Service Contracts.

For good and valuable consideration paid by Assignee to Assignor, the receipt and sufficiency of which are hereby acknowledged, Assignor does hereby assign, transfer, set over and deliver unto Assignee all of Assignor's right, title and interest (if any) in and to the "Property" as defined in the Purchase and Sale Agreement.

All of the covenants, terms and conditions set forth in this Assignment shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns. This Assignment may be executed in any number of counterparts, each of which may be executed by any one or more of the parties hereto, but all of which shall constitute one and the same instrument, and shall be binding and effective when all parties hereto have executed and delivered at least one counterpart. The delivery of an executed counterpart of this Assignment by facsimile or as a PDF or similar attachment to an email shall constitute effective delivery of such counterpart for all purposes with the same force and effect as the delivery of an original, executed counterpart.

[SIGNATURES ON FOLLOWING PAGE]

ASSIGNOR:

_____

a_____

By: _____

Name: _____

Title: _____

ASSIGNEE:

_____

a_____

By: _____

Name: _____

Title: _____

EXHIBIT I

Form of Seller's Certificate

Reference is hereby made to that certain Purchase and Sale Agreement dated as of _____, 2022 (the "**Purchase Agreement**"), by and between **IONIS PHARMACEUTICALS, INC.**, a Delaware corporation ("**Seller**") and [_____] ("**Buyer**") (as successor-in-interest to Oxford I Asset Management USA Inc.).

Seller hereby certifies to Buyer that each of the representations and warranties of Seller set forth in the Purchase Agreement are, as of the date hereof, true and accurate in all material respects and duly authorized and executed by Seller.

Dated as of this _____ day of _____, 202____.

SELLER:

IONIS PHARMACEUTICALS, INC.,
a Delaware corporation

By: _____
Name: _____
Title: _____

EXHIBIT J

Form of Buyer's Certificate

Reference is hereby made to that certain Purchase and Sale Agreement dated as of _____, 2022 (the "**Purchase Agreement**"), by and between **IONIS PHARMACEUTICALS, INC.**, a Delaware corporation ("**Seller**") and [_____] ("**Buyer**") (as successor-in-interest to Oxford I Asset Management USA Inc.).

Buyer hereby certifies to Seller that each of the representations and warranties of Buyer set forth in the Purchase Agreement are, as of the date hereof, true and accurate in all material respects and duly authorized and executed by Buyer.

Dated as of this ___ day of _____, 2022.

BUYER:

[_____]
[_____]

By: _____
Name: _____
Title: _____

EXHIBIT K

Form of Owner's Affidavit

FIRST AMERICAN TITLE INSURANCE COMPANY

STATEMENT REQUIRED FOR THE ISSUANCE OF ALTA OWNERS AND/OR LOAN POLICIES

Commitment No. _____

Date: _____

To the best knowledge and belief of the undersigned, the following is hereby certified with respect to the land described in the above commitment:

1. That, except as noted at the end of this paragraph, within the last six (6) months (a) no labor, service or materials have been furnished to improve the land, or to rehabilitate, repair, refurbish, or remodel the building(s) situated on the land; (b) nor have any goods, chattels, machinery, apparatus or equipment been attached to the building(s) thereon, as fixtures; (c) nor have any contracts been let for the furnishing of labor, service, materials, machinery, apparatus or equipment which are to be completed subsequent to the date hereof; (d) nor have any notices of lien been received, except the following, if any:

   _____

2. That there are no unrecorded contracts or options to purchase the land, except the following, if any:

   _____

3. That there are no unrecorded leases, easements or other servitudes to which the land or building, or portions thereof, are subject, except the following, if any:_____

4. That there are no rights of first refusal or options to purchase all or any part of the Property except:_____

5. That there are no unpaid real estate taxes or assessments except as shown on the current tax roll. That the undersigned has not received any supplemental tax bill which is unpaid.

6. That the undersigned is authorized to execute this affidavit, has the ability to execute all instruments necessary to mortgage or convey the Land pursuant to authority, and that the owner was properly created and is in good standing in its state of origin and is properly authorized to do business in the state where the Land is located.

7. That the undersigned has not received any written notice of violation of any covenants, conditions or restrictions, if any, affecting the Land.

8. In order to induce First American Title Insurance Company (the "Company") to issue its policy(ies) of title insurance with full knowledge that the Company will rely upon the accuracy of same, the undersigned hereby agrees as follows:

a. The undersigned does hereby agree to indemnify and hold the Company harmless of and from any and all loss, cost, damage and expense of every kind, including attorneys' fees, which the Company shall or may suffer or incur or become liable for under its said policy or policies directly or indirectly, due to its reliance on the accuracy of the foregoing statements or in connection with its enforcement of its rights under this statement.

b. The undersigned does hereby agree to indemnify and hold the Company harmless during the gap period between the last title examination of the Land that was conducted by, for and/or on behalf of the Company, and the time when the deed, assignments and any other documents creating priority of title are recorded in connection with the sale and/or transfer of the Land.

Seller / Owner:

_____

By: _____

Name: .

Title:

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT CIVIL CODE §1189

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }
}
County of San Diego }

On , before me, _ , personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

(Notary Seal)

_____
Signature of Notary Public

EXHIBIT L

Non-Foreign Status Affidavit

Section 1445 of the Internal Revenue Code of 1986, as amended (the "***Code***"), provides that a transferee of a United States real property interest must withhold tax if the transferor is a foreign person. For U.S. tax purposes (including section 1445), the owner of a disregarded entity (which has legal title to a United States real property interest under local law) will be the transferor of the property and not the disregarded entity. To inform the transferee that withholding of tax is not required upon the disposition of a United States real property interest by _____ ("***Transferor***"), which is the tax owner by reason of its ownership of Ionis Pharmaceuticals, Inc., a Delaware corporation, the Transferor hereby certifies the following:

1. Transferor is not a non resident alien individual foreign corporation, foreign partnership, foreign trust, or foreign estate (as those terms are defined in the Code and Treasury Regulations); and

2. Transferor is not a disregarded entity as defined in Treasury Regulations Section 1.1445-2(b)(2)(iii); and

3. Transferor's U.S. employer taxpayer identification number is _____; and

4. Transferor's office address is _____.

Under penalties of perjury, I declare that I have examined this certification and to the best of my knowledge and belief it is true, correct, and complete, and I further declare that I have authority to sign this document on behalf of Transferor.

Transferor understands that this Certification may be disclosed to the Internal Revenue Service by Transferee and that any false statement contained herein could be punished by fine, imprisonment or both.

[signature on following page]

a

By:

Name:

Title:

NOTICE TO TRANSFEREE (BUYER): You are required by law to retain this Certificate until the end of the fifth tax year following the tax year in which the transfer takes place and make this Certificate available to the Internal Revenue Service if requested to do so during that period.

Source CFR, Section 1.1445-2T(b)(2)(iii)(B)

STATE OF CALIFORNIA)
) ss.
COUNTY OF SAN DIEGO)

On _____, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature (Seal)

EXHIBIT M

Form of Buyer-Seller Lease

[ATTACHED]

LEASE AGREEMENT

DATED _____, 2022

Between

LOTS 21 & 22 OWNER (DE) LLC
a Delaware limited liability company

AS LANDLORD

and

IONIS PHARMACEUTICALS, INC.,
a Delaware corporation

AS TENANT

BASIC LEASE INFORMATION

For convenience of the parties, certain basic provisions of this Lease are set forth herein, and are, together with any Exhibits and Schedules, expressly incorporated into the Lease. The provisions set forth herein are subject to the remaining terms and conditions of this Lease and are to be interpreted in light of such remaining terms and conditions.

TERMS OF LEASE	**DESCRIPTION**
"**Commencement Date**":	The date that is the earlier of: (i) ten (10) months after the Delivery Date, as defined in the Work Letter, or (ii) the date Tenant begins operating in the Premises for business purposes.
"**Premises**":	That certain Land described on Exhibit A attached hereto and the Building and other improvements to be constructed thereon, located on Lots 21 & 22, Whiptail Loop W in Carlsbad, 92010 California consisting of approximately 164,833 gross square feet, and the appurtenances thereto, as defined and further described in the Work Letter. The square footage of the Premises set forth above is deemed conclusive and shall not be subject to remeasurement
"Companion Lease":	That certain lease to be executed between Landlord or its affiliate and Tenant pursuant to the PSA for certain real property located at 2850, 2855 & 2859 Gazelle Court, Carlsbad, 92010 California (the "**Companion Premises**") and the buildings consisting of approximately 246,699 square feet and other improvements located thereon and appurtenances thereto, as described therein.
"**Term**": (Article 1)	The period commencing on the Commencement Date and ending on the Expiration Date.
"Expiration Date"	The date that is one hundred eighty (180) months after the Commencement Date, together with any Extension Period as to which an Extension Option is exercised under Section 1.4.
"**Escalation**": (Article 2)	The percentage of increase, if any, shown by the Consumer Price Index for All Urban Consumers U.S. City Average, All Items (base years 1982-1984 = 100) ("**Index**"), published by the United States Department of Labor, Bureau of Labor Statistics, for the month immediately preceding the Adjustment Date as compared with the Index for the month immediately preceding the Commencement Date (with respect to the first Adjustment Date), or the month immediately preceding the prior Adjustment Date (for all subsequent Adjustment Dates), but the percentage of increase shall not be less than 2.5% nor greater than 5.5%.

TERMS OF LEASE	DESCRIPTION
"**Option to Renew**": (Article 1)	Tenant shall have two (2), five year (5) options at ninety-five percent (95%) of fair market rent.
"**Base Rent**": (Article 2)	For the period beginning on the Commencement Date until the first Adjustment Date, a fixed annual amount (payable in monthly installments) determined by multiplying six and thirty-five hundredths percent (6.35%) by the Construction Costs, as defined in the Work Letter, and thereafter the amount calculated pursuant to Section 2.1.3. A hypothetical example of the calculation of Base Rent is shown on Schedule 1, which shall be for illustrative purposes only and shall not be deemed a representation of the actual amounts or categories to be used in the calculation of Base Rent.
"**Net Lease**": (Article 2)	Landlord and Tenant acknowledge and agree that this is an "absolute net lease" and that Landlord shall receive the Base Rent during the Term, free from all charges, assessments, impositions, expenses and deductions of any and every kind or nature whatsoever relating to the Premises. Landlord shall have no obligations relating to the repair, maintenance or operation of the Premises, or any part thereof. Tenant shall be solely responsible for same.
"**Purchase Option**": (Article 11)	Tenant shall have a right of first offer to purchase the entire Premises.
"**Security Deposit/Letter of Credit**": (Article 2)	Tenant shall provide a Letter of Credit equal to ten (10) months of the initial Base Rent, subject to adjustment as provided in Section 2.5.1.
"**Permitted Use**": (Article 3)	Premises may be used solely for biotechnology and other life sciences uses, including research and development, laboratory, manufacturing, assembly, storage, warehousing, office and administrative uses, all of which must be ancillary to biotechnology and other life sciences uses and, in each such case, to the extent Tenant remains in compliance with current zoning for the Premises and all Applicable Laws.

TERMS OF LEASE	DESCRIPTION
"Work Letter": (Exhibit D)	The "Work Letter" attached hereto as Exhibit D.
"**Address of Tenant**": (Article 13)	Ionis Pharmaceuticals, Inc. 2855 Gazelle Ct. Attention: General Counsel Email: [***] With a copy to: Cooley LLP 4401 Eastgate Mall San Diego, CA 92121-1909 Attn: David L. Crawford, Esq. Email: [***]
"**Address of Landlord**": (Article 13)	c/o Oxford Property Group 125 Summer Street, 12th Floor Boston, MA 02110 United States Attn: Kristin Binck, Esq., Vice President, Legal Email: [***] With a copy to: c/o Oxford Property Group 101 Second St, Suite 300 San Francisco, CA 94105 Attn: Abby Mondani and DLA Piper LLP (US) 33 Arch Street, 26th floor Boston, MA 02110 United States Attn: John L. Sullivan, Esq. Email: [***] and all legal notices shall also be sent to: [***]

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Schedule 1	Example Showing Calculation of Base Rent
Exhibit A	Legal Description of the Premises
Exhibit B	Work Letter
Exhibit C	Form of Tenant Estoppel Certificate
Exhibit D	Form of Memorandum of Lease
Exhibit E	Form of SNDA
Exhibit F	Form of Non-Disclosure and Confidentiality Agreement
Exhibit G	Landlord Signage
Exhibit H	Commencement and Termination Date Agreement
Exhibit I	Tenant Construction Manual
Exhibit J	Tenant Standard Operating Procedures

LEASE AGREEMENT

This Lease Agreement (this "**Lease**"), dated _____, 2022 (the "**Effective Date**"), is made between Lots 21 & 22 Owner (DE) LLC, a Delaware limited liability company ("**Landlord**"), and Ionis Pharmaceuticals, Inc., a Delaware corporation ("**Tenant**").

ARTICLE 1
LEASE OF PREMISES; TERM

1.1 Lease. Landlord hereby leases to Tenant, and Tenant hereby leases from Landlord, the Premises for the Term. All of the terms and covenants of this Lease shall be effective as of the Effective Date. After the Commencement Date, Tenant and Landlord shall execute, acknowledge and deliver a written agreement in the form attached hereto as Exhibit H memorializing the Commencement Date, the Expiration Date, the original Term, and the commencement and termination dates of the Extension Terms if such are exercised.

1.2 As Is; No Representations. Tenant's lease of the Premises is on an "AS IS WHERE IS" basis, and Landlord shall have no obligation to prepare the Premises for Tenant's occupancy or to pay for or construct any improvements to the Premises, except for performance of the Landlord's Construction Work as defined in the Work Letter (including with respect to any Warranty Issue [as defined in the Work Letter] arising after completion of Landlord's Construction Work, to the extent required by the Work Letter) and with respect to payment of the TI Allowance as defined in the Work Letter and as otherwise expressly set forth in this Lease. Landlord has not made any representation or warranty to Tenant regarding (a) the condition or suitability of the Premises for the conduct of Tenant's business (including, without limitation, any utilities serving the Premises, any structural components of the improvements or the condition of any Building system, except as otherwise expressly set forth in the Work Letter), (b) the restrictions that may affect the conduct of Tenant's business in, or Tenant's use of, the Premises, or any other rights or benefits under this Lease, (c) the suitability of the Premises for Tenant's intended Permitted Use, or (d) compliance with Environmental Laws at the Premises or any environmental conditions at, or Hazardous Materials on, under, above, emanating to or from, or having emanated to or from, the Premises. TENANT EXPRESSLY WAIVES ANY WARRANTY OF CONDITION OR OF HABITABILITY OR SUITABILITY FOR OCCUPANCY, USE, HABITATION, FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, EXPRESS OR IMPLIED, RELATING TO THE PREMISES. Except in connection with the performance of Landlord's Construction Work, as provided in the Work Letter, Tenant assumes full responsibility for all costs and expenses required to cause the Premises to comply with all Applicable Laws. "**Applicable Laws**" means all applicable present and future federal, state, municipal and local laws, codes, ordinances, rules and regulations of governmental authorities, committees, associations, or other regulatory committees, agencies or governing bodies having jurisdiction over the Premises or any portion thereof, Landlord or Tenant, including both statutory and common law and Environmental Laws. "**Environmental Laws**" means any applicable present and future federal, state and local laws, statutes, ordinances, rules, and regulations, as well as common law, relating to protection of human health, natural resources or the environment or governing the use, transport, or disposal of biological, bio-hazardous wastes, or radiological elements. The term "Environmental Laws" includes, but is not limited to, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended ("**CERCLA**"), 42 U.S.C. §9601 et seq.; the Toxic Substance Control Act, 15 U.S.C. §2601 et seq.; the Hazardous Materials Transportation Act, 49 U.S.C. §5101 et seq.; the Resource Conservation and Recovery Act, 42 U.S.C. §6901, et seq.; the Clean Water Act, 33 U.S.C. §1251 et seq.; the Safe Drinking Water Act, 42 U.S.C. §300f et seq.; the Clean Air Act, 42 U.S.C. §7401 et seq.; Federal Water Pollution Control Act, 33 U.S.C. §§ 1251 et seq.; Clean Air Act, 42 U.S.C. §§ 7401 et seq.; Emergency Planning and Community Right-To- Know Act, 42 U.S.C. §§ 11001 et seq.; Occupational Safety and Health Act, 29 U.S.C. §§ 65 et seq.; California Labor Code §63.82, California Health and Safety Code §25249.5, et seq., and all other applicable federal, state and local laws, regulations, ordinances, rules, and orders that are equivalent or similar to the laws recited above, or otherwise relate to human health, natural resources or the environment, in each case together with their implementing regulations, guidelines, rules, or orders, and all state, regional, county, municipal, and other local laws, regulations, ordinances, rules, and orders that are equivalent or similar to the federal and state laws recited above.

1.3 Holdover. If Tenant retains possession of any portion of the Premises after the Termination Date (as hereinafter defined) without Landlord's written consent, then Landlord shall be entitled to exercise all remedies that may be available under this Lease or at law or in equity, and Tenant shall (a) be a tenant at sufferance only, (b) be liable to perform all of the obligations of Tenant set forth in this Lease, and (c) (i) for the first ninety (90) days following the Termination Date, pay Base Rent at a rate of one hundred twenty-five percent (125%) of the monthly Base Rent in effect immediately prior to the Termination Date, and (ii) for each month thereafter, pay Base Rent at a rate of one hundred fifty percent (150%) of the monthly Base Rent in effect immediately prior to the Termination Date, prorated on a daily basis. If Tenant retains possession of any portion of the Premises for more than thirty (30) days following the Termination Date without Landlord's written consent, Tenant shall also pay to Landlord all damages, direct, consequential, or indirect, sustained by Landlord by reason of any such holding over. Otherwise, such holding over shall be on the terms and conditions set forth in this Lease as far as applicable. "**Termination Date**" means the date on which this Lease terminates for any reason, including the Expiration Date. The provisions of this Section 1.3 shall not operate as a waiver by Landlord of any right of re-entry provided in this Lease.

1.4 Extension Option.

1.4.1 Exercise of Extension Option. Tenant shall have two (2) successive options (each, an "**Extension Option**") to extend the Term of this Lease for a period of five (5) years each (each, an "**Extension Period**"), on the same terms and conditions in effect under this Lease immediately prior to the Extension Period, except that Base Rent shall be determined as set forth below and Tenant shall have no further right to extend the Term of this Lease after the end of the second (2nd) Extension Period; provided, however, it shall be a condition of Tenant's exercise of the Extension Option that Tenant also exercise the corresponding "Extension Option" as defined in the Companion Lease. If Tenant exercises an Extension Option, such extension shall apply to the entire Premises. Tenant may exercise an Extension Option only by giving Landlord irrevocable and unconditional written notice thereof (the "**Extension Notice**") on or before the date which is twelve (12) months prior to the commencement date of each applicable Extension Period and such Extension Period shall commence on the day immediately succeeding the expiration date of the preceding Term or the preceding Extension Period, as the case may be, and shall end at midnight Eastern Time on the last day of the applicable Extension Period. Such exercise shall, at Landlord's election, be null and void if any Event of Default shall have occurred and is continuing at the date of such notice. Upon delivery of the Extension Notice, Tenant shall be irrevocably bound to lease the Premises for the Extension Period. If Tenant shall fail to timely exercise the Extension Option in accordance with the provisions of this Section 1.4, then the Extension Option shall terminate, and shall be null and void and of no further force and effect. If this Lease or Tenant's right to possession of the Premises shall terminate in any manner whatsoever before Tenant shall exercise the Extension Option, then immediately upon such termination the Extension Option shall simultaneously terminate and become null and void. Time is of the essence with regard to this Section 1.4.

1.4.2 Base Rent Determination. The Base Rent starting on the Commencement Date of each Extension Period and continuing for sixty (60) months thereafter will be ninety-five percent (95%) of the then-prevailing market rate for new leases for comparable life sciences office and lab space to the Premises in comparable buildings to the Building in the Market Area (defined below) that a willing, comparable, non-equity tenant (excluding sublease and assignment transactions) would pay, and a willing, comparable landlord would accept, at arm's length, for a similar life sciences laboratory and research space in a first-class or "Class A" property ("Fair Market Rent"); provided, however, in no event shall the Fair Market Rent rate per month for the first year of each Extension Period be less than 103% of the Base Rent rate for the last month of the immediately preceding portion of the Term. Thereafter, escalations in the Base Rent shall be established using standard market escalations in the determination of Fair Market Rent, but in no event shall escalations in Base Rent be increased by less than three percent (3%) on each annual anniversary of the Commencement Date of the Extension Term. Fair Market Rent will reflect all monetary and non-monetary considerations and other relevant factors taken into account for comparable transactions, including, without limitation, the location of the Premises, age, quality and layout of the existing improvements in the Premises, brokerage commissions, improvements paid for by tenant improvement allowances, moving allowances, and all other relevant tenant concessions. Fair Market Rent will be adjusted to take into account the size of the Premises, the length of the Extension Period, and the credit of Tenant. The term "**Market Area**" means the real estate market area that includes Carlsbad, Sorrento Valley, Sorrento Mesa, University Town Center, and Delmar Heights.

1.4.3 Fair Market Rent. Landlord will notify Tenant of its determination of the Fair Market Rent (consistent with the methodology reflected above) for the applicable Extension Period no later than ninety (90) days prior to the commencement date of the applicable Extension Period. If Tenant delivers written notice to Landlord within ten (10) business days after its receipt of Landlord's determination of Fair Market Rent whereby Tenant disagrees with Landlord's determination of the Fair Market Rent, Tenant shall include in its notice Tenant's determination of the Fair Market Rent, and Landlord and Tenant will diligently and in good-faith confer for a period of thirty (30) days thereafter (the "**Negotiation Period**") in an attempt to agree on the Fair Market Rent. If Landlord and Tenant are unable to agree on the Fair Market Rent during the Negotiation Period, then, within five (5) business days after the expiration of such period, Landlord and Tenant shall jointly appoint an independent arbitrator (the "**Arbitrator**") who shall not have previously been employed by or otherwise worked with either Landlord or Tenant with experience in real estate activities, including at least ten (10) years' experience serving as a broker, appraiser and/or attorney in leasing transactions involving commercial life sciences laboratory and research space of comparable size and Class A quality to the Premises (collectively, the "Qualifications"), which Arbitrator shall, within twenty (20) days following the Arbitrator's appointment, determine and report in writing to Landlord and Tenant the by selecting either Landlord's or Tenant's determination of the Fair Market Rent for the Extension Period, according to whichever of the applicable determinations is closer to the Fair Market Rent, as determined by the Arbitrator. If Landlord and Tenant cannot agree on the Arbitrator in accordance with the foregoing, Landlord or Tenant may apply to the American Arbitration Association to appoint the Arbitrator in accordance with the aforementioned criteria. The Arbitrator shall have no discretion other than to select Landlord's or Tenant's determination of the Fair Market Rent as aforesaid. The costs of the Arbitrator shall be shared equally by Landlord and Tenant, and each of Landlord and Tenant shall reasonably cooperate with the Arbitrator in providing documentation and any other reasonable evidence regarding how Landlord or Tenant, as applicable, arrived at its determination of the Fair Market Rent. If the Renewal Period commences prior to the final determination of the Fair Market Rent, Tenant shall pay to Landlord the monthly rate in effect immediately prior to the commencement of the applicable Renewal Period, subject to adjustment upon resolution of such dispute.

1.4.4 General. Notwithstanding any provision of this Section to the contrary, the Extension Option shall be void, at Landlord's election, if (i) Tenant is in default hereunder, after any applicable notice and cure periods have expired, at the time Tenant elects to extend the Term or at the time the Term would expire but for such extension, or (ii) any Transfer has occurred under Article 5 of the Lease (other than a Permitted Transfer, or a sublease(s) comprising less than twenty-five percent (25%) of the Premises).

ARTICLE 2
RENT

2.1 Base Rent and Additional Rent.

2.1.1 Tenant shall pay to Landlord, without notice or demand and without deduction or set-off of any amount for any reason whatsoever, the annual Base Rent in equal monthly payments, in advance, beginning on the Commencement Date, and thereafter on or before the first day of each full calendar month during the Term. Base Rent as well as any other amounts payable by Tenant to Landlord under the terms of this Lease shall be paid by wire or electronic transfer of funds pursuant to directions provided to Tenant by Landlord. In addition to Base Rent, Tenant shall pay to Landlord a property management fee ("**Management Fee**") of one percent 1%) of the gross annual revenue form the Premises, which amount shall be paid in equal monthly payments on the same date and in the same manner as Base Rent.

2.1.2 No later than one hundred eighty (180) days after the Delivery Date, Landlord will provide written notice (the "**Estimated Calculation Notice**") of Landlord's calculation of the initial amount of Base Rent using a preliminary estimate of the Construction Costs, to the extent they are known at the time of the Estimated Calculation Notice. Until the Landlord provides the Final Calculation Notice (as defined below), commencing on the Commencement Date, Tenant shall pay the estimated annual Base Rent amount set forth in the Estimated Calculation Notice in equal monthly installments for the applicable month(s). On or before the date that is one hundred eighty (180) days after the Commencement Date, Landlord will provide written notice (the "**Final Calculation Notice**") of Landlord's calculation of the initial amount of Base Rent using the final amount of Construction Costs. Tenant will pay any underpayment of Base Rent, and Landlord will credit to Tenant's account any overpayment of Base Rent, based upon the difference between the estimated Base Rent actually paid by Tenant and the amount of Base Rent set forth in the Final Calculation Notice. If the Commencement Date is not the first day of a calendar month, Tenant shall pay to Landlord on the Commencement Date the prorated Base Rent for period from the Commencement Date until the end of the calendar month in which the Commencement Date occurs. Base Rent due for any partial calendar month at the end of the Term shall also be prorated and paid on the first day of such calendar month. Tenant shall pay to Landlord all items of Rent (as defined below), without deduction or offset and without notice or demand (except as specifically provided in this Lease in respect of Additional Rent (as defined below)), and Tenant shall deliver such payments to the payment address set forth in the Basic Lease Information, or to such other person, at such other place, or in such other manner as Landlord may designate by giving to Tenant Notice (as defined below) thereof. "**Additional Rent**" means all other amounts payable by Tenant to Landlord in accordance with this Lease, other than Base Rent. "**Rent**" means all amounts payable by Tenant to Landlord in accordance with this Lease, including, but not limited to Base Rent and Additional Rent.

2.1.3 Landlord shall, on or within thirty (30) days prior to each Adjustment Date, calculate the Escalation after the United States Department of Labor publishes the Index on which the amount of the increase will be based. Landlord's determination of the Escalation shall be binding absent manifest error. Landlord shall give written notice of the Escalation, multiplied by the number of installments of rent due under this Lease since the Adjustment Date. Tenant shall pay this amount, together with the monthly rent next becoming due under this Lease, and shall thereafter pay the monthly rent due under this Lease at this increased rate, which shall constitute Base Rent. Landlord's failure to make the required calculations promptly shall not be considered a waiver of Landlord's rights to adjust the monthly Base Rent due, nor shall it affect Tenant's obligations to pay the increased Base Rent, subject to this Section 2.1.3. If Landlord does not deliver its calculation of the Escalation within twelve (12) months after the applicable Adjustment Date, Tenant may provide Landlord with a written request for the calculation of the Escalation, and, if Landlord fails to provide the calculation of Escalation (which request shall include, in bold and prominent print on the first page, a notation that "**FAILURE TO RESOND TO THIS REQUEST WITHIN 30 DAYS MAY RESULT IN THE LOSS OF RIGHTS PURSUANT TO SECTION 2.1.3 OF THE LEASE**") within thirty (30) days after Tenant's written request, Tenant shall not be required to so pay the increased Base Rent in arrearage for the applicable period based on an Escalation; provided, however, the foregoing waiver of Tenant's obligation to pay arrearage amounts for the applicable period shall not affect Landlord's calculation of any future Escalations. If the Index is changed so that the base year differs from that in effect on the Commencement Date, the Index shall be converted in accordance with the conversion factor published by the United States Department of Labor, Bureau of Labor Statistics. If the Index is discontinued or revised during the Term, the government index or computation with which it is replaced shall be used to obtain substantially the same result as if the Index had not been discontinued or revised. The "**Adjustment Date**" means the first anniversary of the Commencement Date and on each successive anniversary thereafter during the Term, including any exercised Extension Period.

2.2 Expenses; Taxes; Insurance Expenses.

2.2.1 Expenses. Except as provided in the Work Letter regarding any Warranty Issue, Tenant shall perform all obligations with respect to the maintenance, operation, repair and replacement of the Premises and shall pay directly for all costs and expenses incurred in connection therewith, including, but not limited to: all insurance, maintenance, repair and replacement of any improvements (including, without limitation, the Building, the structural and nonstructural components of the Building, the Building systems, equipment (owned and maintained), the foundation, roof, walls, heating, ventilation, air conditioning, plumbing, electrical, mechanical, utility (owned and maintained) and safety systems, paving and parking areas, roads and driveways); maintenance of exterior areas such as gardening and landscaping, snow removal and signage; maintenance and repair of roof membrane, flashings, gutters, downspouts, roof drains, skylights and waterproofing; painting; lighting; cleaning; refuse removal; security; utilities for, or the maintenance of, outside areas; Premises personnel costs; rentals or lease payments paid by Tenant for rented or leased personal property used in the operation or maintenance of the Premises; and fees for required licenses and permits, including in order to operate for the Permitted Use.

2.2.2 Taxes. Subject to Tenant's right to contest Taxes as set forth below, Tenant will pay directly all Taxes allocable to the Term in a timely manner and prior to when the same shall become due and payable. Landlord and Tenant shall cooperate to place all Taxes in the name of Tenant, however, if and to the extent any Taxes are billed to Landlord, then Tenant shall pay the same upon receipt of such bill from Landlord and provide Landlord with evidence of such payment promptly thereafter. In any event, Tenant shall pay all Taxes prior to the date due. "**Taxes**" means all real property taxes and other assessments on the Premises, including, but not limited to, real estate taxes, personal property taxes, transfer taxes, documentary stamps or taxes, fees, assessments and other charges of any kind or nature, whether general, special, ordinary, or extraordinary (without regard to any different fiscal year used by such governmental authority) that are levied in respect of this Lease or the Premises (or Landlord's interest therein), or in respect of any improvement, fixture, equipment, or other property of Landlord, real or personal, located at the Premises, and used in connection with operation of the Premises. Tenant and Landlord acknowledge that Proposition 13 was adopted by the voters of the State of California in the June 1978 election ("**Proposition 13**") and that assessments, taxes, fees, levies and charges may be imposed by governmental agencies for such services as fire protection, street, sidewalk and road maintenance, refuse removal and for other governmental services formerly provided without charge to property owners or occupants, and, in further recognition of the decrease in the level and quality of governmental services and amenities as a result of Proposition 13, Taxes shall also include any governmental or private assessments or contribution towards a governmental or private cost-sharing agreement charged to the Premises for the purpose of augmenting or improving the quality of services and amenities normally provided by governmental agencies. Taxes shall not include (i) Landlord's corporate franchise taxes, estate taxes, inheritance taxes or net income taxes, or (ii) transfer taxes or other taxes incurred in connection with Landlord's sale of the Premises or any interest therein, other than taxes resulting from Proposition 13 reassessment. Tenant shall furnish to Landlord, within thirty (30) days after the last day when any Tax must be paid by Tenant as provided in this Section 2.2.2, official receipt of the appropriate taxing authority or other proof satisfactory to Landlord, evidencing the payment thereof. Tenant shall have the right, at Tenant's sole cost and upon reasonable prior notice to Landlord, to initiate and prosecute any proceeding for the purpose of contesting the assessed valuation of the Premises or any personal property for tax purposes in good faith; provided, that this right to contest shall not be deemed or construed to relieve, modify or extend Tenant's obligation to pay any Taxes allocable to the Term in a timely manner and prior to when the same shall become due and payable and that prior to any such contest, Tenant (a) pays the Tax under protest, (b) obtains and maintains a stay of all proceedings for enforcement and collection by posting a bond or other security required by law, or (c) if Tenant lawfully withholds payments of any contested amounts of Taxes during the contest, Tenant has or establishes unrestricted cash reserves to be held by Landlord in an amount equal to 125% of (x) the amount of Tenant's obligations being contested plus (y) any additional interest, charge or penalty arising from such contest; provided, however, that Landlord shall (1) promptly release such reserve upon resolution of such contest, and/or (2) use such reserve to pay Taxes directly to the applicable taxing authority following resolution of such contest. Tenant shall provide Landlord with all notices received or sent to the taxing authorities, as well as regular updates relating to any such contest and afford Landlord an opportunity to participate in all such proceedings. Tenant shall indemnify and defend Landlord and save Landlord harmless from all losses, judgments, costs (including without limitation, attorneys' fees), liabilities and expenses incurred in connection with such proceedings and shall, promptly after the final determination of such contest, fully pay and discharge the amounts which shall be levied, assessed, charged or imposed or be determined to be payable therein or in connection therewith, together with all penalties, fines, costs and expenses thereof or in connection therewith). Landlord shall have the right to (a) contest or dispute any Taxes (or file an appeal related thereto), without Tenant's prior written consent, at Landlord's sole cost and expense, or (b) request that Tenant contest or dispute such Taxes (or file an appeal related thereto), in which event, Tenant, in Tenant's sole discretion, may agree to contest or dispute such Taxes, at Tenant's sole cost and expense. If an Event of Default occurs or if otherwise required by any Mortgagee or lender of Landlord, Landlord, at its option, may require Tenant to make monthly estimated payments to Landlord on account of Taxes. The monthly payments shall be one twelfth (1/12th) of the amount of Taxes due for the applicable year as reasonably estimated by Landlord and shall be payable as Additional Rent on or before the first day of each month during the Term, in advance; provided, that, Landlord shall have the right to revise such estimates from time to time. So long as no Event of Default is then continuing, any amounts received by Landlord pursuant to the immediately preceding sentence shall be disbursed to Tenant by Landlord for payment to the applicable taxing authority (or paid to the applicable taxing authority directly by Landlord) when directed by Tenant, accompanied by evidence of the amount due. Upon Tenant's request, Landlord shall provide Tenant with evidence of any such payments of Taxes made directly by Landlord.

2.2.3 Landlord's Insurance. Tenant shall reimburse or, at Landlord's request, pay directly, all premiums, deductibles, and other costs incurred by Landlord in connection with obtaining and maintaining the insurance coverage described in Section 6.2.1 below (collectively, the "**Insurance Expenses**"). Tenant shall pay the Insurance Expenses no later than fifteen (15) days after demand. If an Event of Default occurs or if otherwise required by any Mortgagee or lender of Landlord, Landlord, at its option, may require Tenant to make monthly estimated payments to Landlord on account of Insurance Expenses. The monthly payments shall be one twelfth (1/12th) of the amount of Insurance Expenses due for the applicable year as reasonably estimated by Landlord and shall be payable as Additional Rent on or before the first day of each month during the Term, in advance; provided, that, Landlord shall have the right to revise such estimates from time to time. If Landlord requires monthly payments of the Insurance Expenses, Landlord will use reasonable efforts to provide a statement reconciling such payments within ninety (90) days after the end of each calendar year, and any underpayments shall paid by Tenant within fifteen (15) days after Tenant's receipt of the statement, and any overpayments shall be credited to the next payment of Rent that becomes due under the Lease.

2.3 Net Lease.

2.3.1 Absolute Triple Net Lease. It is intended by the parties that this Lease be an absolute "triple net lease," imposing upon Tenant the obligation to pay all charges of every kind and nature in connection with the use, operation, management, maintenance, repair, and occupancy of the Premises, whether or not recited herein and whether foreseeable or unforeseeable, including, but not limited to, utilities, fees, costs, real estate taxes, sales and use taxes, all operation, management, maintenance and repair costs associated with the Premises and the improvements located thereon and costs of compliance with Environmental Laws, except as expressly provided in this Lease. Tenant shall pay to Landlord, net throughout the Term, the Rent due hereunder free of any offset, abatement, or other deduction whatsoever, without notice or demand. Except to the extent due to the gross negligence or willful misconduct of, or breach of contract by, Landlord or any of Landlord's assignees, agents, servants, employees, invitees and contractors (or any of Landlord's assignees respective agents, servants, employees, invitees and contractors) (collectively, "**Landlord Parties**"; any of them, a "**Landlord Party**"), Tenant assumes the sole responsibility for the condition, use, operation, maintenance, management and compliance with Environmental Laws of the Premises, and Landlord shall have no responsibility in respect thereof and shall have no liability for damage to Tenant's personalty on any account or for any reason whatsoever. Notwithstanding the foregoing or anything to the contrary in this Lease, Tenant shall not be required to pay, or reimburse Landlord for: (i) depreciation charges, penalties, premiums, interest and principal payments on mortgages and other debt costs, ground rental payments and real estate brokerage and leasing commissions incurred by Landlord; (ii) costs incurred for Landlord's general overhead and any property or asset management fee other than as expressly set forth in this Lease; (iii) costs of selling or financing any of Landlord's interest in the Premises; (iv) costs incurred by Landlord which are reimbursed by property insurance proceeds actually received by Landlord where such proceeds result from a claim subject to the provisions of Section 6.2.3. below; and (v) reserves in excess of commercially reasonable amounts for comparable properties (and such reserves shall only be payable by Tenant if required by Landlord's lender or in accordance with commercially reasonable business practices for comparable properties).

2.3.2 Payments to Third Parties. Subject to Section 2.2.3(c) below, Landlord and Tenant recognize that there may be recurring payments to third parties, including governmental entities, for various items including inspections of storm water retention areas, inspections of pump stations, fees for storm water runoff, and assessments for maintenance and repairs under a Title Instrument (as defined below). Tenant is solely responsible for paying any fees or expenses imposed by governmental regulations or third parties, including those that may be required to obtain, modify and maintain compliance with any permits, licenses and approvals required by Applicable Laws, including for the use of and operation at the Premises by Tenant for the Permitted Use, or allocated to the Premises under any such Title Instrument. Tenant acknowledges that matters of the type contemplated by this Section may not be known to Landlord until after this Lease has been signed by Landlord and Tenant.

2.3.3 Title Instruments. In addition to the foregoing, during the term of this Lease, Tenant shall timely perform all obligations of the owner of the Premises under, and pay all expenses which the owner of the Premises may be required to pay in accordance with any declarations, covenants, conditions and restrictions or reciprocal easement agreements or any other documents or instruments that are of record now and affect the Premises (or of record in the future if created or filed by or with the consent of Tenant), including, without limitation, any documents or instruments recorded in connection with any Future Development (referred to collectively herein as the "**Title Instruments**"); provided, however, Tenant need not pay any debt service on loans that encumber the fee estate and that do not encumber Tenant's leasehold estate and Tenant need not pay any rent on any lease that is senior in priority to this Lease. Tenant promptly shall comply with all of the terms and provisions of all Title Instruments, including all insurance requirements, regardless of whether any such requirements exceed the requirements otherwise set forth in this Lease. Notwithstanding the foregoing, except as provided in Section 10.5, Landlord shall not enter into new Title Instruments or modify existing Title Instruments during the Term without Tenant's prior written consent, which may be withheld in Tenant's reasonable discretion; provided, however, that Tenant's prior written consent shall not be required with respect to (i) any financing obtained by Landlord secured by Landlord's interest in the Premises, (ii) Title Instruments necessary to effectuate transfers to third-party purchasers of the Premises, or (iii) any new Title Instruments or the modification of existing Title Instruments that do not (x) materially and adversely affect Tenant's use or occupancy of the Premises or (y) impose any fees or costs that would be payable by Tenant unless Landlord agrees to pay such fees.

2.4 Interest and Late Charge. If Tenant fails to pay Rent as and when due and such failure continues for three (3) business days following written notice from Landlord, then, together with each payment of Rent that Tenant pays to Landlord after such payment is due, Tenant shall pay to Landlord the Late Charge (as defined below) and interest calculated on the amount of such payment over the period commencing on the day immediately following the day on which such payment was due and ending on the day on which Tenant pays to Landlord such payment at the rate of the lesser of six percent (6%) over the "Prime Rate" announced from time to time by Bank of America or its successor or the maximum lawful rate of interest. Notwithstanding the foregoing, Landlord shall not be required to provide prior notice of Tenant's failure to pay Base Rent or any recurring obligation to pay Rent more than once during any twelve (12) month period, after which Tenant's failure to pay such amount shall be subject to the Late Charge and default interest provided above if Tenant fails to pay the amount when due and such failure continues for three (3) business days after the due date. "**Late Charge**" means, in respect of any such payment, five percent (5%) of such payment. In addition, Tenant shall pay to Landlord a reasonable fee for any checks returned by Tenant's bank for any reason.

2.5 Security Deposit/Letter of Credit.

2.5.1 Concurrently with Tenant's execution of this Lease, and in lieu of a cash security deposit, Tenant shall provide a letter of credit (the "**Letter of Credit**") in the amount set forth as the "Security Deposit/Letter of Credit" in the Basic Lease Information. Any cash security deposit drawn from the Letter of Credit may be mingled with other funds of Landlord and no fiduciary relationship shall be created with respect to such deposit, nor shall Landlord be liable to pay Tenant interest thereon. The initial amount of the Letter of Credit shall be determined using Landlord's reasonable estimate of the Base Rent as the time of the execution of the Lease, and within thirty (30) days after the Final Calculation Notice the Letter of Credit shall be modified or reissued in the required amount as determined using the Base Rent set forth in the Final Calculation Notice. Provided that Tenant has not assigned its interest in this Lease (other than with respect to a Permitted Transfer) and there is no uncured Event of Default, on (i) the second (2^{nd}) anniversary of the Commencement Date and (ii) the fourth (4^{th}) anniversary of the Commencement Date, Tenant may notify Landlord in writing (the "**Reduction Request**") and request the reduction of the Letter of Credit by an amount equal to two (2) months of the initial Base Rent (the "**Reduction Amount**"). Provided that the conditions above have been satisfied at the time Landlord receives a Reduction Request, Landlord shall instruct the Bank, within sixty (60) days after Landlord's receipt of the Reduction Request, that the Letter of Credit may be reduced by the Reduction Amount. In no event shall the Letter of Credit be reduced to an amount less than six (6) months of the initial Base Rent.

2.5.2 The Letter of Credit (i) shall be irrevocable and shall be issued by a commercial bank that has a financial condition reasonably acceptable to Landlord and that is otherwise an Eligible Bank (as defined below) and has an office in San Francisco, California that accepts requests for draws on the Letter of Credit; provided, Silicon Valley Bank shall be deemed an approved issuer of the Letter of Credit so long as Silicon Valley Bank remains an Eligible Bank, (ii) shall require only the presentation to the issuer (which may be in a location other than San Francisco if permitted on the basis of a fax or electronic submittal only) a certificate of the holder of the Letter of Credit stating that Landlord is entitled to draw on the Letter of Credit pursuant to the terms of the Lease, (iii) shall be payable to Landlord or its successors in interest as the Landlord and shall be freely transferable without cost to any such successor or any lender holding a collateral assignment of Landlord's interest in the Lease, (iv) shall be for an initial term of not less than one year and contain a provision that such term shall be automatically renewed for successive one-year periods unless the issuer shall, at least forty five (45) days prior to the scheduled expiration date, give Landlord notice of such nonrenewal, (v) shall be transferrable by Landlord without any cost to Landlord or the transferee (or, if there is a transfer fee, Tenant shall pay such fee and such transfer shall not be conditioned upon payment of such fee), and (vi) shall otherwise be in form and substance reasonably acceptable to Landlord. Notwithstanding the foregoing, the term of the Letter of Credit for the final period shall be for a term ending not earlier than the date forty-five (45) days after the last day of the Term. In the event that the issuer ceases to be reasonably acceptable to Landlord, due to a deterioration in its financial condition or change in status that threatens to compromise Landlord's ability to draw on the Letter of Credit as determined in good faith by Landlord or otherwise by its failure to be an Eligible Bank, then Tenant shall provide a replacement Letter of Credit from an issuer satisfying the terms of this Section 2.5.2 within thirty (30) days after Landlord's notice of such event. "**Eligible Bank**" shall mean shall mean a commercial or savings bank organized under the laws of the United States or any state thereof or the District of Columbia and having total assets in excess of $1,000,000,000.00 that shall be a financial institution having a rating of not less than BBB or its equivalent by Standard and Poors Corporation and subject to a Thompson Watch Rating of C or better.

2.5.3 The Letter of Credit shall be held by, or for the benefit of Landlord, as security for the performance of the provisions hereof by Tenant, and if the Letter of Credit or portion thereof is applied by Landlord for the payment of any Rent or any other sum in default, then Tenant shall, upon demand therefor, restore the Letter of Credit to its original amount as provided in Section 2.5.1 above. Tenant hereby irrevocably waives and relinquishes any and all rights, benefits, or protections, if any, Tenant now has, or in the future may have under any provision of law which (i) establishes the time frame by which a landlord must refund a security deposit under a lease, or (ii) provides that a landlord may claim from a security deposit only those sums reasonably necessary to remedy defaults in the payment of rent, or to repair damage caused by a tenant or to clean the subject premises, as required and subject to the provisions of this Lease. Tenant acknowledges and agrees that (A) any statutory time frames for the return of a security deposit are superseded by the express period identified in this Section 2.5, and (B) rather than be so limited, Landlord may claim from the security deposit (i) any and all sums expressly identified in this Section 2.4, above, and (ii) any additional sums reasonably necessary to compensate Landlord for any and all losses or damages caused by Tenant's default of this Lease, including, but not limited to, all damages or rent due upon termination of this Lease.

2.5.4 Landlord shall be entitled to draw upon the Letter of Credit for its full amount or any portion thereof if (a) Tenant shall fail to perform any of its obligations under the Lease after the expiration of any applicable notice and cure period, or fail to perform any of its obligations under the Lease and transmittal of a default notice or the running of any cure period is barred or tolled by Applicable Law, or fail to perform any of its obligations under the Lease and any applicable notice and cure period would expire after the expiration of the Letter of Credit, (b) not less than thirty (30) days before the scheduled expiration of the Letter of Credit, Tenant has not delivered to Landlord a new Letter of Credit in accordance with this Section; provided no such delivery shall be required if the Letter of Credit provides for automatic renewals in compliance with Section 2.5.2, and the issuer of the Letter of Credit has not sent a notice of non-renewal, or (c) as provided in Schedule 8 to the Work Letter attached as Exhibit D. Without limiting the generality of the foregoing, Landlord may, but shall not be obligated to, draw on the Letter of Credit from time to time in the event of a bankruptcy filing by or against Tenant and/or to compensate Landlord, in such order as Landlord may determine, for all or any part of any unpaid rent, any damages arising from any termination of the Lease in accordance with the terms of the Lease, and/or any damages arising from any rejection of the Lease in a bankruptcy proceeding commenced by or against Tenant. Landlord may, but shall not be obligated to, apply the amount so drawn to the extent necessary to cure Tenant's failure.

2.5.5 Any amount of the Letter of Credit drawn in excess of the amount applied by Landlord to cure any such failure or as provided on Schedule 8 to the Work Letter shall be held by Landlord as a cash security deposit for the performance by Tenant of its obligations under the Lease. If Tenant shall fail to perform any of its obligations under the Lease, Landlord may, but shall not be obliged to, apply the cash security deposit to the extent necessary to cure Tenant's failure. After any such application by Landlord of the Letter of Credit or cash security deposit, as the case may be, Tenant shall reinstate the Letter of Credit to the amount originally required to be maintained under the Lease, within ten (10) business days of Landlord's demand. Provided that Tenant is not then in default under the Lease, and no condition exists or event has occurred that after the expiration of any applicable notice or cure period would constitute such a default, within forty five (45) days after the later to occur of (i) the payment of the final Rent due from Tenant or (ii) the later to occur of the Term Expiration Date or the date on which Tenant surrenders the Premises to Landlord in compliance with Section 20 of the Lease, the Letter of Credit and any cash security deposit, to the extent not applied or held by Landlord for the purposes described in Schedule 8 to the Work Letter, shall be returned to the Tenant, without interest, and Landlord, upon request, shall confirm termination of the Letter of Credit with the issuer thereof.

2.5.6 In the event of a sale of the Building or lease, conveyance or transfer of the Building, Landlord shall transfer the Letter of Credit or cash security deposit to the transferee. Upon such transfer, the transferring Landlord shall be released by Tenant from all liability for the return of such security, and Tenant agrees to look to the transferee solely for the return of said security. The provisions hereof shall apply to every transfer or assignment made of the security to such a transferee. Tenant further covenants that it will not assign or encumber or attempt to assign or encumber the Letter of Credit or the monies deposited herein as security, and that neither Landlord nor its successors or assigns shall be bound by any assignment, encumbrance, attempted assignment or attempted encumbrance.

2.5.7 Landlord and Tenant acknowledge and agree that in no event or circumstance shall the Letter of Credit, any renewal thereof or substitute therefor or the proceeds thereof be (i) deemed to be or treated as a security deposit within the meaning of California Civil Code Section 1950.7, (ii) subject to the terms of such Section 1950.7, or (iii) intended to serve as a security deposit within the meaning of such Section 1950.7. The parties hereto (A) recite that the Letter of Credit is not intended to serve as a security deposit and such Section 1950.7 and any and all other laws, rules and regulations applicable to security deposits in the commercial context ("**Security Deposit Laws**") shall have no applicability or relevancy thereto, and (B) waive any and all rights, duties and obligations either party may now or, in the future, will have relating to or arising from the Security Deposit Laws. Notwithstanding the foregoing, to the extent California Civil Code 1950.7 in any way: (a) is determined to be applicable to this Lease or the Letter of Credit (or any proceeds thereof); or (b) controls Landlord's rights to draw on the Letter of Credit or apply the proceeds of the Letter of Credit to any amounts due under this Lease or any damages Landlord may suffer following termination of this Lease, then Tenant fully and irrevocably waives the benefits and protections of Section 1950.7 of the California Civil Code, it being agreed that Landlord may recover from the Letter of Credit (or its proceeds) all of Landlord's damages under this Lease and California law including, but not limited to, any damages accruing upon the termination of this Lease in accordance with this Lease and Section 1951.2 of the California Civil Code.

ARTICLE 3
USE, COMPLIANCE WITH LAWS, HAZARDOUS MATERIALS, DOGS

3.1 Use. Tenant shall use the Premises solely for the Permitted Use, in a manner consistent with first-class life science buildings, and shall comply (and ensure that the Premises at all times comply) with all Applicable Laws. Tenant shall be solely responsible for the securing, modifying, maintaining, and compliance with any and all permits, licenses and approvals required or that may be required or otherwise in effect for the Permitted Use and under Environmental Laws in connection with Tenant's use and operation of the Premises. Tenant shall not commit, or allow to commit, any waste of or injury to the Premises or create, maintain or exacerbate any nuisance thereon or therefrom. Landlord agrees to reasonably cooperate with Tenant, at Tenant's sole cost and expense, in obtaining any permits, licenses and approvals required by Applicable Laws for the use of and operation at the Premises by Tenant for the Permitted Use, including, without limitation, by executing or joining in the execution of such applications and other documentation (the form and content of which shall be subject to Landlord's reasonable approval) in Landlord's name, solely as and because Landlord is the fee simple owner of the Premises, as may be necessary for obtaining such permits, licenses and approvals, all without cost or liability to Landlord. Tenant shall operate in a first-class manner and shall not exceed the density limit for the Building under Applicable Laws. Tenant shall not commit waste or cause a public nuisance.

3.2 Compliance with Applicable Laws. Tenant shall comply with all Applicable Laws and any agreements between Tenant and third parties with respect to the Premises and Tenant's operation at the Premises. It is intended that the Tenant bear the sole risk of all present or future Applicable Laws, regulations and orders affecting the Premises, and the Landlord shall not be liable for their enforcement. Should there be any material noncompliance or alleged material noncompliance by Tenant with Applicable Laws or agreements between Tenant and third parties with respect to the Premises and Tenant's operation at the Premises, Tenant shall promptly notify Landlord in writing of such actual or alleged noncompliance, which notice shall include (i) documentation that such actual or alleged noncompliance has been fully addressed and eliminated or, (ii) if such actual or alleged noncompliance has not been fully addressed and eliminated, a schedule to fully and expeditiously address and eliminate such actual or alleged noncompliance. The giving of such notice shall not relieve Tenant of any liability to Landlord or others for such actual or alleged noncompliance. To ensure Tenant's compliance with Applicable Laws and Tenant's performance of Tenant's management, repair, maintenance, and compliance obligations hereunder, upon reasonable notice to Tenant and subject to and in accordance with Applicable Laws and reasonable confidentiality requirements pertaining to Tenant's operations (provided such requirements do not impair or delay Landlord's rights under this Section), Landlord may inspect or cause non-invasive independent third party inspections of the facility and Tenant's operation to confirm compliance with Applicable Laws and Tenant's management, repair, maintenance, and compliance obligations hereunder, at Landlord's expense, except as otherwise provided in Section 3.3.7.

3.3 Hazardous Materials.

3.3.1 Tenant, and any of Tenant's assignees, sublessees, licensees, agents, servants, employees, invitees and contractors (or any of Tenant's assignees, sublessees and/or licensees respective agents, servants, employees, invitees and contractors) (collectively, "**Tenant Parties**"; any of them, a "**Tenant Party**") (a) shall not, and shall not permit at any time, the handling, use, manufacture, release, storage, or disposal of Hazardous Materials in or about any portion of the Premises in violation of Applicable Laws, (b) shall always manage, handle, use, store, and dispose of such Hazardous Materials in a safe manner, according to prudent industry practice, and in compliance with Applicable Laws, and (c) shall at all times have any and all required permits, licenses and approvals required for or in connection with, the use and handling of Hazardous Materials at the Premises and at all times be in compliance with such required permits, licenses and approvals. "**Hazardous Materials**" means (a) any and all substances (whether solid, liquid or gas) defined, listed or otherwise classified or regulated as "biological compounds", "bio-hazardous wastes", "radiological elements", "hazardous wastes," "hazardous materials," "hazardous substances," "toxic substances," "pollutants," "contaminants," "radioactive materials", "toxic pollutants", "solid wastes," or other similar designations in, or otherwise subject to regulation under Environmental Laws, and (b) any other substances, constituents or wastes that are deemed to have a negative impact on human health or the environment, whether or not naturally occurring, or that are subject to Environmental Law, now or hereafter in effect, including but not limited to (A) petroleum, (B) refined petroleum products, (C) waste oil, (D) waste aviation or motor vehicle fuel and their byproducts, (E) asbestos, (F) lead in water, paint or elsewhere, (G) radon, (H) Polychlorinated Biphenyls (PCBs), (I) urea formaldehyde, (J) volatile organic compounds (VOC), (K) total petroleum hydrocarbons (TPH), (L) benzene derivative (BTEX), (M) poly- and perfluoroalkyl substances and other emerging contaminants, and (N) petroleum byproducts. Hazardous Materials further includes flammables, explosives, corrosive materials, radioactive materials, materials capable of emitting toxic fumes, hazardous wastes, toxic wastes or materials, and other similar substances, petroleum products and derivatives, and any substance subject to regulation by or under any Environmental Law. As between Landlord and Tenant, Tenant is deemed to be the operator of the Premises, the generator of any Hazardous Materials waste present at or generated at the Premises or as part of Tenant's operations, and the owner of all Hazardous Materials at the Premises at any and all times during the Term. On or before the expiration or earlier termination of this Lease, Tenant shall remove from the Premises all Hazardous Materials introduced to the Premises by Tenant, any other Party or any other party other than Landlord during the Term of the Lease, regardless of whether such Hazardous Materials are included on the Hazardous Materials List or present at the Premises in concentrations which require removal under Applicable Laws. As used herein, the term "**Contamination**" means the presence of Hazardous Materials in the air, soil, surface and/or ground water in, on or under the Premises and/or any adjacent property at levels above those permitted by applicable Environmental Laws.

3.3.2 Landlord acknowledges that it is not the intent of this Section 3.3 to prohibit Tenant from using the Premises for the Permitted Use. Tenant may operate its business according to best industry practices so long as the use or presence of Hazardous Materials is strictly and properly monitored according to all then applicable Environmental Laws, all Hazardous Materials at the Premises are used in the operation of Tenant's business, and such use is consistent with similar first-class facilities engaged in the Permitted Use in the greater San Diego County area. Notwithstanding the foregoing, Tenant shall have no right to install any underground storage tanks at the Premises unless Landlord has given Tenant its written consent to do so, which consent may be withheld in Landlord's sole and absolute discretion. In conducting its research activities using Hazardous Materials, Tenant shall not perform work at or above the risk category Biosafety Level 3 as established by the Department of Health and Human Services publication Biosafety in Microbiological and Biomedical Laboratories (5th Edition) (as it may be or may have been further revised, the "**BMBL**") or such nationally recognized new or replacement standards as Landlord may reasonable designate, without the prior written approval of Landlord, which approval shall not be unreasonably withheld, conditioned, or delayed (and if such change in Tenant's operation requires the approval of Landlord's lender, the lender's denial of approval shall be deemed a reasonable basis for Landlord to deny its approval); provided, however, Landlord's approval of any operation above the risk category Biosafety Level 3 shall be in Landlord's sole discretion. Tenant shall comply with all applicable provisions of the standards of the BMBL to the extent applicable to Tenant's operations in the Premises.

3.3.3 As a material inducement to Landlord to allow Tenant to use Hazardous Materials in connection with its business, Tenant agrees to deliver to Landlord prior to the Commencement Date a list identifying each type of Hazardous Materials (other than ordinary office and cleaning supplies used in cleaning of the office spaces within the Building) to be brought upon, kept, used, stored, handled, treated, generated on, or released or disposed of from, the Premises and setting forth any and all governmental approvals or permits required in connection with the presence, use, storage, handling, treatment, generation, release or disposal of such Hazardous Materials on or from the Premises ("**Hazardous Materials List**"). Upon Landlord's request (not more than once per year, unless Landlord has a reasonable belief that Tenant is not in compliance with this Section 3.3, a release or threatened release of Hazardous Materials has occurred, or in connection with a sale, financing, refinancing, or recapitalization of Landlord's interest in the Premises), or any time that Tenant is required to deliver a Hazardous Materials List to any governmental authority (e.g., the fire department) or an insurer in connection with Tenant's use or occupancy of the Premises, Tenant shall deliver to Landlord a copy of such Hazardous Materials List. Tenant shall deliver to Landlord true and correct copies of the following documents (the "**Haz Mat Documents**") relating to the use, storage, handling, treatment, generation, release or disposal of Hazardous Materials prior to the Commencement Date, or if unavailable at that time, concurrent with the receipt from or submission to a governmental authority: permits; licenses, approvals; reports and correspondence; storage and management plans; notice of violations of any Applicable Laws; fire safety plans; spill response plans; plans relating to the installation of any storage tanks to be installed in or under the Premises (provided, said installation of tanks shall only be permitted after Landlord has given Tenant its written consent to do so, which consent may be withheld in Landlord's sole and absolute discretion with respect to underground storage tanks); all closure plans or any other documents required by any and all governmental authorities for any storage tanks installed in, on or under the Premises for the closure of any such tanks; and a Surrender Plan (to the extent surrender in accordance with Section 3.3.9 cannot be accomplished in three (3) months). Tenant is not required, however, to provide Landlord with any portion(s) of the Haz Mat Documents containing proprietary information of a proprietary nature that, in and of themselves, do not contain a reference to any Hazardous Materials or hazardous activities. It is not the intent of this Section to provide Landlord with information that could be detrimental to Tenant's business should such information become possessed by Tenant's competitors.

3.3.4 Except to the extent caused by the gross negligence or willful misconduct of, or breach of contract by, Landlord or Landlord Parties, Tenant releases Landlord and Landlord Parties from and agrees to indemnify, defend and hold Landlord and Landlord Parties harmless for, from and against any and all actions (including, without limitation, remedial or enforcement actions of any kind, administrative or judicial proceedings, and orders or judgments arising out of or resulting therefrom), costs, claims, damages (including, without limitation, punitive damages and damages based upon diminution in value of the Premises, or the loss of, or restriction on, use of the Premises), expenses (including, without limitation, legal, consultants' and experts' fees, court costs and amounts paid in settlement of any claims or actions), fines, forfeitures or other civil, administrative or criminal penalties, injunctive or other relief (whether or not based upon personal injury, property damage, or Contamination of, or adverse effects upon, the environment, water tables or natural resources), liabilities or losses (i) that arise prior to, during, or after the Term, as a result of the presence, suspected presence, release, or suspected release of any Hazardous Materials in or into the environment, including the air, soil, surface water, or groundwater at, on, about, under, emanating to or from, having emanated to or from, or within the Premises, or any portion thereof caused or exacerbated by, or otherwise attributable to, Tenant or any other party (other than Landlord or Landlord Parties) prior to the date that Tenant vacates the Premises in the condition required following the termination or earlier expiration of the Term, or (ii) that arise prior to, during, or after the Term, as a result of the breach by Tenant of any of its obligations under this Section 3.3, including in each case, without limitation, the cost of assessment, containment and/or removal of any such Hazardous Materials, the reasonable and necessary cost of any actions taken in response to a release of any such Hazardous Materials so that it does not migrate or otherwise cause or threaten danger to present or future public health, safety, welfare or the environment, and costs incurred to comply with Environmental Laws in connection with all or any portion of the Premises or the operation thereof (or any surrounding areas for which Tenant or Landlord has any legal liability or obligation) during the Term.

3.3.5 EXCEPT AS OTHERWISE PROVIDED FOR HEREIN, LANDLORD LEASES AND WILL LEASE, AND TENANT TAKES AND WILL TAKE, THE PREMISES IN AN ENVIRONMENTALLY "AS IS" CONDITION, AND TENANT ACKNOWLEDGES THAT LANDLORD HAS NOT MADE AND WILL NOT MAKE, NOR SHALL LANDLORD BE DEEMED TO HAVE MADE, ANY WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, WITH RESPECT TO THE ENVIRONMENTAL CONDITION OF THE PREMISES, INCLUDING ANY WARRANTY OR REPRESENTATION AS TO FITNESS OF THE PREMISES FOR ANY PARTICULAR USE OR PURPOSE, AS TO THE PRESENCE OR ABSENCE OF ANY HAZARDOUS MATERIALS, LATENT OR PATENT, ANY ENVIRONMENTAL CONDITION, KNOWN OR UNKNOWN, OR ANY AIR, SOIL, SOIL GAS, OR GROUNDWATER CONDITION, IT BEING AGREED THAT ALL RISKS AND LIABILITY INCIDENT TO ANY OF THE FOREGOING ARE TO BE BORNE BY TENANT

3.3.6 Tenant hereby represents and warrants to Landlord that (i) neither Tenant nor any of its legal predecessors has been required by any prior landlord, lender or governmental authority at any time to take remedial action in connection with Hazardous Materials contaminating the natural environment, which contamination was caused or permitted by Tenant or such predecessor or resulted from Tenant's or such predecessor's acts, omissions, or use or occupation of the property in question, and (ii) Tenant is not subject to any enforcement order issued, or regulatory proceedings or prosecution commenced, by any governmental authority in connection with the use, storage, handling, treatment, generation, release or disposal of Hazardous Materials (including, without limitation, any order related to the failure to make a required reporting to any governmental authority).

3.3.7 Upon prior notice and using reasonable efforts to coordinate with Tenant, Landlord shall have the right but not the obligation to conduct annual tests (or at any time Landlord has a reasonable belief that Tenant is not in compliance with this Section 3.3) of the Premises including, without limitation, intrusive tests of the subsurface soil and/or ground water, to determine whether any Contamination of the Premises has occurred as a result of Tenant's use or occupation. Landlord shall pay the cost of such test of the Premises; provided, however, that if such tests show any Contamination of the Premises has occurred as a result of Tenant's use or occupation, Tenant shall pay the cost of such test. In connection with such testing, upon the request of Landlord, Tenant shall deliver to Landlord or its consultant such non-proprietary information concerning the use, storage, handling, treatment, generation, release or disposal of Hazardous Materials in or about the Premises by Tenant or any Tenant Party as Landlord may reasonably request. If Contamination has occurred for which Tenant is liable under this Section 3.3, Tenant shall pay all costs to conduct such tests. Tenant shall, at its sole cost and expense, promptly and satisfactorily remediate any Contamination identified by such testing in accordance with all Environmental Laws. Landlord's receipt of or satisfaction with any environmental assessment in no way waives any rights that Landlord may have against Tenant.

3.3.8 Furthermore, upon the expiration of the Term or earlier termination of Tenant's right of possession, Tenant shall surrender the Premises to Landlord free of Hazardous Materials brought upon, kept, used, stored, handled, treated, generated in, or released or disposed of from, the Premises by any person other than Landlord (collectively, "**Tenant's Hazardous Materials**") and released of any license, clearance or other authorization or requirement of any kind required to enter into and restore the Premises issued by any governmental authority having jurisdiction over the use, storage, handling, treatment, generation, release, disposal, removal or remediation of Hazardous Materials in, on or about the Premises (collectively referred to herein as "**Hazardous Materials Clearances**"). At least three (3) months prior to the surrender of the Premises or such earlier date as Tenant may elect to cease operations at the Premises, Tenant shall deliver to Landlord a narrative description of the actions proposed (or required by any governmental authority) to be taken by Tenant in order to surrender the Premises (including any Alterations permitted by Landlord to remain in the Premises) at the expiration or earlier termination of the Term, free from any residual impact from Tenant's Hazardous Materials and otherwise released for unrestricted use and occupancy (the "**Surrender Plan**"). Such Surrender Plan shall be accompanied by a current listing of (i) all Hazardous Materials licenses and permits held by or on behalf of any Tenant Party with respect to the Premises, and (ii) all Hazardous Materials used, stored, handled, treated, generated, released or disposed of from the Premises, and shall be subject to the review and reasonable approval of Landlord's environmental consultant. In connection with the review and approval of the Surrender Plan, upon the request of Landlord, Tenant shall deliver to Landlord or its consultant such additional non-proprietary information concerning Tenant's Hazardous Materials as Landlord shall reasonably request. On or before such surrender, Tenant shall deliver to Landlord evidence that the approved Surrender Plan shall have been satisfactorily completed and Landlord shall have the right, subject to reimbursement at Tenant's expense as set forth below, to cause Landlord's environmental consultant to inspect the Premises and perform such additional procedures, including without limitation intrusive subsurface testing of soil and/or ground water, as may reasonably be deemed necessary to confirm that the Premises are, as of the effective date of such surrender or early termination of the Lease, free from any Tenant's Hazardous Materials. Tenant shall reimburse Landlord, as Additional Rent, for the actual out-of- pocket expense incurred by Landlord for Landlord's environmental consultant to review the Surrender Plan and to visit the Premises and verify satisfactory completion of the same, which cost shall not exceed $5,000 (which amount shall be increased by the same percentage as the Index as of each Adjustment Date). Landlord shall have the unrestricted right to deliver such Surrender Plan and any report by Landlord's environmental consultant with respect to the surrender of the Premises to third parties on a need-to-know basis.

3.3.9 If Tenant shall fail to prepare or submit a Surrender Plan approved by Landlord, or if Tenant shall fail to complete the approved Surrender Plan, or if such Surrender Plan, whether or not approved by Landlord, shall fail to adequately address any Tenant's Hazardous Materials in, on or about the Premises, Landlord shall have the right to take such actions as Landlord may reasonably deem appropriate to assure that the Premises are surrendered free from any Tenant's Hazardous Materials, the cost of which actions shall be reimbursed by Tenant as Additional Rent.

3.3.10 Tenant's obligations under this Section 3.3 shall survive the expiration or earlier termination of the Lease. During any period of time after the expiration or earlier termination of this Lease required by Tenant or Landlord to complete the removal from the Premises of any Hazardous Materials (including, without limitation, the release and termination of any licenses or permits restricting the use of the Premises and the completion of the approved Surrender Plan), Tenant shall continue to pay the full Rent in accordance with this Lease for any portion of the Premises not relet by Landlord in Landlord's sole discretion, which Rent shall be prorated daily.

3.4 Alterations.

3.4.1 Consent. Tenant may make any alterations, improvements, additions or changes to the Premises, including, without limitation, the Tenant Improvements as defined in the Work Letter, (collectively "**Alterations**") that meet all of the following criteria without first obtaining Landlord's Consent: (a) the Alterations are cosmetic, (b) the Alterations are non-structural and do not affect the mechanical systems of the Building, (c) the Alterations cost less than $1,000,000.00 per project (which amount shall be increased by the same percentage as the Index as of each Adjustment Date); and (d) after the Alterations, the Premises will continue to be used for the Permitted Use (collectively, Alterations meeting the criteria of (a)-(d), "Minor Alterations"). Any Alterations that are not Minor Alterations shall be subject to Landlord's approval, such approval not to be unreasonably withheld, conditioned or delayed. Tenant shall reimburse Landlord for any third-party expenses reasonably incurred by Landlord in connection with the review, inspection, and coordination of Tenant's plans for Alterations and Tenant's performance thereof. Tenant hereby agrees to provide copies of all plans of such Alterations, regardless of whether Landlord's consent is required. Tenant shall diligently and expeditiously complete any Alterations commenced. All Alterations shall become part of the realty constituting the Premises and shall belong to Landlord and shall not be removed by Tenant. If any Alteration is anticipated to cost more than $1,500,000, Landlord shall have the right to require Tenant to post a performance or payment bond in connection with any work or service done or purportedly done by or for the benefit of Tenant. Tenant acknowledges and agrees that all such work or service is being performed for the sole benefit of Tenant and not for the benefit of Landlord. Landlord shall, at the time it provides its approval for a proposed Alteration, advise Tenant whether the Alteration, or any portion thereof, is a Required Removable, as defined in Section 4.2.2. For the avoidance of doubt, with respect to the Tenant Improvements only, in the event of any conflict between the terms of this Section 3.4 and the terms of the Work Letter, the terms of the Work Letter shall control.

3.4.2 Liens. With respect to any Alterations, Tenant hereby agrees as follows: (a) Tenant shall not cause or permit any construction, mechanics' or other liens or encumbrances to be placed upon the Premises, or Tenant's leasehold interest hereunder, whether in connection with any work or service done or purportedly done by or for the benefit of Tenant, its subtenants, or any other party acting under or through Tenant, or otherwise, (b) Tenant shall cause all Alterations to be constructed free of all liens, in accordance with all Applicable Laws and shall, upon Landlord's request, deliver lien waivers to Landlord in the form required by Applicable Law, (c) Tenant shall pay the costs of the Alterations and so that Landlord, the Premises will be protected against any loss from any mechanic's, materialmen's, or other liens, and (d) prior to the commencement of the construction of any Alterations, Tenant shall give to Landlord evidence of the insurance required by Section 6.2.4. Notwithstanding the foregoing or anything to the contrary in this Lease, Tenant may contest any lien if (i) such lien is the subject of a bona fide dispute in which Tenant is contesting the amount or validity thereof, (ii) Tenant notifies Landlord of such dispute, and (iii) such lien is fully bonded by Tenant to the reasonable satisfaction of Landlord and any Mortgagee. Tenant shall give Landlord notice at least fifteen (15) days prior to the commencement of any work in the Premises, other than any Alterations that are purely cosmetic.

3.4.3 Requirements. Prior to starting work on any Alterations, Tenant shall furnish Landlord with two (2) complete sets of professionally prepared working drawings (which shall include any architectural, structural, electrical, mechanical, computer system wiring, and telecommunication plans, which shall all be in CAD or other electronic format if requested by Landlord), and will be consistent with the construction methods and procedures manual attached hereto as Exhibit I, as amended from time to time for the Premises (the "**Tenant Construction Manual**"); names of contractors reasonably acceptable to Landlord; required permits and approvals; and evidence of contractor's and subcontractor's insurance in amounts reasonably required by Landlord and naming as additional insureds the Landlord, the managing agent for the Premises, and such other Additional Insured Parties (as defined in Section 13) as Landlord may designate for such purposes. All Cable shall be clearly marked with adhesive plastic labels (or plastic tags attached to such Cable with wire) to show the purpose of such Cable (i) every six (6) feet in locations behind walls, beneath floors, and above ceilings (specifically including, but not limited to, the electrical room risers), and (ii) at the termination point(s) of such Cable. "**Cable**" shall mean and refer to any electronic, fiber, phone and data cabling and related equipment that is installed by or for the exclusive benefit of Tenant or any party acting under or through Tenant. Any changes to the plans and specifications, other than di minimus changes that are purely cosmetic, do not affect the Building structure or mechanical systems, and do not cause the cost of the Alterations to exceed $1,000,000 (which amount shall be increased by the same percentage as the Index as of each Adjustment Date), must also be submitted to Landlord for its approval. Prior to commencing Alterations, Tenant shall provide Landlord with a copy of the contract for the Alterations and evidence satisfactory to Landlord as to the existence of all necessary permits (to the extent not previously provided). Alterations shall be (a) constructed in a good and workmanlike manner, (b) consistent with first class standards, (c) consist of materials of a quality reasonably approved by Landlord, and Tenant shall ensure that no Alteration impairs any Building system, (d) performed by contractors or mechanics whose labor union affiliations are not incompatible with those of any workers, contractors or subcontractors who may be employed, retained or engaged by the Landlord for the development and making of any alterations at the Premises, and who are otherwise reasonably approved by Landlord, (e) in accordance with the Tenant Construction Manual, if any, and (f) designed and performed in accordance with all applicable Laws. It shall be deemed reasonable for Landlord to withhold its consent to any Alteration that adversely affects a Building's roof, structure, or systems, that is inconsistent with a first-class life science building, that results in an increase in gross floor area at the Premises or alteration of any Building footprint, that would violate any certificate of occupancy for the Building or any other permits or licenses relating to the Building, that would reduce the utility of the Premises for life sciences laboratory, research, and manufacturing purposes, or that is otherwise inconsistent with the requirements of this Section. Tenant shall reimburse Landlord for any third-party expenses incurred by Landlord in connection with the review, inspection, and coordination of Tenant's plans for Alterations and Tenant's performance thereof. Upon completion, Tenant shall furnish "as-built" plans (in CAD or other electronic format, if requested by Landlord) for Alterations, customary American Institute of Architects completion affidavits, full and final waivers of lien, any applicable certificate of occupancy for the space affected by such Alterations and other applicable municipal or local sign-offs and inspection reports, and any other items reasonably required by Landlord for closing out the particular work in question. Landlord's approval of an Alteration shall not be deemed to be a representation by Landlord that the Alteration complies with Law or will not adversely affect any Building system.

3.4.4 Construction Oversight Fee. With respect to any Alterations requiring Landlord's consent under Section 3.4.1, Tenant shall pay Landlord a construction oversight fee ("**Construction Oversight Fee**") equal to the sum of one percent (1%) of total hard and soft project costs, provided that Landlord's obligations in connection with the Alterations are limited to oversight only and not direct management of the project. The Construction Oversight Fee shall be calculated based on hard and soft project costs for the Alterations that were approved by Landlord for the portion of work that has been performed and invoiced and shall be payable monthly in arrears concurrent with the approved hard and soft project costs for the Alterations during the applicable month.

3.4.5 Completion. Upon the completion of any Alterations, Tenant shall, to the extent applicable, promptly give to Landlord (a) a reproducible copy of the "as-built" drawings of such Alterations, (b) a certificate of completion executed on behalf of Tenant's architect and/or engineering certifying completion of such Alterations in accordance with the respective plans and specifications, (c) a copy of the certificate of occupancy issued by the applicable governmental authorities with respect to such Alterations, and (d) copies of any warranties or guarantees with respect to such Alterations (and ensure that such warranties or guarantees are assignable to Landlord and/or run to both Landlord and Tenant's benefit).

3.4.6 Ownership of Alterations. Any Alterations shall belong to Tenant until the Termination Date, at which time the Alterations (other than Tenant's Trade Fixtures (as hereinafter defined)) shall belong to Landlord; provided, however, in no event shall the Alterations be removed by Tenant prior to the Termination Date, except as expressly provided herein. For purposes of this Lease, "**Trade Fixtures**" shall mean a piece of equipment placed on the Premises owned by Tenant and used in Tenant's trade or business. For the avoidance of doubt, Trade Fixtures shall not include, without limitation, Building systems and machinery, built-in cabinet work and/or lab benches, purpose-built mezzanine space, all HVAC, air handling, electrical, mechanical and plumbing equipment and related ducts, shafts, and conduits, all exterior venting fume hoods, walk-in freezers and refrigerators, clean-rooms, climatized rooms, electrical panels and power back-up distribution systems. The parties agree that Landlord will be treated for all purposes, including tax purposes, as the owner of (and will be the party entitled to claim depreciation or other cost recovery deductions for federal tax purposes with respect to) any improvements, equipment, or personal property that were paid for, or reimbursed by, Landlord, including any allowance provided by Landlord, and Tenant will be treated for all purposes, including tax purposes, as the owner of (and will be the party entitled to claim depreciation or other cost recovery deductions for federal tax purposes with respect to) any improvements to the extent that the cost for such improvements were paid for by Tenant and to the extent any such costs exceed any allowance provided by Landlord. Unless required to adopt a contrary position as a result of an administrative or judicial proceeding, the parties shall take no action inconsistent with, the intentions set forth in this paragraph. The parties will provide each other with such cooperation as is reasonably necessary to implement the intentions of this paragraph.

3.5 Jeopardy of Insurance. Tenant shall neither do nor omit to do anything that might result in the actual or threatened reduction or cancellation of or material adverse change in insurance carried by Landlord or Tenant on the Premises. If any such insurance is actually, or threatened to be, cancelled, reduced or materially adversely changed by an insurer as a result of the use or occupancy of the Premises or any article kept in or about the Premises or any act or omission of Tenant or any person for whom Tenant is in law responsible or any occupant of the Premises, and if Tenant fails to remedy the condition or the use or occupancy giving rise to such actual or threatened cancellation, reduction or change within three (3) business days after notice thereof, Landlord may, without limiting its other remedies for the default, enter upon the Premises and remedy the condition, use or occupancy giving rise to such actual or threatened cancellation, reduction or change, and Tenant shall pay to Landlord its cost of doing so within ten (10) days following invoice, plus an administrative fee equal to ten percent (10%) of such cost. Landlord shall not be liable for any damage to either the Premises or any property located on the Premises as a result of such entry.

3.6 Dogs. Tenant shall be permitted to bring a reasonable number of non-aggressive, fully domesticated, properly licensed, fully vaccinated, and well behaved dogs, kept by Tenant's employees as pets, into the Premises, provided and upon condition that: (a) all dogs shall be strictly controlled at all times, (b) dogs shall not be permitted to foul, damage or otherwise mar any part of the Building or Premises; and (c) while entering and exiting the Premises, all dogs shall be kept on leashes. Landlord may limit the number, weight, and breed of dogs that may be permitted in the Premises, and Landlord may implement other rules and regulations not inconsistent with this Section 3.6 that Landlord, in its sole discretion, deems reasonable or prudent. Tenant shall be responsible for any damage and additional cleaning costs and all other costs which may arise from the dogs' presence in the Building and on the Premises. Tenant shall be liable for, and hereby agrees to indemnify, defend and hold Landlord harmless from any and all claims arising from any and all acts (including but not limited to biting and causing bodily injury to, or damage to the property of, another lessee, sublessee, occupant, licensee, invitee, Landlord or an employee of Landlord) of, or the presence of, any dog in or about the Premises or the Building. Tenant shall promptly remove any dog waste and excrement from the Premises and Building. Dogs shall be strictly controlled and supervised at all times (including, without limitation, by being on leashes) by Tenant's employees, with no less than one (1) such employee responsible for so controlling and supervising no more than two (2) dogs apiece. Within three (3) business days following Landlord's request therefor, Tenant shall provide Landlord with reasonably satisfactory evidence showing that all current vaccinations have been received by any dogs permitted on the Premises. No dog shall be brought to the Premises if such dog is ill or contracts a disease that could potentially threaten the health or wellbeing of any person on the Premises (which diseases may include, without limitation, rabies, leptospirosis and lyme disease). Tenant shall not permit any objectionable dog related noises or odors to emanate from the Premises (as determined by Landlord in its sole discretion), and in no event shall any dog be at the Premises overnight or for any extended period of time. Tenant shall install and maintain dog waste bag dispensers in outdoor areas of the Premises, and all waste generated by any dogs in or about the Premises shall be promptly removed and disposed of (on no less than a daily basis) in trash receptacles. Any areas of the Premises affected by such waste shall be immediately cleaned and otherwise sanitized. Landlord may require Tenant to permanently ban any dog from the Premises if (i) any such dog exhibits aggressive behavior, damages or destroys property in the Premises, violates specific provisions of this Section, defecates or urinates in any non-outdoor area of the Project, or defecates in any outdoor area of the Project and Tenant fails to remove such waste in accordance with the terms of this Section, and (ii) any such dog is found by Landlord in its sole but good faith discretion to be a substantial, repeated nuisance to the Premises, and, in any such event, such substantial, repeated nuisance persists after at least two (2) written notices to Tenant from Landlord in any twelve (12) month period), then Landlord may terminate Tenant's rights under this Section. Tenant shall promptly pay to Landlord, within thirty (30) days after demand, all costs incurred by Landlord that directly result from the presence of any of dogs in the Premises. Tenant's right provided in this Section is personal only to the original named Tenant and/or any Permitted Transferee, shall not be exercisable by any other assignee, subtenant or other transferee of or successor to any portion of Tenant's interest under the Lease or to the Premises.

3.7 LEED Standards. Landlord and Tenant each acknowledge that the Building has been designed to meet the standard for at least a "Gold" rating under the U.S. Green Building Council's Leadership in Energy and Environmental Design ("**LEED**") rating system. Tenant shall reasonably cooperate with Landlord to obtain and maintain LEED Gold certification for the Building, including, without limitation, cooperating with Landlord in its submission of all filings and applications for LEED Gold certification, at Tenant's cost and expense. All Alterations, and any lighting installed by Tenant in the Premises, shall be designed, maintained, and installed in accordance with the requirements for at least LEED Gold, as the same may change from time to time. If necessary to ensure compliance with LEED Gold or such other standards, Tenant further agrees to engage a qualified third party LEED or Green Globe Accredited Professional or similarly qualified professional during the design phase of any Alterations, in order to review all plans, material procurement, demolition, construction and waste management procedures to ensure they are in full conformance with the requirements to maintain a LEED Gold or such other rating.

ARTICLE 4
REPAIR AND MAINTENANCE; SERVICES

4.1 Tenant Repair and Maintenance Obligations. The parties intend for this Lease to be absolutely triple net. Tenant shall be responsible for all repairs, replacements and maintenance of the Premises. Landlord shall have no obligation whatsoever to repair or maintain the Premises. Tenant shall repair and maintain the Premises in substantially the condition as exists as of the Commencement Date of this Lease (and as it may be improved or altered thereafter, including, without limitation, pursuant to the Work Letter), keep same in good order, condition and repair, and in compliance with Applicable Laws, ordinary wear and tear and casualty excepted, to the extent Tenant is not otherwise obligated to restore the same.

4.2 Condition of Premises on Surrender

4.2.1 Except as otherwise provided in this Section 4.2, upon the Termination Date, all Alterations (other than Tenant's Trade Fixtures) shall belong to Landlord without compensation, and title shall pass to Landlord under this Lease. On the Termination Date, Tenant shall give Landlord possession of the Premises, together with all such Alterations (other than Tenant's Trade Fixtures), in the good, broom clean condition, free of all debris, excepting only ordinary wear and tear and damage that Tenant is not required to repair or restore under this Lease. On or prior to the Termination Date, Tenant shall also (a) remove all of Tenant's furniture, Trade Fixtures, furnishings, equipment belonging to the Tenant, and other personal property (collectively, the "**Personalty**"), and (b) repair any damage caused by the removal of such Personalty. All of Tenant's Personalty not so removed by Tenant, may be removed from the Premises by Landlord and stored, at Tenant's sole risk and expense, and in any event, Landlord shall not be responsible for the value, preservation, or safekeeping thereof. Tenant shall pay to Landlord, upon demand, all reasonable expenses so incurred by Landlord, including the cost of repairing any damage caused by removal and storing such Personalty (collectively, "**Tenant's Property**"). Any such Tenant's Property not claimed by Tenant within sixty (60) days after Tenant's surrender of the Premises shall, at Landlord's option, be deemed either abandoned or conveyed by Tenant to Landlord under this Lease without further payment or credit by Landlord to Tenant. On the Termination Date, Tenant shall assign to Landlord all manufacturers' and contractors' warranties with respect to the Premises and the Alterations (including all fixtures therein or thereon but excluding Tenant's Trade Fixtures) and Tenant shall use commercially reasonable efforts obtain the consent of the issuers of such warranties (which may include, without limitation, the payment of an assignment fee), to the extent that such consent is required for the assignment to Landlord.

4.2.2 Landlord, at the time required by Section 3.4.1, by written notice to Tenant may require Tenant, at Tenant's expense, to remove any Alterations or other affixed installations that, in Landlord's reasonable judgment, are of a nature that are not customary office or life science improvements and would require removal and repair costs that are materially in excess of the removal and repair costs associated with standard improvements for the Permitted Use ("**Required Removables**"). Required Removables shall include, without limitation, internal stairways, raised floors, vaults, rolling file systems, structural alterations and modifications (including any slab penetrations) other than de minimis alterations and modifications associated with connection of other improvements to the structure of the Building or relocation of demising walls provided that the same are otherwise consistent with first class life science buildings, Tenant's signage, supplemental systems (including HVAC), vivariums, and any Cable installed by or on behalf of Tenant that is not necessary for the proper functioning of any Alterations remaining in the Premises in accordance with this Lease. Notwithstanding the foregoing, any fixtures or improvements existing within the Premises on the Effective Date shall not be deemed Required Removables. The Required Removables shall be removed by Tenant before the expiration or earlier termination of this Lease in accordance with Section this Section 4.2, unless otherwise directed by Landlord. Landlord shall be treated as the owner of all Alterations (but, subject to Section 4.2.1, not any of Tenant's Property, including any trade fixtures and equipment that are installed in a manner that will not damage the Premises when removed) during the term of the Lease, including for tax and depreciation purposes, but Tenant shall have the exclusive right to use the same subject to the terms of this Lease.

4.3 Services and Utilities. Landlord shall not be obligated to furnish to the Premises any services or utilities (including, without limitation, janitorial services), and Tenant shall contract directly with the providers of all services and utilities Tenant desires to receive at the Premises, at Tenant's sole cost and expense. Tenant shall have the right to add alternative electricity sources such as additional solar panels, the installation of which shall be subject to Section 3.4. Landlord is not responsible for the furnishing of, or any interruption, diminishment or termination of, services or utilities, whether due to the application of Laws, the failure of any equipment, the performance of maintenance, repairs, improvements or alterations, or utility interruptions, and no such interruption, diminishment, or termination shall render Landlord liable to Tenant, give rise to an abatement of Rent, or relieve Tenant from the obligation to fulfill any covenant or agreement. Except as expressly set forth in Article 9, below, Landlord shall in no event be required under any provision of this Lease or applicable Law to maintain or repair or to make any alterations, rebuildings, replacements, changes, additions or improvements on or off the Premises during the Term of this Lease. Tenant acknowledges that it shall be responsible for providing and procuring all other services necessary to its operations in and on the Premises. If Tenant (or any party claiming by, through or under Tenant) pays directly to the provider for any energy consumed at the Building, Tenant, promptly upon request, shall deliver to Landlord (or, at Landlord's option, execute and deliver to Landlord an instrument enabling Landlord to obtain from such provider) any data about consumption that Landlord, in its reasonable judgment, is required to disclose to a prospective buyer, tenant or mortgage lender under California Public Resources Code §25402.10 or any similar law. Further, Tenant hereby waives and releases its right to make repairs at Landlord's expense under Sections 1932(1), 1933(4), 1941 and 1942 of the California Civil Code or any similar or successor laws now or hereinafter in effect. At Landlord's request, Tenant shall provide Landlord information regarding Tenant's energy usage at the Premises from time to time (provided that Landlord shall hold such information confidential to the extent Landlord is not required to disclose such information pursuant to Applicable Law, nothing in this sentence being deemed to prohibit Landlord from utilizing such information to make public statements about the sustainability profile or "green" nature of Landlord, or Landlord's affiliates, properties).

ARTICLE 5
ASSIGNMENT AND SUBLETTING

5.1 General Prohibition on Transfers.

5.1.1 Transfers Generally. Tenant shall not, directly or indirectly, make a Transfer (as defined below), without Landlord's consent, except as expressly set forth in this Article 5, and any purported Transfer that does not comply with the provisions of this Article 5 shall, at Landlord's option, be deemed an Event of Default by Tenant and shall be voidable by Landlord. Tenant hereby waives the provisions of Section 1995.310 of the California Civil Code, or any similar or successor laws, now or hereinafter in effect, and all other remedies, including any right at law or equity to terminate this Lease in connection with Landlord's withholding its consent to any Transfer, on its own behalf and on behalf of the proposed transferee. Landlord shall not unreasonably withhold, condition, or delay its consent to an assignment of this Lease or any sublet of the Premises, subject to the terms and conditions of this Article 5. Without limitation, it is agreed that Landlord's consent shall not be considered unreasonably withheld if the proposed Transferee (defined below) (a) is a governmental entity, (b) is incompatible with the character of occupancy of a first class life sciences building, (c) is an entity with which the payment for the sublease or assignment is determined in whole or in part based upon its net income or profits, (d) would subject the Premises to a use that would: (i) involve increased personnel or wear upon the Building in a manner inconsistent with first-class life science buildings; (ii) require any addition to or material modification of the Premises or the Building in order to comply with building code or other governmental requirements; or (iii) involve a violation of the Permitted Use clauses of this Lease, or (e) if there is any other reasonable ground not stated above for withholding consent.

(a) "**Clients and Business Partners**" means persons or entities who are not employees or agents of Tenant or its Affiliates but are occupying or using portions of the Premises and are either (i) performing services for Tenant as subcontractors under Tenant's contracts, (ii) personnel employed by persons or entities for whom Tenant is performing services on a contractual basis, or (iii) personnel employed by persons or entities with whom Tenant is engaged in a joint venture or joint teaming effort.

(b) "**Office Sharing**" means the use of portions of the Premises by Clients and Business Partners, if, with respect to such Clients and Business Partners, such use is in connection with the services being provided to Tenant by the applicable Clients and Business Partners, the services being provided to the applicable Clients and Business Partners by Tenant, or the services being jointly provided by Tenant and the applicable Clients and Business Partners.

(c) "**Transfer**" means any assignment, pledge, mortgage, charge, debenture (floating or otherwise), hypothecation, encumbrance, lien attaching to, collateral assignment, or other transfer of this Lease or the leasehold created hereby, or any sublet or other transfer of any portion of the Premises, or any Interest Transfer (as defined below), in any case whether voluntarily, by operation of law, or otherwise, or permitting the Premises to be used or occupied by anyone other than Tenant.

(d) "**Transferee**" means the party to which a Transfer is made.

(e) "**Interest Transfer**" means if Tenant is a corporation, trust, partnership, limited liability company or other entity, (i) the transfer of a Controlling Interest or a majority of the voting stock, beneficial interest, partnership interests, membership interests or other ownership interests therein (whether at one time or in the aggregate) or (ii) the sale, mortgage, hypothecation, or pledge of more than 50% of Tenant's net assets. A "**Controlling Interest**" means the effective control over the management of such entity.

5.1.2 Consent Requests. If Tenant desires to effect a Transfer and such Transfer requires Landlord's consent, then Tenant shall give to Landlord Notice thereof at least thirty (30) days, but not more than sixty (60) days, prior to the proposed effective date of the Transfer, which Notice shall include (a) the name and address of the proposed Transferee, (b) the relevant terms of the Transfer, (c) copies of financial reports and other relevant financial information for the proposed Transferee, (d) information regarding the nature of the business the proposed Transferee intends to operate in the Premises and how long the proposed Transferee has operated such business, (e) a fully executed copy of the proposed assignment, sublease, or other document to be used to effect the Transfer (the "**Transfer Document**"), and (f) payment to Landlord of One Thousand and No/100 Dollars ($1,000.00) as a transfer review fee. In addition, Tenant shall reimburse Landlord for any third-party expenses reasonably incurred by Landlord in connection with the review, inspection, and coordination of Tenant's request for Landlord's consent to a Transfer, not to exceed $5,000 per request (which amount shall be increased by the same percentage as the Index as of each Adjustment Date). Landlord shall not unreasonably withhold, condition or delay its consent to a Transfer. If Landlord's consent is required with respect to a Transfer, and Landlord fails to respond to Tenant's request for consent within thirty (30) days of Tenant's request and submission of the documents required by this Section 5.1.2, Tenant may send a second written request, which request shall contain, in bold, capital letters, the following: "THIS NOTICE CONSTITUTES TENANT'S SECOND NOTICE OF ITS REQUEST FOR CONSENT TO A TRANSFER PURSUANT TO SECTION 5.1.2 OF THE LEASE; LANDLORD'S FAILURE TO RESPOND TO THIS NOTICE WITHIN FIVE (5) BUSINESS DAYS SHALL BE DEEMED LANDLORD'S CONSENT TO THE REQUESTED TRANSFER." If Landlord fails to respond to such second notice within five (5) business days of receipt, Tenant's request for the applicable Transfer shall be deemed approved. Tenant hereby waives the provisions of Section 1995.310 of the California Civil Code, or any similar or successor laws, now or hereinafter in effect, and all other remedies, including, without limitation, any right at law or in equity to terminate this Lease, on its own behalf and, to the extent permitted under all Applicable Laws, on behalf of the proposed transferee.

5.1.3 Permitted Transfer. Notwithstanding anything in this Article 5 to the contrary, Tenant may assign its interest in this Lease or sublease all or any part of the Premises (each a "**Permitted Transfer**") to a Permitted Transferee (defined below) with notice to Landlord (delivered prior to the Transfer, or in the event Tenant is prohibited from doing so by Applicable Laws or contractual obligations, then as soon as reasonably practical) but without Landlord's prior written consent; provided, that (i) with respect to a Permitted Transfer involving an assignment of this Lease, the Permitted Transferee assumes this Lease by a written assumption agreement delivered to Landlord prior to the effective date of such Permitted Transfer (unless such prior delivery is prohibited by Applicable Laws, in which event Tenant shall deliver such assumption agreement as soon as allowed), (ii) the Permitted Transferee shall use the Premises only for the Permitted Use, (iii) the use of the Premises by the Permitted Transferee shall not violate any other agreements or leases affecting the Property, (iv) the occurrence of a Permitted Transfer shall not waive Landlord's rights as to any subsequent Transfer, (v) the Permitted Transferee shall satisfy the Credit Requirement (defined below), and (vi) Tenant shall have given Landlord written notice at least thirty (30) day before such Transfer (unless such notice is prohibited by applicable Law, in which event Tenant shall give such notice within ten days following such Transfer). As used herein, (A) "**Affiliate**" means any person or entity who or which controls, is controlled by, or is under common control with Tenant, (ii) a corporation or other entity which shall be a wholly owned subsidiary of the Tenant, (iii) the parent corporation or other entity that wholly owns Tenant, or (iv) a subsidiary of such parent corporation or other entity that wholly owns Tenant, or a corporation or other entity having a majority of its ownership in common with the ownership of Tenant, or (v) a Successor corporation, limited liability company or other entity; (B) "**Successor**" means any (i) business entity in which or with which Tenant is merged or consolidated in accordance with applicable statutory provisions governing merger and consolidation of business entities, so long as Tenant's obligations under this Lease are assumed by the Successor, or (ii) the successor or surviving corporation or other entity in the event of a merger or consolidation of the Tenant with another corporation, so long as Tenant's obligations under this Lease are assumed by the Successor; (C) "**Purchaser**" means any person or entity who or which acquires all or substantially all of the assets or equity interests of Tenant; (D) "**Permitted Transferee**" means an Affiliate, Successor or Purchaser. The "**Credit Requirement**" shall be deemed satisfied if, as of the effective date of the Permitted Transfer, the resulting tenant under this Lease meets or exceeds all of following minimum criteria immediately following the Transfer: (i) cash on hand equal to at least Two Billion Dollars ($2,000,000,000) according to the Permitted Transferee's most recent financial statement, determined in accordance with generally accepted accounting principles ("**GAAP**"), (ii) outstanding debt of not more than sixty (60%) of the Permitted Transferee's available cash on hand (as determined pursuant to the foregoing subsection (i) according to the Permitted Transferee's most recent financial statement, determined in accordance with GAAP, and (iii) a market capitalization equal to at least Five Billion Three Hundred Million Dollars ($5,300,000,000).

5.2 Other Permitted Transfers.

5.2.1 Office Sharing. Notwithstanding anything in this Article 5 to the contrary, provided no Event of Default has occurred and is continuing, Tenant may, without Landlord's consent but upon at least ten (10) days' prior notice to Landlord, permit up to ten percent (10%) of the total leasable area of the Premises to be used for Office Sharing by Clients and Business Partners, without the same constituting a Transfer. Tenant agrees to notify Landlord, promptly upon Landlord's written request therefor, as to the approximate amount of Office Sharing by Clients and Business Partners and to certify to Landlord that such use or occupancy constitutes Office Sharing by Clients and Business Partners and does not constitute a sublease, assignment or other leasehold interest. Notwithstanding the foregoing, Tenant shall not have the right to engage in Office Sharing with respect to any particular Clients and Business Partners as aforesaid if such Clients and Business Partners are engaged in a business, or the Premises will be used in a manner, that is inconsistent with the Permitted Use. For purposes of this Lease, the acts or omissions of the employees or other personnel of Clients and Business Partners shall be deemed to be the acts or omissions (as applicable) of Tenant. Upon Landlord's request, Clients and Business Partners who are Office Sharing shall provide to Landlord satisfactory evidence of insurance covering their activities within the Premises.

5.3 Non-Transfers. For so long as Tenant is a corporation whose ownership equity is available through the free trade of shares of stock on nationally recognized stock exchanges or over-the-counter (OTC) markets that are subject to the oversight of the United States Securities and Exchange Commission (a "**Public Company**"), any transfer of Tenant's equity interests (or those of its Affiliates) whatsoever shall not be deemed a Transfer under this Lease and, for the avoidance of doubt, shall not require Landlord's consent.

5.4 Conditions to Effectiveness. As conditions precedent to any Transfer becoming effective and binding on Landlord:

5.4.1 except as otherwise specified herein, prior to the proposed effective date of the Transfer, Tenant shall give to Landlord a copy of the fully executed Transfer Document, which shall (i) be in form and substance reasonably acceptable to Landlord, and (ii) for an assignment of this Lease, contain Transferee's express assumption of Tenant's obligations under this Lease and waivers by Tenant, for the benefit of Landlord, of all applicable suretyship defenses (unless such prior delivery is prohibited by Applicable Laws, in which event Tenant shall deliver such documents as soon as allowed); and

5.4.2 as of the proposed effective date of the Transfer, there shall exist no Event of Default.

5.5 Miscellaneous.

5.5.1 Notwithstanding any Transfer, permitted or otherwise, including without limitation a Permitted Transfer, (a) Tenant shall not be released and shall at all times remain directly, primarily, and fully responsible and liable for the payment of Rent and for compliance with all of the other obligations to be performed by Tenant under the terms, provisions and covenants of this Lease, and (b) if any Transferee defaults under this Lease, then Landlord may proceed directly against Tenant without the necessity of exhausting remedies against such Transferee. Notwithstanding the foregoing, Tenant shall be automatically released from all liability under the Lease accruing from and after the date of a Transfer if the Transfer is a Permitted Transfer that is a merger or consolidation whereby the named Tenant herein is not the surviving entity; provided, however, as conditions of the foregoing release: (i) the surviving entity shall assume, either expressly or by operation of law, all of the obligations of the preceding entity for liabilities accruing before and after the Transfer, and (ii) the surviving entity must retain ownership of substantially all of the assets of the preceding entity.

5.5.2 Upon the occurrence of an Event of Default, if all or any portion of the Premises is then subject to one or more subleases, then Landlord, in addition to any other remedies provided in this Lease or at law or in equity, may collect directly from the subtenants under such subleases all rents due and becoming due to Tenant or a Transferee under such subleases and apply such rent against any sums due to Landlord from Tenant under this Lease, and no such collection shall be construed to constitute a novation or release of Tenant from the further performance of Tenant's obligations under this Lease.

5.5.3 Except for any Permitted Transfer, if the proposed Transfer is an assignment or a sublease of more than seventy five percent (75%) of the Premises for a term longer than seventy five percent (75%) of the then remaining Term, then Landlord shall have the right in its sole and absolute discretion to terminate this Lease by sending Tenant written notice of such termination within thirty (30) days after Landlord's receipt of Tenant's notice requesting consent to the Transfer. If Landlord elects to terminate this Lease, Tenant may withdraw its notice requesting consent to the Transfer by providing written notice within five (5) business days after Landlord's termination (with time being of the essence), in which case Landlord's termination shall be negated, and the Lease shall continue pursuant to its terms. If Landlord elects to terminate this Lease, then Tenant shall tender the Premises to Landlord in the condition required by this Lease at the end of the Term, and this Lease shall terminate, on the proposed effective date of the requested Transfer, and Tenant shall have no further obligations under this Lease except for those accruing prior to the termination date and those that, pursuant to the terms of the Lease, survive the expiration or early termination of the Lease.

5.5.4 Except for a Permitted Transfer, in the event, if any, that (i) all rent and other consideration that Tenant receives as a result of a Transfer exceeds (ii) the Rent payable to Landlord for the portion of the Premises and Term covered by the Transfer (allocated on a per square foot basis), then Tenant shall, at Landlord's election, pay to Landlord an amount equal to fifty percent (50%) of such excess, from time to time on a monthly basis upon Tenant's receipt of such excess; provided that in determining any such excess, Tenant may deduct from the excess all reasonable and customary expenses directly incurred by Tenant in connection with such Transfer, except that any construction costs incurred by Tenant in connection with such Transfer shall be deducted on a straight-line basis over the term of the applicable Transfer. If Tenant is in Default, Landlord may require that all sublease payments be made directly to Landlord, in which case Tenant shall receive a credit against Rent in the amount of Tenant's share of payments received by Landlord.

5.5.5 Without limiting Landlord's right to withhold its consent to any transfer by Tenant, and regardless of whether Landlord shall have consented to any such transfer, neither Tenant nor any other person having an interest in the possession, use or occupancy of the Premises or any part thereof shall enter into any lease, sublease, license, concession, assignment or other transfer or agreement for possession, use or occupancy of all or any portion of the Premises that provides for rent or other payment for such use, occupancy or utilization based, in whole or in part, on the net income or profits derived by any person or entity from the space so leased, used or occupied, and any such purported lease, sublease, license, concession, assignment or other transfer or agreement shall be absolutely void and ineffective as a conveyance of any right or interest in the possession, use or occupancy of all or any part of the Premises..

5.5.6 This Section 5.5 shall survive the expiration or earlier termination of this Lease.

ARTICLE 6
INDEMNIFICATION; RELEASE; INSURANCE

6.1 Indemnification and Release.

6.1.1 To the extent permitted by Applicable Law, Tenant shall protect, indemnify, release, defend and hold Landlord (and the Landlord Parties) harmless from and against any and all Claims to the extent caused by or incurred by reason of: (a) any damage to any property (including the property of Landlord), or any injury (including death) to any person, occurring in, on, or about any portion of the Premises, except to the extent caused by or arising from the gross negligence or willful misconduct of Landlord or the Landlord Parties; (b) any Alterations, work, or other thing done by Tenant or any Tenant Parties in or about any portion of the Premises, or from transactions of Tenant concerning any portion of the Premises; (c) Tenant's failure to comply with any Applicable Laws; (d) any breach or default by Tenant of any representation, covenant or other term of this Lease; provided that Tenant shall not be obligated to so indemnify Landlord to the extent any such matter arises from, or is caused by, the willful misconduct or gross negligence of Landlord or the Landlord Parties; or (e) Tenant's use and occupancy of the Premises. Tenant's agreement to indemnify, defend and hold the Landlord and the Landlord Parties (the "**Indemnitees**") harmless is conditioned upon the Indemnitees (i) providing written notice to Tenant of any claim, demand or action arising out of the indemnified activities within thirty (30) days after Landlord has actual knowledge of such claim, demand or action, provided that the failure to so notify Tenant will not relieve Tenant of its obligations hereunder except to the extent such failure has actually materially prejudiced Tenant; (ii) permitting Tenant to assume full responsibility to investigate, prepare for and defend against any such claim or demand, subject to Landlord's reasonable approval of any counsel used in the defense of such claim or demand; (iii) assisting Tenant, at Tenant's expense, in the reasonable investigation of, preparation of and defense of any such claim or demand; and (iv) not settling such claim or demand that would result in a payment in excess of $100,000 (individually or in the aggregate) without Tenants' prior written consent, which shall not be unreasonably withheld, conditioned, or delayed. "**Claims**" mean claims, demands, losses, penalties, fines, liabilities, actions (including informal proceedings), settlements, judgments, damages, reasonable costs, and reasonable expenses (including reasonable attorneys' fees and consultants' fees, court costs, and other litigation expenses) of whatever kind or nature, known or unknown, contingent or otherwise, incurred or suffered by, or asserted against, the party in question.

6.1.2 Tenant hereby releases Landlord and the Landlord Parties from any and all liability for any loss or claim, including all economic losses and all consequential and indirect losses, as a result of loss, damage or injury to the property and persons of Tenant and its employees, as a result of any occurrence in, upon or at the Premises or the occupancy or use by the Tenant of the Premises, including damage to the Building or loss of access to the Premises, whether or not such loss or claim may have arisen out of the acts, omissions or negligence of Landlord, the Landlord Parties or those for whom Landlord or the Landlord Parties are in law responsible. Except with respect to Sections 1.3 and 3.3.4, Landlord hereby releases Tenant from any and all liability for consequential or special damages, including lost profits (which shall not limit the rights and remedies of Landlord expressly provided in this Lease).

6.2 Insurance.

6.2.1 Landlord's Insurance. Landlord shall obtain and keep in force throughout the Term the following coverages in the following amounts: (a) commercial general liability insurance on an "occurrence" basis on the current ISO CG 00 01 occurrence form or its equivalent with a deductible reasonably acceptable to Landlord with a limit of not less than $5,000,000 per occurrence, (b) property damage insurance covering the core and shell of the Building and structural elements of other improvements situated upon the Premises on a replacement cost basis against loss or damage as provided by the standard fire and extended coverage policy, including, without limitation, earthquake and terrorism, and all other risks of direct physical loss as insured against under a special extended coverage endorsement in amounts and with a deductible determined by Landlord in its commercially reasonable discretion, (c) boiler and machinery insurance on a repair or replace basis, (d) business interruption insurance with respect to insurance required under (b) and (c) above with an indemnity period determined by Landlord, and (e) any such other insurance as Landlord's lender may require. Tenant shall provide Landlord with such information from time to time as Landlord may reasonably require in connection with Landlord's determination of the insurance required pursuant to clause (b), above.

6.2.2 Tenant's Insurance. Tenant shall procure and maintain during the Lease Term, at its sole cost and expense, a policy or policies of insurance protecting Landlord and Tenant against each of the following:

(a) Commercial general liability insurance with respect to the operations of Tenant insuring against bodily injury or death and property damage in amounts (i) not less than $10,000,000 in the aggregate,(ii) not less than $2,000,000 per occurrence and (iii) not less than $10,000,000 of excess umbrella liability insurance. Such insurance shall contain separation of insured clauses and separation of insureds, with Landlord and any third party now or hereafter providing financing to Landlord where such third party has a security interest in the Premises under such financing shall be included as additional insureds. Tenant may satisfy the foregoing limits through any combination of primary and umbrella/excess policies, provided the combined total coverage is not less than $20,000,000 in the aggregate. The amount of such commercial general liability insurance shall be increased from time to time as Landlord may reasonably determine. All such bodily injury and property damage insurance shall insure Tenant's exposure with respect to the indemnity agreement as to personal injury or property damage contained in Section 6.1 herein.

(b) Insurance covering Tenant's construction, alterations, additions or improvements permitted herein (other than the core and shell of the Building and structural elements of other improvements), existing tenant improvements, trade fixtures and personal property, in an amount not less than 100% of their full replacement cost from time to time during the Lease Term, providing protection on an all risk basis, including, without limitation, coverage for earthquakes with coverage commencing on or prior to the commencement of Tenant's construction, for the repair or replacement of the property damaged or destroyed.

(c) Pollution Legal Liability that provides first party coverage for clean-up costs and third party coverage for bodily injury and property damage resulting from pre-existing and future contamination conditions, of at least Five Million Dollars ($5,000,000.00) per pollution event; such coverage shall specifically include this lease as an insured contract.

(d) The minimum limits of insurance required to be carried by Tenant shall not limit Tenant's liability. All policies of insurance to be provided by Tenant shall be issued by insurance companies, with general policy holder's rating of not less than A and a financial rating of not less than Class VIII as rated in the most current available "Best's" Insurance Reports, and admitted to do business in the State of California. Such policies shall be issued in the name of Tenant, with Landlord, Landlord's managing agent, lenders, and any other party designated by Landlord ("**Additional Insured Parties**") included as an additional insured. Tenant's property insurance and any builder's risk policy carried by Tenant or its contractors shall identify Landlord or, at Landlord's direction, Landlord's lender, as a loss payee. The full replacement cost of improvements under Tenant's property insurance may be designated by Landlord in the good faith exercise of Landlord's judgment. In the event that Tenant does not agree with Landlord's designation, Tenant shall have the right to submit the matter to an insurance appraiser reasonably selected by Landlord and paid for by Tenant. The insurance appraiser shall submit a written report of his appraisal, and if said report discloses that the improvements are not insured as therein required, Tenant shall promptly obtain the insurance required. The policies provided by Tenant shall be for the mutual and joint benefit and protection of Landlord and Tenant, and certificates of insurance shall be delivered to the Landlord within ten (10) days after the Lease Commencement Date and, thereafter, within thirty (30) days after to the expiration of the term of each such policy. Upon Landlord's request, Tenant shall deliver to Landlord, in lieu of such certificates, copies of the policies of insurance required to be carried under Section 6.2.2 showing that the Additional Insured Parties are named as additional insureds (with respect to the applicable policies). Upon the expiration or termination of any such policy, renewal or additional policies shall be procured and maintained by the Tenant to provide the required coverage. All policies of insurance delivered to Landlord must contain a provision that the company writing said policy will provide Landlord with thirty (30) days' notice in writing in advance of any cancellation or lapse or the effective date of any reduction in the amounts of insurance (except in the event of non-payment of premium, in which case ten (10) days' written notice shall be given). Notwithstanding the foregoing, if the foregoing requirement that the insurance company provide prior notice to Landlord of cancellation or material change of the applicable policy cannot reasonably be obtained based on then-prevailing insurance industry practices, Tenant shall so advise Landlord of such unavailability and shall instead shall use reasonable efforts to cause its insurer to provide Landlord, and in any event Tenant shall provide Landlord with, notice of any such cancellation of any of Tenant's insurance policies. All of Tenant's commercial general liability, property damage and other casualty policies shall be written as primary policies, not contributing with and not in excess of coverage which Landlord may carry. Tenant agrees that if, after the Commencement Date, Tenant does not take out and maintain the insurance required under this Section 6.2, Landlord may (but shall not be required to) procure, and thereafter maintain, said insurance on Tenant's behalf, and any costs or expenses incurred by Landlord in connection therewith, plus an administration fee of ten percent (10%) of the cost, shall promptly be paid by Tenant to Landlord as Additional Rent.

(e) Notwithstanding anything to the contrary, Tenant's obligation to carry the insurance described in this Section 6.2.2 may be brought within the coverage of a so-called blanket policy or policies of insurance carried and maintained by the Tenant, provided that (i) Landlord will be an additional insured thereunder as its interests may appear; (ii) the coverage afforded Landlord will not be reduced or diminished by reason of the use of such blanket policy of insurance; and (iii) the requirements set forth herein are otherwise satisfied. In the event of any Claims covered by Tenant's insurance, Tenant shall, within 10 days following Landlord's written request, provide Tenant with copies of the applicable insurance policies carried by Tenant pursuant to this Lease.

6.2.3 Release of Subrogation Rights. Tenant and Landlord each hereby releases the other from liability and waives all right to recover against the other for any loss from perils insured against under their property insurance policies, including any extended coverage and special form endorsements to said policies; provided, however, this Section 6.2.3 shall be inapplicable if it would have the effect, but only to the extent that it would have the effect of invalidating any insurance coverage of Landlord or Tenant. Tenant and Landlord's property damage policies shall contain, if available, a waiver of subrogation clause.

6.2.4 Insurance for Alterations. During the performance of any Alterations by Tenant, (a) the insurance required under this Section 6.2 shall extend to all of Tenant's consultants and contractors (and subcontractors of any tier) and shall include injuries to persons and damage to property arising in connection with such Alterations and (b) Tenant shall also maintain such other insurance as Landlord may reasonably require, including all-risk builder's insurance, each of which policies shall name Landlord and Landlord's lender as additional insureds and loss payees. Tenant shall give to Landlord copies of the policies of such insurance prior to commencing construction of such Alterations.

ARTICLE 7
THIRD PARTIES

7.1 Subordination, Attornment and Non-Disturbance. This Lease shall be automatically subject and subordinate at all times to the lien of any first priority mortgages or deeds of trust on, against, or affecting any portion of the Premises, or Landlord's interest or estate in any portion of the Premises, and to all renewals, modifications, consolidations, replacements, and extensions thereof (each, a "**Mortgage**"); provided that, as a condition precedent to such subordination, Tenant must receive a fully executed subordination, non-disturbance and attornment agreement substantially in the form attached as Exhibit E hereto, or in such other commercially reasonable form as required by Landlord's Mortgagee (as hereinafter defined) (a "**SNDA**") from any current and future encumbrance holder (each, a "**Mortgagee**") with such changes as reasonably requested by Tenant. Landlord shall request a SNDA from each present and any future Mortgagee seeking to subordinate this Lease to the lien of its Mortgage and deliver the same to Tenant. In the event Mortgagee enforces it rights under the Mortgage, Tenant, at Mortgagee's option, will attorn to Mortgagee or its successor; provided, however, that, subject to the terms of any SNDA between Tenant and such Mortgagee (which shall govern in the event of any conflicts with the provisions of this Section 7.1), Mortgagee or its successor shall not be liable for or bound by (i) any payment of any Rent installment that may have been made more than thirty (30) days before the due date of such installment, (ii) any act or omission of or default by Landlord under this Lease (but Mortgagee, or such successor, shall be subject to the continuing obligations of landlord under the Lease arising from and after such succession, but only to the extent of Mortgagee's, or such successor's, interest in the Premises as provided in Article 12), (iii) any then- exercisable credits, claims, setoffs or defenses that Tenant may have against Landlord, or (iv) any obligation to provide tenant improvements allowances or perform tenant improvements to be provided by Landlord hereunder.

7.2 Mortgagee's Right to Cure. Notwithstanding anything to the contrary in this Lease, before exercising any right (a) of offset, counterclaim, reduction, deduction, or abatement against Tenant's payment of Rent under this Lease or (b) to terminate the Lease or to claim a partial or total eviction, in each case arising from Landlord's default under this Lease, (i) Tenant shall provide to each Mortgagee whose name and address has been furnished in writing to Tenant with written notice of the default by Landlord giving rise to same, and (ii) Mortgagee shall have a period of thirty (30) days after the last date on which Landlord could have cured such default within which such Mortgagee will be permitted, but not be obligated, to cure such default. If such default cannot be cured within such thirty-(30)-day period, then such Mortgagee shall have such additional time as may be necessary to cure such default, if prior to the end of such thirty-(30)-day period such Mortgagee has commenced and is diligently pursuing such cure or the remedies under the Mortgage necessary for Mortgagee to be able to effect such cure, in which event Tenant shall have no right with respect to such default while such cure and remedies are being diligently pursued by such Mortgagee. Notwithstanding the foregoing, such Mortgagee shall have no obligation to cure (and shall have no liability or obligation for not curing) any default by Landlord. In addition, as to any default by Landlord the cure of which requires possession and control of the Premises, provided that such Mortgagee undertakes by written notice to Tenant to exercise reasonable efforts to cure or cause to be cured by a receiver such default within the period permitted by this Section 7.2, such Mortgagee's cure period shall continue for such additional time as such Mortgagee may reasonably require to either: (A) obtain possession and control of the Premises with due diligence and thereafter cure the default with reasonable diligence and continuity; or (B) obtain the appointment of a receiver and give such receiver a reasonable period of time in which to cure the default.

7.3 Sale of the Premises. Subject to the provisions of Article 11, if Landlord sells or conveys the Premises, such sale or conveyance shall release Landlord from any liability from and after such sale or conveyance upon any of the covenants or conditions, expressed or implied, contained in this Lease in favor of Tenant (to the extent such liability is expressly assumed by such transferee), and in such event, Tenant agrees to look solely to the successor-in-interest of Landlord in and to this Lease with respect to such liabilities that are incurred from and after such sale or conveyance. In the event Landlord enters into a purchase and sale agreement for the sale or conveyance of the Premises, in the event such purchaser is an entity engaged primarily in the business of research, development, manufacturing, sale, or marketing of a biopharmaceutical product (a "**Pharma Competitor**"), then the Pharma Competitor shall execute a non-disclosure and confidentiality agreement substantially in the form attached hereto as Exhibit F; provided, however, that Tenant shall negotiate in good faith in the event the Pharma Competitor wishes to deviate from the form attached as Exhibit F. Except as set forth in this Section 7.3, this Lease shall not be affected by any such sale or conveyance and Tenant agrees to attorn to the purchaser or assignee. Landlord shall transfer or deliver the Security Deposit to Landlord's successor-in-interest and thereupon Landlord shall be discharged from any further liability with regard thereto.

7.4 Estoppel Certificates. Within ten (10) business days after Landlord's written request, Tenant shall execute and deliver to Landlord and any of Landlord's then existing or prospective lenders, investors, or purchasers of any portion of the Premises, a certificate substantially in the form attached as Exhibit C, or in such other commercially reasonable form and containing such other information as Landlord or any such lenders, investors, or purchasers, may reasonably require. Any certificate delivered in accordance with this Section 7.4 may be relied upon by any such lender, investor, or purchaser. Within ten (10) business days after Tenant's request, Landlord shall execute and deliver to Tenant and any of Tenant's then existing or prospective lenders, investors, or purchasers, a statement in writing certifying that Tenant is in possession of the Premises under the terms of this Lease, that this Lease is unmodified and in full force and effect (or, if there have been modifications, that this Lease is in full force and effect, as modified, and setting forth such modifications), stating the dates to which rent has been paid, and either stating that no defaults exist hereunder, or specifying each such default of which Landlord may have knowledge, and such other matters as may be reasonably requested by Tenant.

7.5 Liens. Tenant shall, within fifteen (15) business days of written notice of filing, discharge (either by payment or by filing of the necessary bond, insure over, or otherwise) any mechanic's, materialman's or other lien or encumbrance against any portion of the Premises that arises out of any payment due for, or purported to be due for, any labor, services, materials, supplies or equipment alleged to have been furnished to or for Tenant. If Tenant shall fail to so discharge such lien or encumbrance (either by payment or by filing of the necessary bond, insure over or otherwise) then, such failure shall be an Event of Default under this Lease and, in addition to any other right or remedy of Landlord, Landlord may discharge the same (either by payment or by filing of the necessary bond or otherwise), and any payment, costs and expenses incurred by Landlord in connection therewith, including reasonable attorneys' fees, shall be repaid together with interest thereon at the rate set forth in Section 2.3 from the date of payment. Notwithstanding the foregoing or anything to the contrary in this Lease, Tenant may contest any lien (and Landlord shall not discharge such lien at Tenant's expense for so long as Tenant is diligently pursuing such contest) if (i) such lien is the subject of a bona fide dispute in which Tenant is contesting the amount or validity thereof, (ii) Tenant notifies Landlord in writing of such dispute, (iii) Tenant has or establishes unrestricted cash reserves to in an amount equal to 125% of (x) the amount of Tenant's obligations being contested plus (y) any additional interest, charge or penalty arising from such contested lien and (iv) such lien is fully bonded by Tenant to the reasonable satisfaction of Landlord and any Mortgagee.

ARTICLE 8
EVENTS OF DEFAULT & REMEDIES

8.1 Events of Default. "**Event of Default**" means any of the following:

(a) Tenant fails to pay when due any Rent, and such failure continues for five (5) business days after Landlord delivers to Tenant notice thereof; provided, however, Landlord shall not be required to provide prior notice of Tenant's failure to pay any recurring obligation to pay any Base Rent or any monthly payment of estimated Taxes or Insurance Expenses more than twice during any twelve (12) month period, after which Tenant's failure to pay such amount shall be an Event of Default if Tenant fails to pay the amount when due and such failure continues for five (5) business days after the due date;

(b) except as otherwise provided in this Lease, Tenant fails to comply with any term, provision, or covenant of this Lease and such failure continues for thirty (30) days after Landlord gives to Tenant Notice thereof (but if such failure is curable but cannot reasonably be cured during such 30-day period, and if Tenant has commenced such cure promptly and in any case within such 30-day period and thereafter has diligently pursued such cure to completion, then such 30-day period shall be extended to ninety (90) days);

(c) Tenant fails to obtain and keep in force at all times any insurance required under this Lease, and such failure continues for five (5) days after Landlord gives to Tenant Notice thereof;

(d) Tenant fails to deliver to Landlord, within fifteen (15) business days after Landlord gives Tenant Notice thereof, any instrument or assurance required under this Lease;

(e) The filing by Tenant in any court pursuant to any statute or petition in bankruptcy or insolvency or for reorganization or arrangement for the appointment of a receiver or all of a portion of Tenant's property the filing against Tenant of any such petition, or the commencement of a proceeding for the appointment of a trustee, receiver or liquidator for Tenant, or of any property of Tenant, or a proceeding by any governmental authority for the dissolution or liquidation of Tenant, if such proceeding shall not be dismissed or trusteeship discontinued within sixty (60) days of commencement of such proceeding or the appointment of such trustee or receiver; or the making by Tenant of an assignment for the benefit of creditors. Tenant hereby stipulates to the lifting of the automatic stay in effect and relief from such stay for Landlord in the event Tenant files a petition under the United States Bankruptcy Laws, for the purpose of landlord pursuing its rights and remedies against Tenant;

(f) Tenant's failure to cause to be released any mechanics liens filed against the Premises within twenty (20) days after the date Tenant is notified that the same shall have been filed or recorded, subject to Tenant's right to dispute liens as set forth in Section 7.5;

(g) Abandonment of the Premises pursuant to California Civil Code Section 1951.3, or failure by Tenant or a transferee permitted pursuant to Article 5 to occupy at least sixty percent (60%) of the Premises for a period of ninety (90) consecutive days or more for any reason other than restoration following a casualty or condemnation, Force Majeure affecting Tenant's ability to operate within the Premises, and temporary cessations in order to complete Alterations in accordance with this Lease, provided that it shall not be deemed to be a failure to occupy for purposes of this clause (ii) if the applicable portion of the Premises remains fully furnished with the necessary equipment to conduct business operations consistent with the Permitted Use as it was undertaken prior to such failure to occupy, with regular repair, maintenance, and cleaning occurring in accordance with the terms of this Lease, no other Event of Default has occurred, and Tenant is actively marketing the applicable portion of the Premises for sublease (or marketing this Lease for assignment);

(h) Tenant's failure to provide a SNDA within the period required by Section 7.1 or Tenant's failure to provide a certificate within the time period required by Section 7.4 and such failure continues for five (5) business days after Landlord delivers to Tenant notice thereof;

(i) Tenant performs a Transfer in violation of Article 5, or

(j) If Landlord elects, in its sole discretion, the occurrence of any "Event of Default" under the Companion Lease.

8.2 Remedies.

8.2.1 Upon Event of Default. Upon the occurrence of any Event of Default, Landlord shall have the option to pursue any one or more of the following remedies without any Notice or demand whatsoever (except as expressly provided herein), concurrently or consecutively and not alternatively (in addition to any other remedies available to Landlord at law or in equity), all of which remedies shall be distinct, separate and cumulative:

(a) Termination. Landlord may terminate this Lease upon notice to Tenant, in which event Tenant shall vacate the Premises immediately and deliver possession of the Premises to Landlord in the condition which Tenant is required to surrender the Premises at the expiration of the Term (Tenant hereby waives, relinquishes and releases for itself and for all those claiming under Tenant any right of occupancy of the Premises following termination of this Lease, and any right to redeem or reinstate this Lease by order or judgment of any court or by any legal process or writ under Applicable Laws, including, without limitation, California Code of Civil Procedure Sections 473 and 1179, and California Civil Code Section 3275), and if Tenant fails to do so, then Landlord may, after due process of law, enter upon and take possession of the Premises, and expel or remove Tenant and any other person who may be occupying the Premises or any portion thereof, without being liable for prosecution or any claim or damages therefor. Upon termination of the Lease as provided in this Section, Landlord may recover from Tenant the following: (i) the worth at the time of award of any unpaid rent which has been earned at the time of such termination; plus (ii) the worth at the time of award of the amount by which the unpaid rent which would have been earned after termination until the time of award exceeds the amount of such rental loss that Tenant proves could have been reasonably avoided; plus (iii) the worth at the time of award of the amount by which the unpaid rent for the balance of the Term after the time of award exceeds the amount of such rental loss that Tenant proves could have been reasonably avoided; plus (iv) any other amount necessary to compensate Landlord for all the detriment proximately caused by Tenant's failure to perform its obligations under this Lease or which in the ordinary course of things would be likely to result therefrom, specifically including but not limited to, attorneys' fees, brokerage commissions and advertising expenses incurred, expenses of remodeling the Premises or any portion thereof for a new tenant, whether for the same or a different use, and any special concessions made to obtain a new tenant; plus (v) at Landlord's election, such other amounts in addition to or in lieu of the foregoing as may be permitted from time to time by Applicable Law. The term "rent" as used in this Section 8.2.1(a) shall be deemed to be and to mean all sums of every nature required to be paid by Tenant pursuant to the terms of this Lease, whether to Landlord or to others, including, without limitation, late charges and interest. As used in Sections 8.2.1(a)(i) and (ii), the "worth at the time of award" shall be computed by allowing interest at the rate set forth in Section 2.4 above, but in no case greater than the maximum amount of such interest permitted by Applicable Law. As used in Section 8.2.1(a)(iii), the "worth at the time of award" shall be computed by discounting such amount at the discount rate of the Federal Reserve Bank of San Francisco at the time of award plus one percent (1%). Landlord shall have no obligation to relet the Premises or any part thereof and shall in no event be liable for failure to relet the Premises or any part thereof, or, in the event of any such reletting, for refusal or failure to collect any rent due upon such reletting. No such refusal or failure shall operate to relieve Tenant of any liability under this Lease. Tenant shall instead remain liable for all unpaid Rent and for all such expenses. This paragraph is expressly intended to afford Landlord the remedies provided for in California Civil Code § 1951.2.

(c) Possession. Landlord may re-enter the Premises without terminating this Lease by Notice to Tenant and sublet the whole or any part thereof for the account of Tenant upon as favorable terms and conditions as the market will allow; provided, however, that Tenant shall have not less than thirty (30) days following such re-entry to remove Tenant's Personalty from the Premises. In the latter event (a) Landlord shall have the right to collect any Rent which may thereafter become due and payable under such sublease and to apply the same first, to the payment of any expenses incurred by Landlord in dispossessing Tenant and in subletting the Premises, and second, to the payment of the Rent herein reserved and to the fulfillment of Tenant's other covenants hereunder, and (b) Tenant shall be liable for amounts equal to the Rent as the same would under the terms of this Lease become due, less any amounts actually received by Landlord and applied on account of Rent as aforesaid. Landlord shall have the remedy described in California Civil Code Section 1951.4 (lessor may continue lease in effect after lessee's breach and abandonment and recover rent as it becomes due, if lessee has the right to sublet or assign, subject only to reasonable limitations). Accordingly, if Landlord does not elect to terminate this Lease due to any Event of Default, Landlord may, from time to time, without terminating this Lease, enforce all of its rights and remedies under this Lease, including, without limitation, the right to recover all Rent as it becomes due.

(d) Subleases of Tenant. Whether or not Landlord elects to terminate this Lease, Landlord may terminate any and all subleases or other consensual arrangements for possession or occupancy of the Premises entered into by Tenant or any subtenant of Tenant, or may succeed to Tenant's or Tenant's subtenant's interest in such subleases or other arrangements. If Landlord elects to succeed to Tenant's or Tenant's subtenant's interest in any such subleases or other arrangements, then as of the date of Notice by Landlord of such election (i) Tenant shall have no further right to, or interest in, the rent or other consideration receivable thereunder, and (ii) any sublessee or other occupant of the Premises shall attorn to and recognize Landlord as its landlord.

(e) Right to Perform Tenant's Covenants. If Tenant shall at any time fail to pay any Taxes or to take out, pay for, maintain or deliver any of the insurance provided for in this Lease, or shall fail to make any other payment or perform any obligation under this Lease, and such failure continues beyond applicable notice and cure periods (or without any notice and right to cure where required to protect life or property), then Landlord may, without waiving or releasing Tenant from any obligations of Tenant in this Lease contained, pay any such Tax, effect any such insurance coverage and pay premiums therefor, and make any other payment or perform any other act which Tenant is obligated to perform under this Lease, in such manner and to such extent as Landlord shall, in its sole discretion, deem necessary. In exercising any such rights, Landlord may pay necessary and incidental costs and expenses including reasonable attorneys' fees. All sums so paid by Landlord and all necessary and incidental costs and expenses in connection with the performance of any such act by Landlord, together with interest thereon at the Interest Rate, shall be payable to Landlord on demand. If Landlord incurs any third-party expenses to cure a breach of any non-monetary obligation of Tenant, Tenant shall also pay an administrative charge equal to ten percent (10%) of the cost of the work performed by Landlord. Landlord shall have no obligation to perform on Tenant's behalf and if Landlord does so, Landlord shall not be liable to Tenant for any damage resulting from its actions.

(f) Other Remedies. In addition to the remedies set forth in this Lease, Landlord shall have all other remedies provided by law or statute to the same extent as if fully set forth herein word for word (including, without limitation, the right to enforce Tenant's specific performance of each and every covenant, condition and other provisions of this Lease). No remedy herein conferred upon, or reserved to Landlord shall exclude any other remedy herein or by law provided, but each shall be cumulative.

8.2.2 Form of Payment Following Event of Default. Following the occurrence of a monetary Event of Default, Landlord shall have the right to require that any or all subsequent amounts paid by Tenant to Landlord under this Lease, whether relating to the Event of Default in question or otherwise, be paid in the form of wire transfer or immediately available funds, or by other means approved by Landlord, notwithstanding any prior acceptance by Landlord of payments from Tenant in any different form.

8.2.3 Mitigation of Damages. Except as required by law, Landlord shall have no obligation to mitigate its damages. If Landlord is required by law to mitigate its damages under this Lease, then (a) Landlord shall be required only to use reasonable efforts to so mitigate, which shall not exceed such efforts as commercial landlords generally use to lease similar premises in the vicinity of the tri-city area (Oceanside, Carlsbad and Vista) of the State of California; (b) Landlord shall not be deemed to have failed to so mitigate if Landlord leases less than all of the Premises; and (c) Landlord's failure to so mitigate shall only reduce the Rent to which Landlord is entitled. Tenant acknowledges that Landlord's rejection of a prospective replacement tenant based on an offer of rentals below published rates for new leases of similar premises in the vicinity of the tri-city area (Oceanside, Carlsbad and Vista) of the State of California at the time in question, or containing terms less favorable than those contained herein, shall not give rise to a claim by Tenant that Landlord failed to so mitigate.

8.2.4 Waiver of Right of Redemption. Tenant (for itself and all others claiming through Tenant) irrevocably waives and releases any rights under any law now or hereafter existing to redeem or reinstate this Lease or Tenant's right of occupancy of the Premises after termination of this Lease, including, without limitation, any and all rights conferred by Section 3275 of the Civil Code of California and by Sections 1174(c) and 1179 of the Code of Civil Procedure of California..

8.2.5 Reimbursement of Expenses. In the case of termination of this Lease pursuant to this Section 8.2, Tenant shall reimburse Landlord for all expenses arising out of such termination, including without limitation, all costs incurred in collecting amounts due from Tenant under this Lease (including legal fees, costs of litigation and the like); all expenses incurred by Landlord in attempting to relet the Premises or parts thereof (including advertisements, brokerage commissions, Tenant's allowances, costs of preparing space, and the like); all of Landlord's then unamortized costs of any work allowances provided to Tenant for the Premises; and all Landlord's other reasonable expenditures necessitated by the termination. The reimbursement from Tenant shall be due and payable immediately from time to time upon notice from Landlord that an expense has been incurred, without regard to whether the expense was incurred before or after the termination.

8.2.6 Claims in Bankruptcy. Nothing herein shall limit or prejudice the right of Landlord to prove and obtain in a proceeding for bankruptcy, insolvency, arrangement or reorganization, by reason of the termination, an amount equal to the maximum allowed by a statute or Applicable Law in effect at the time when, and governing the proceedings in which, the damages are to be proved, whether or not the amount is greater to, equal to, or less than the amount of the loss or damage that Landlord has suffered.

8.3 Landlord Default. If Landlord shall fail to perform any material obligation under this Lease required to be performed by Landlord, Landlord shall not be deemed to be in default hereunder nor subject to claims for damages of any kind, unless such failure shall have continued for a period of thirty (30) days after written notice thereof by Tenant or, if such failure is curable but cannot reasonably be cured during such 30-day period, such additional time as it would reasonably take to cure. If Landlord shall fail to cure within the time permitted for cure herein, Landlord shall be liable to Tenant for those actual damages sustained by Tenant as a result of Landlord's default and Tenant shall also have the right to pursue injunctive relief against Landlord, to the extent available under Applicable Laws. Except as may be expressly provided in this Lease, in no event shall Tenant have the right to terminate the Lease nor shall Tenant's obligation to pay Base Rent or other charges under this Lease abate based upon any default by Landlord of its obligations under the Lease. In no event shall Landlord or any Landlord Related Party ever be liable to Tenant for loss of profits, loss of business, or indirect or consequential damages suffered by Tenant from whatever cause.

8.4 Non-Waiver. The failure of Landlord to insist upon strict performance of any of the terms, covenants, conditions or agreements contained herein shall not be deemed a waiver of any rights or remedies that Landlord may have, and shall not be deemed a waiver of any subsequent breach or default in the performance of any of the terms, covenants, conditions or agreements contained herein. The performance of each and every term, covenant, condition and agreement to be performed by Landlord pursuant to this Lease shall not be a condition precedent to Landlord's right to collect Rent or to enforce this Lease. Further, pursuant to the requirements of California Code of Civil Procedure Section 1161.1(c), Tenant is hereby placed on actual notice that Landlord's acceptance of Rent shall not constitute a waiver by Landlord of (a) any preceding breach by Tenant of any provision of this Lease, other than the failure of Tenant to pay the particular Rent so accepted; or (b) any of Landlord's rights, including, without limitation, any rights Landlord may have to recover possession of the Premises or to sue for any remaining Rent owed by Tenant.

ARTICLE 9
CASUALTY & CONDEMNATION

9.1 Casualty.

9.1.1 Generally. Subject to Section 9.1.2 below, if the Premises are damaged by fire, the elements or other casualty (collectively a "**Casualty**"), Tenant shall promptly notify Landlord of the same. Except as expressly set forth below, this Lease shall not terminate in the event of damage to the Premises by other casualty, nor any other obligation of Tenant hereunder be abated or affected in any way. If all or any portion of the Premises becomes untenantable or inaccessible by a Casualty, Landlord shall cause a general contractor selected by Landlord to provide Landlord and Tenant with a written estimate of the amount of time required, using standard working methods, to substantially complete the repair and restoration of the affected portion of the Premises ("**Completion Estimate**"). Landlord shall promptly forward a copy of the Completion Estimate to Tenant. Notwithstanding anything to the contrary contained in this Lease, Landlord and Tenant hereby waive the provisions of any Law relating to the matters addressed in this Section, and agree that their respective rights for damage to or destruction of the Premises shall be those specifically provided in this Lease, which shall constitute an express agreement between the parties with respect thereto, and Landlord and Tenant hereby agree that any Applicable Law, including Sections 1932(2) and 1933(4) of the California Civil Code, with respect to any rights or obligations concerning damage or destruction of leased or hired property, shall have no application to this Lease or to any damage or destruction to all or any part of the Premises.

9.1.2 Termination. Notwithstanding Section 9.1.1, if the Completion Estimate indicates that the Premises cannot be made tenantable within twenty-four (24) months from the date the repair is started, then either party shall have the right to terminate this Lease upon written notice to the other within ten (10) days after Tenant's receipt of the Completion Estimate, which notice, if sent by Tenant, shall be accompanied by a sum equal to all Rent due from Tenant to Landlord to the date of termination. Tenant, however, shall not have the right to terminate this Lease if the Casualty was caused by the negligence or intentional misconduct of Tenant or any Tenant Parties. If (i) the Completion Estimate indicates that the Premises can be made tenantable within thirty-six (36) months from the date the repair is started, and (ii) Tenant terminates this Lease pursuant to the first sentence of this Section 9.1.2., then, within thirty (30) days after receipt of Tenant's termination notice, Landlord may, in its sole and absolute discretion, negate Tenant's termination by providing notice to Tenant that Landlord agrees to an abatement of Base Rent beginning immediately following the twenty-fourth (24^{th}) month after the date the repair is started and ending on the date when Landlord has substantially completed the repair and restoration of the affected portion of the Premises. In addition, if the Premises are damaged by fire, the elements or other casualty during the last twelve (12) months of the Term, and the Completion Estimate shows that the restoration cannot be completed within one hundred twenty (120) days after the Casualty, then either party shall have the right, in lieu of Tenant fulfilling its obligations under Section 9.1.1 above, to terminate this Lease as of the date of the Casualty by notice to the other party within ten (10) business days after the delivery of the Completion Estimate, which notice, if sent by Tenant, shall be accompanied by a sum equal to all Rent due from Tenant to Landlord to the date of termination. If Tenant elects to terminate the Lease pursuant to this Section 9.1.2, Tenant shall (1) assign to Landlord all of Tenant's right, title and interest in and to any property insurance proceeds received in connection with such casualty for the Tenant Improvements (defined below) and (2) pay to Landlord an amount equal to Tenant's deductible under any insurance and/or any applicable self-insured retention amount covering the Tenant Improvements. In addition, Landlord, by notice to Tenant within ninety (90) days after the date of the Casualty, shall have the right to terminate this Lease if (1) any Mortgagee requires that the insurance proceeds be applied to the payment of the mortgage debt; or (2) a material uninsured loss to the Building or Premises occurs, and, in either case, Tenant does not provide Landlord with sufficient funds (or evidence of the same satisfactory to Landlord) to complete such restoration within thirty (30) days after Landlord's termination notice.

9.1.3 Restoration. If this Lease is not terminated, Landlord shall promptly and diligently, subject to reasonable delays for insurance adjustment or other matters beyond Landlord's reasonable control, restore the core and shell of the Building and structural elements of other improvements situated upon the Premises, subject to the following provisions. Such restoration shall be to substantially the same condition that existed prior to the Casualty, except for modifications required by Applicable Law or any other modifications deemed desirable by Landlord ("**Landlord's Restoration**"). Landlord shall be paid a construction management fee equal to three percent (3%) of the hard and soft costs of construction in connection with Landlord's Restoration. In no event shall Landlord be required to spend more for the Landlord's Restoration than the proceeds received by Landlord, whether from Landlord's insurance proceeds or proceeds from Tenant. Landlord shall not be liable for any inconvenience to Tenant, or injury to Tenant's business resulting in any way from the Casualty or the repair thereof. Landlord shall not be responsible for restoration of any portion of the non-structural tenant improvements, any improvements or fixtures installed for Tenant's specific business operations, or any Alterations (collectively, the "**Tenant Improvements**"). If this Lease is not terminated, upon the substantial completion of Landlord's Restoration, Tenant shall diligently and promptly repair all such damage and restore the Tenant's Improvements (the "**Tenant's Restoration**") to substantially the same quality, use and usability to the Building and related improvements that existed immediately prior to the Casualty.

9.1.4 No abatement of Rent. If the Premises are damaged or destroyed by casualty, then the Rent shall not be abated and Tenant shall not be entitled to any compensation or damages from Landlord for loss of the use of the Premises, damage to Tenant's Personalty or to any Alterations, or any inconvenience occasioned by any damage, repair, or restoration.

9.1.5 Insurance Proceeds. Tenant shall be entitled to any and all of the insurance proceeds payable for the damage to the Tenant Improvements, provided, however, that if Tenant elects to terminate this Lease pursuant to Section 9.1.2, then Tenant shall assign and pay over to Landlord all insurance proceeds received by or payable to Tenant with respect to damage to the core and shell of the Building and structural elements of other improvements situated upon the Premises (but not Tenant Improvements and Tenant's Personalty). Whether or not Tenant so elects to terminate this Lease, Tenant shall be entitled to any and all of the insurance proceeds payable for the damage to Tenant's Personalty.

9.2 Waiver. Tenant (for itself and all others claiming through Tenant) irrevocably waives and releases its rights to make repairs at Landlord's expense. The provisions of this Lease, including this Section 9.2, constitute an express agreement between Landlord and Tenant with respect to any damage to, or destruction of, any portion of the Premises. Any law in respect of any rights or obligations concerning any such damage or destruction in the absence of an express agreement between the parties, and any other law relating to damage or destruction of leased premises, whether in effect on the date of this Lease or thereafter, shall have no application to this Lease or any damage or destruction of any part of the Premises.

9.3 Total Condemnation. If after the execution of this Lease and prior to the expiration of the Term, all or a significant portion of the Premises shall be permanently taken under power of eminent domain by any public or private authority, or conveyed by Landlord to said authority in lieu of such taking (collectively, a "**Taking**"), and if as a result of such Taking: (a) access to the Premises to and from the publicly dedicated roads adjacent to the Premises as of the Effective Date is permanently and materially impaired such that Tenant no longer has access to such dedicated road; (b) there is insufficient parking to operate the Premises under Applicable Laws and replacement parking cannot be constructed or provided elsewhere on the Premises; or (c) the taking includes a portion of the Building such that the remaining portions are unsuitable for the Permitted Use and the remaining portions of the Premises cannot, in the reasonable opinion of a contractor mutually agreed upon by Landlord and Tenant, be restored to useful condition within eighteen (18) months after the Taking (such event, a "**Total Condemnation**"), then, in such event:

9.3.1 Termination. On the date of the Total Condemnation, this Lease shall automatically terminate; provided, however, that Tenant's obligations under any indemnification provisions of this Lease and Tenant's obligation to pay Rent and all other monetary obligations (whether payable to Landlord or a third party) accruing under this Lease prior to the date of termination shall survive such termination. If the date of such Total Condemnation is other than the first day of a month, the Base Rent for the month in which such Total Condemnation occurs shall be apportioned based on the date of the Total Condemnation

9.3.2 Award. Landlord shall be entitled to receive the entire award payable in connection with a Total Condemnation without deduction for any estate vested in Tenant by this Lease, and Tenant hereby expressly assigns to Landlord all of its right, title and interest in and to every such award and agrees that Tenant shall not be entitled to any such award or other payment for the value of Tenant's leasehold interest in this Lease; provided, however, that Tenant shall have the right to file any separate claim available to Tenant for any taking of Tenant's Personalty, loss of goodwill, and for moving and relocation expenses (but only if such payment to Tenant does not reduce any award available to Landlord).

9.4 Partial Condemnation. In the event of a Taking which is not a Total Condemnation, neither party shall have the right to terminate this Lease and Landlord shall, using proceeds therefor from the condemning authority, restore the core and shell of the Building and structural elements of other improvements situated upon the Premises reasonably sufficient to make a functional unit of the remaining portion of the Premises, and Tenant shall proceed with restoration of the Tenant Improvements to the extent possible to make a functional unit of the remaining portion of the Premises. In the event any partial taking materially affects Tenant's operations in the Building for the Permitted Use, such that the Premises no longer provides sufficient space for Tenant to carry out its business without material interference with the Permitted Use, then, commencing on the date on which Tenant's operations are materially affected, the Base Rent shall be abated in proportion to the square footage of the portion of the Building taken.

ARTICLE 10
MISCELLANEOUS

10.1 Notices. Any notice, consent, demand, or other communication or document required or permitted to be given under this Lease or pursuant to any law ("**Notice(s)**"), shall be (a) in writing (except as otherwise provided in this Lease), (b) addressed to the intended recipient at its address set forth in the Basic Lease Information (provided that each of Landlord and Tenant may change its addresses for the giving of notices by giving written notice thereof to the other party), (c) sent by fully prepaid registered or certified United States Mail return receipt requested, or by any nationally recognized overnight courier service furnishing a written record of attempted or actual delivery, and (d) deemed to have been delivered upon actually delivery or rejection of delivery. Any Notice may be given by an attorney on behalf of Landlord or Tenant.

10.2 Certain Representations

10.2.1 Neither of Tenant nor any wholly-owned subsidiary of Tenant is (i) in violation of any OFAC Law or Regulation, the U.S. Patriot Act or Anti-Corruption Legislation, (ii) is named by any Executive Order (including the September 23, 2001, Executive Order Blocking Property and Prohibiting Transactions With Persons Who Commit, Threaten to Commit, or Support Terrorism) or the United States Treasury Department as a terrorist, "Specially Designated National and Blocked Person," or (iii) (to the Tenant's knowledge) acting, directly or indirectly, on behalf of any such person. To Tenant's actual knowledge, no such person, group, entity or nation owns 20% or more Tenant's voting securities. To the Tenant's knowledge, the monies used in connection with this Agreement and amounts committed with respect thereto, were not and are not derived from any activities that contravene any applicable OFAC Laws and Regulations, the U.S. Patriot Act, AML Legislation or Anti-Corruption Legislation, each as defined below.

10.2.2 As used herein, the term "**AML Legislation**" means United States anti-money laundering-related and anti-terrorism financing laws, regulations, and codes of practice applicable to the Tenant, its affiliates, and their operations from time to time, including, any regulations, guidelines or orders thereunder. As used herein, the term "**Anti-Corruption Legislation**" means U.S. Foreign Corrupt Practices Act and similar anticorruption and anti-bribery laws of the United States. As used herein, the term "**OFAC Laws and Regulations**" means (i) any lists, laws, rules, sanctions and regulations maintained by OFAC pursuant to any authorizing statute, Executive Order or regulation, including the Trading with the Enemy Act, 50 U.S.C. App. § 1 et seq., the International Emergency Economic Powers Act, 50 U.S.C. § 1701 et seq., the Iraq Sanctions Act, Pub. L. 101-513, Title V, §§ 586 to 586J, 104 Stat. 2047, the National Emergencies Act, 50 U.S.C. §§ 1601 et seq., the Antiterrorism and Effective Death Penalty Act of 1996, Pub. L. 104- 132, 110 Stat. 1214-1319, the United Nations Participation Act, 22 U.S.C. § 287c, the International Security and Development Cooperation Act, 22 U.S.C. § 2349aa-9, the Nuclear Proliferation Prevention Act of 1994, Pub. L. 103-236, 108 Stat. 507, the Foreign Narcotics Kingpin Designation Act, 21 U.S.C. §§ 1901 et seq., the Iran and Libya Sanctions Act of 1996, Pub. L. 104-172, 110 Stat. 1541, the Cuban Democracy Act, 22 U.S.C. §§ 6001 et seq., the Cuban Liberty and Democratic Solidarity Act, 22 U.S.C. §§ 6021-91, and the Foreign Operations, Export Financing and Related Programs Appropriations Act, 1997, Pub. L. 104-208, 110 Stat. 3009-172; (ii) all regulations, executive orders, or administrative orders of any kind issued under these statutes, including 31 C.F.R., Subtitle B, Chapter V; and (iii) any other applicable United States civil or criminal federal or state laws, regulations, or orders that (1) limit the use of and/or seek the forfeiture of proceeds from illegal transactions; (2) limit commercial transactions with designated countries or individuals believed to be terrorists, narcotics dealers or otherwise engaged in activities contrary to the interests of the United States; or (3) are designed to disrupt the flow of funds to terrorist organizations, as all of the foregoing laws may be amended from time to time.

10.3 Brokers. Each of Landlord and Tenant represents and warrants to the other that such party has not dealt with any broker or finder in connection with this Lease. Each party shall indemnify the other and hold it harmless from any cost, expense, or liability (including costs of suit and reasonable attorneys' fees) for any compensation, commission or fees claimed by any other real estate broker or agent in connection with this Lease or its negotiation by reason of any act or statement of the indemnifying party.

10.4 No Waivers. No provision of this Lease shall be deemed waived by either party unless expressly waived in a writing signed by the waiving party (and then only to the extent so expressly waived). No waiver shall be implied by delay or any other act or omission of either party. No waiver by either party of any provision of this Lease shall be deemed a waiver of such provision with respect to any subsequent matter relating to such provision, and Landlord's consent or approval respecting any action by Tenant shall not constitute a waiver of the requirement for obtaining Landlord's consent or approval respecting any subsequent action. No act or thing done by Landlord or its agents during the Term shall be deemed a termination of this Lease, an acceleration of the Termination Date, or an acceptance of the surrender of the Premises, and no agreement to terminate this Lease, accelerate the Termination Date, or accept a surrender of the Premises shall be valid, unless expressly provided in a writing signed by Landlord. Acceptance of the full or any partial payment of Rent shall not be deemed Landlord's waiver of any breach by Tenant of any provision of this Lease and Landlord's acceptance of a lesser amount than the Rent due under this Lease shall not be deemed Landlord's waiver of Landlord's right to receive the full amount of Rent due, nor shall any endorsement or statement on any check or payment or any letter accompanying such check or payment be deemed an accord and satisfaction, and Landlord may accept such partial payment without prejudice to Landlord's right to recover the full amount of Rent due. Tenant acknowledges that this Section 10.4 imparts actual notice to Tenant that Landlord's acceptance of partial payment of Rent does not constitute a waiver of any of Landlord's rights, including any right Landlord may have to recover possession of the Premises. Forbearance by Landlord in enforcing one or more of the remedies provided in this Lease upon an Event of Default shall not be deemed a waiver of such Event of Default or of Landlord's right to enforce any such remedies with respect to such Event of Default or any subsequent Event of Default. Landlord's acceptance of any Rent or of the performance of any other provision of this Lease from any person other than Tenant, including any Transferee, shall not be deemed a waiver of Landlord's right to approve any Transfer in accordance with Article 5.

10.5 Future Development. Provided the Tenant is Ionis Pharmaceuticals, Inc., or an affiliate, and Tenant is operating for the Permitted Use, in no event shall Landlord take any action or permit any actions to be taken that may or will increase or decrease, modify, change or alter the zoning or entitlements of the Premises, alter the Building, change the site amenities, or add additional improvements without the express written consent of Tenant. Notwithstanding the foregoing, subject to the terms of this Section 10.5, Landlord reserves all rights as may be necessary or desirable to construct additional improvements serving the Premises, the Companion Premises, or both, in connection with the construction of the improvements under the Companion Lease, including, without limitation, pedestrian walkways, installation of utilities and utility connections, structured parking, a pedestrian bridge, and site improvements at the Premises, and to modify the Building in connection with any such additional development, all as required by the Companion Lease and consistent with the plans and specifications for the construction of the Companion Premises ("**Future Development**"). In connection with any such Future Development, facilities at the Premises may be eliminated, altered, or relocated and may also be utilized to serve the Companion Premises. The rights set forth above shall include rights to use portions of the Premises for the purpose of temporary construction staging and related activities and to implement valet parking for reserved and unreserved parking spaces for the purpose of facilitating construction during such activities.

10.5.1 Landlord and its representatives, contractors, agents, employees and licensees shall have the right during any construction period to enter the Premises to undertake such work; to shore up the foundations, walls, and other improvements at the Premises; to erect scaffolding and protective barricades around the Premises; and to do any other act necessary for the safety of the improvements at the Premises or the expeditious completion of such construction. Landlord shall use reasonable efforts not to interfere with the conduct of Tenant's business and to minimize the extent and duration of any inconvenience, annoyance or disturbance to Tenant resulting from any work pursuant to this Section in or about the Premises, consistent with accepted construction practice, and so long as Landlord uses such reasonable efforts Landlord shall not be liable to Tenant for any compensation or reduction of Rent by reason of inconvenience or annoyance or for loss of business resulting from any act by Landlord pursuant to this Section.

10.5.2 Tenant agrees to enter into any instruments reasonably requested by Landlord in connection with the Future Improvements, and for the continued maintenance of such Future Improvements, so long as the same do not materially decrease the rights or materially and adversely increase the obligations of Tenant under this Lease, including reciprocal easement agreements, declarations of covenants, and other agreements to facilitate use of the improvements between the Premises and Companion Premises. Tenant agrees not to take any action to oppose any application by Landlord for any permits, consents or approvals from any governmental authorities for any redevelopment or additional development of all or any part of the Companion Premises, and will use all commercially reasonable efforts to prevent any of Tenant's subtenants or assigns, and Tenant's and their respective officers, directors, employees, agents, contractors and consultants from doing so. For purposes hereof, action to oppose any such application shall include, without limitation, communications with any governmental authorities requesting that any such application be limited or altered. Also for purposes hereof, commercially reasonable efforts shall include, without limitation, commercially reasonable efforts, upon receiving notice of any such action to oppose any application on the part of any Tenant Parties, to obtain injunctive relief, and, in the case of a subtenant, exercising remedies against the subtenant under its sublease.

10.6 Other Provisions.

10.6.1 Covenant of Quiet Enjoyment. Landlord covenants that Tenant, while no Event of Default has occurred and be continuing, shall peaceably and quietly have, hold, and enjoy the Premises for the Term without hindrance from Landlord, but not otherwise, subject to all matters of record and to the terms and provisions of this Lease.

10.6.2 Survival. All obligations of Tenant under this Lease not fully performed as of the Termination Date shall survive the Termination Date.

10.6.3 Entire Agreement. This Lease, together with the Exhibits, contains all of the agreements of Landlord and Tenant in respect of this Lease and supersedes any previous negotiations. There have been no representations made by Landlord or any of Landlord's representatives, or understandings made between Landlord and Tenant, other than those set forth in this Lease and the Exhibits. This Lease may not be modified except by a written instrument duly executed by the party to be bound. Landlord and Tenant each represent to the other, that is has the individuals executing this Lease have been properly authorized by proper action of the Landlord and Tenant, as the case may be.

10.6.4 Execution in Counterparts. This Lease may be executed in counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same instrument.

10.6.5 Recording. Tenant shall not record this Lease, but may record a short form memorandum of this Lease in the form attached hereto as Exhibit D.

10.6.6 Non-Discrimination. Tenant shall not (and Tenant shall not permit any person claiming through or under Tenant to) discriminate against or segregate any person or group of persons on account of race, color, creed, sex, religion, marital status, ancestry, or national origin, whether in the use, occupancy, subleasing, transferring, or enjoyment of the Premises, or otherwise.

10.6.7 Attorneys' Fees. In any action or proceeding that Landlord or Tenant initiates against the other party declaratory or otherwise, arising out of this Lease, the unsuccessful party in such action or proceeding shall reimburse the prevailing party for its costs, including reasonable attorneys' fees (at trial and appellate levels).

10.6.8 Waiver of Consequential Damages. Except as set forth in Section 1.3 and Section 3.3, neither Landlord nor Tenant shall be liable to the other for any form of special, indirect, consequential, or punitive damages.

10.6.9 Tenant Information. Upon Landlord's request from time to time, Tenant shall provide to Landlord the financial statements for Tenant for its most recent fiscal year and fiscal quarter. Financial statements for each fiscal year shall be prepared and certified by a certified public accountant; financial statements for each quarter shall be prepared and certified by Tenant's chief financial officer. In addition, if so requested, and provided that Landlord may not require such information more than once in any calendar year except where Landlord has reasonable grounds for concern, details of the financial and credit standing and details of the corporate organization of Tenant and any Indemnitor, including copies of financial statements for the last three (3) fiscal years of Tenant. If requested by Tenant, such financial statements shall be furnished pursuant to a confidentiality agreement in a form reasonably provided by Landlord for such purpose. The provisions of this Section 10.6.9 shall not apply to Tenant if it is a Public Company and its financial statements are publicly available.

10.6.10 REIT Provisions. Tenant and Landlord intend that all amounts payable by Tenant to Landlord shall qualify as "rents from real property," and will otherwise not constitute "unrelated business taxable income" or "impermissible tenant services income," all within the meaning of Section 856(d) of the Internal Revenue Code of 1986, as amended (the "**Code**") and the U.S. Department of Treasury Regulations promulgated thereunder (the "**Regulations**"). In the event that Landlord determines that there is any risk that any amount payable under this Lease may not qualify as "rents from real property" or will otherwise constitute impermissible tenant services income within the meaning of Section 856(d) of the Code and the Regulations, Tenant agrees to (a) cooperate with Landlord by entering into such amendment or amendments as Landlord deems necessary to qualify all amounts payable under this Lease as "rents from real property" and (b) permit (and, upon request, to acknowledge in writing) an assignment of the obligation to provide certain services under the Lease, and, upon request, to enter into direct agreements with the parties furnishing such services (which shall include but not be limited to a taxable REIT subsidiary of Landlord). Notwithstanding the foregoing, Tenant shall not be required to take any action pursuant to the preceding sentence (including acknowledging in writing an assignment of services pursuant thereto) if such action would result in (A) Tenant's incurring more than de minimis additional liability under this Lease or (B) more than a de minimis negative change in the quality or level of Building operations or services rendered to Tenant under this Lease. For the avoidance of doubt, (i) if Tenant does not acknowledge in writing an assignment as described in clause (b) above (it being agreed that Tenant shall not unreasonably withhold, condition or delay such acknowledgment so long as the criteria in clauses (A) and (B), above, are satisfied), then Landlord shall not be released from liability under this Lease with respect to the services so assigned; and (ii) nothing in this Section 10.6.10 shall limit or otherwise affect Landlord's ability to assign its entire interest in this Lease to any party as part of a conveyance of Landlord's ownership interest in the Building.

10.7 Interpretation.

10.7.1 Captions. The captions in this Lease are for convenience of reference and shall not define, increase, limit, or describe the scope or intent of any provision of this Lease.

10.7.2 Landlord and Tenant. The terms “Tenant” and “Landlord”, and any pronoun used in place thereof, shall indicate and include each of the parties’ and respective successors, executors, administrators, and permitted assigns, according to the context, provided that, for the purposes of any provisions indemnifying or waiving claims against, Landlord, the term “Landlord” shall also include Landlord’s present and future investment manager, and property management company, and all of their trustees, directors, officers, partners, beneficiaries, principals, members, managers, investors, stockholders, employees, Affiliates, agents, representatives, contractors (and subcontractors of any tier), successors and assigns.

10.7.3 Non-Exclusivity. Whenever the words “including”, “include”, or “includes” are used in this Lease, they shall be interpreted in a non-exclusive manner as though the words “without limitation” immediately followed the same. Any reference to “any part” or “any portion of” the Premises or any other property shall be construed to refer to all or any part of the same.

10.7.4 Covenants Independent. This Lease shall be construed as though the covenants herein between Landlord and Tenant are independent.

10.7.5 Joint and Several Liability. In any case where either Landlord or Tenant consists of more than one person, the obligations of such party under this Lease shall be joint and several.

10.7.6 Time of the Essence. Time is of the essence of this Lease and all of its provisions.

10.7.7 Governing Law. This Lease shall in all respects be governed by the laws of the State of California without giving effect to the principles of conflicts of law thereof or of any other jurisdiction that would result in the application of the Applicable Laws of any other jurisdiction. Tenant’s obligation to pay Rent shall not be discharged or otherwise affected by any Applicable Law or regulation now or hereafter applicable to the Premises, or any other restriction on Tenant’s use, or (except as expressly provided in this Lease) any Casualty or Taking, or any failure by Landlord to perform any covenant contained herein, or any other occurrence; and no termination or abatement remedy that is not expressly provided for in this Lease for any breach or failure by Landlord to perform any obligation under this Lease shall be implied or applicable as a matter of Applicable Law.

10.7.8 Successors and Assigns. Subject to the provisions of Article 5, the provisions of this Lease shall be binding upon and inure to the benefit of the heirs, successors, executors, administrators, and assigns of Landlord and Tenant.

10.7.9 Submission. The submission of this Lease to Tenant or a summary of some or all of its provisions for examination does not constitute a reservation of or option for the Premises or an offer to lease, and no legal obligations shall arise with respect to the Premises or other matters herein unless and until such time as this Lease is executed and delivered by Landlord and Tenant and approved by the holder of any mortgage on the Building having the right to approve this Lease.

10.8 Tenant's Signage. Tenant shall have the right to install such signage at or upon the Premises as permitted by Applicable Laws. Tenant, at its sole expense, shall maintain Tenant's Signage in good condition and repair during the Term. Should Tenant's Signage require maintenance or repairs as determined in Landlord's reasonable judgment, Landlord shall have the right to provide notice thereof to Tenant and Tenant shall cause such repairs and/or maintenance to be performed within thirty (30) days after receipt of such notice from Landlord at Tenant's sole cost and expense. Should Tenant fail to perform such maintenance and repairs within the period described in the immediately preceding sentence, then, in addition to all of Landlord's other rights and remedies, Landlord may, but need not, perform the required maintenance and repairs, and Tenant shall pay Landlord the cost thereof, plus a fee for Landlord's oversight and coordination of such work equal to five percent (5%) of its cost, within thirty (30) days after receipt of Landlord's request for payment, together with reasonable, supporting backup documentation. Landlord shall have the right to maintain one or more signs at the Premises in a prominent location near the entrance to the Building identifying the property manager and the identity of Landlord or its direct or indirect ownership group in a manner similar to that shown on Exhibit G attached, subject to Tenant's approval of the size and location of such signage, such approval not to be unreasonably withheld, conditioned or delayed.

10.9 Choice of Law. This Lease shall be governed by the Applicable Laws of the State of California.

10.10 CASp Inspection. For purposes of Section 1938(a) of the California Civil Code, Landlord hereby discloses to Tenant, and Tenant hereby acknowledges, that neither the Building nor any portion of the Premises has undergone inspection by a Certified Access Specialist (CASp) (defined by California Civil Code Section 55.52). Pursuant to California Civil Code Section 1938, Tenant is hereby notified as follows: "A Certified Access Specialist (CASp) can inspect the subject premises and determine whether the subject premises comply with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the subject premises, the commercial property owner or lessor may not prohibit the lessee or tenant from obtaining a CASp inspection of the subject premises for the occupancy of the lessee or tenant, if requested by lessee or tenant. The parties shall mutually agree on the arrangements for the time and manner of any CASp inspection, the payment of the fee for the CASp inspection and the cost of making any repairs necessary to correct violations of construction-related accessibility standards within the premises." If Tenant requests to perform a CASp inspection of the Premises, Tenant shall, at its cost, retain a CASp approved by Landlord to perform the inspection of the Premises at a time agreed upon by the parties. Tenant shall provide Landlord with a copy of any report or certificate issued by the CASp (the "**CASp Report**"). Landlord and Tenant agree that any modifications necessary to correct violations of construction related accessibility standards identified in the CASp Report shall be the responsibility of Tenant. Tenant agrees to keep the information in the CASp Report confidential except as necessary for the Tenant to complete such modifications.

10.11 Landlord Access. Landlord, its affiliates, and their respective contractors and agents, subject to the terms of this Section 10.11, may, (a) at any and all reasonable times during normal business hours (or during non-business hours, if Landlord so requests and Tenant consents), and upon at least two (2) business days' prior notice (which may be oral or by email to the office manager or other Tenant-designated individual at the Premises; but provided that no time restrictions shall apply or advance notice be required if a bona fide emergency with an immediate threat to property damage or personal injury necessitates immediate entry and any oral notice will be followed immediately by email notice as provided above prior to entry), enter the Premises to (i) inspect the same and to determine whether Tenant is in compliance with its obligations hereunder, (ii) supply any service Landlord is required to provide hereunder, (iii) alter, improve or repair any portion of the premises under the Companion Lease for which access to or through the Premises is reasonably necessary, (iv) post notices of non-responsibility, (v) show the Premises to current and prospective investors, lenders and purchasers, and (vii) show the Premises, other than the Secure Access Areas, during the final eighteen (18) months of the Term (provided that Tenant has not timely exercised an Extension Option to extend the Term pursuant to Section 1.4) to prospective tenants, and (b) notwithstanding the foregoing, at any and all reasonable times during business and non-business hours and upon at least two (2) business days' prior notice enter the Premises for the purposes of performing any repairs or maintenance that Landlord is obligated or entitled to perform pursuant to this Lease (provided that no time restrictions shall apply if a bona fide emergency with an immediate threat to property damage or personal injury necessitates immediate entry); provided, however, that Landlord shall comply with Tenant's reasonable safety procedures and protocols with respect to the Premises, and with respect to portions of the Premises (if any) that are reasonably designated in writing by Tenant to Landlord as controlled or having restricted access (the "**Secure Access Areas**"), shall comply with Tenant's reasonable additional security and safety procedures and protocols related to such portions of the Premises including only entering such designated Secure Access Areas when accompanied by a Tenant representative (provided further, that Tenant shall provide a Tenant representative to accompany Landlord upon written request from Landlord at least two (2) business days' in advance). In no event shall Tenant's Base Rent abate as a result of Landlord's activities pursuant to this Section; provided, however, that all such activities shall be conducted in such a manner so as to cause as little interference to Tenant as is reasonably possible. Landlord shall at all times retain keys, key cards and access codes with which to unlock all of the doors in the Premises. Landlord acknowledges that the standard operating procedures set forth on Exhibit J shall apply to the issuance to Landlord of any key cards, electronic keypad codes, or door keys to any Secure Access Areas for any unaccompanied access too the Premises by Landlord, provided, however, that Tenant shall identify a single designee to act as Landlord's point of contact to administer the requirements of Tenant's standard operating procedures on behalf of Landlord and that in no event shall any such requirements prohibit Landlord's entry into Secure Access Areas (i) in the event of a bona fide emergency with an immediate threat to property damage or personal injury that necessitates immediate entry or (ii) when accompanied by a representative of Tenant. If an emergency necessitates immediate access to the Premises, Landlord may use whatever force is necessary to enter the Premises, and any such entry to the Premises shall not constitute a forcible or unlawful entry to the Premises, a detainer of the Premises, an eviction of Tenant from the Premises or any portion thereof, or a violation of the provisions of this Section 10.11. Notwithstanding anything herein to the contrary, in the event Tenant notifies Landlord within one (1) business day (which may be oral or by email to the Landlord-designated individual) following Landlord's request for access that the proposed day and/or time for entry will cause a disruption to a planned event, meeting or other programming for Tenant, Landlord and Tenant shall cooperate with one another to identify a better date and/or time Landlord's entry of the Premises.

ARTICLE 11
TENANT'S RIGHT OF FIRST OFFER

11.1 Right of First Offer.

11.1.1 Notwithstanding anything contained in this Lease to the contrary, provided that (i) no Event of Default by Tenant has occurred under this Lease, and (ii) the Tenant is Ionis Pharmaceuticals, Inc., or its affiliate, if Landlord intends to offer the Premises (or any portion thereof) for sale to an unaffiliated third party, Landlord shall promptly notify Tenant of the same in writing (the "**Offer Notice**") and indicate the terms and conditions upon which Landlord is willing to accept for the sale of the Premises to a third party. Tenant may elect to purchase the Premises (or portion thereof) on the terms and conditions set forth in the Offer Notice by notifying Landlord in writing (the "**Election Notice**") of its election no later than fifteen (15) days after the Offer Notice, which notice shall be accompanied by the Option Deposit (defined herein), and the sale of the Premises shall be consummated pursuant to the terms hereof on a date (the "**Closing Date**") within sixty (60) days after the Election Notice, such date to be mutually agreed upon by Landlord or Tenant. In the event of any of the following: (x) Tenant fails to deliver the Election Notice or the Option Deposit to Landlord on or before the expiration of the 15-day period set forth above, (y) Tenant fails to close on its acquisition of the Premises on or before the Closing Date, or (z) Landlord provides an Offer Notice to Tenant and Tenant does not exercise its right to purchase the Premises, then in each case Tenant shall be deemed to have waived its right to purchase the Premises and thereafter Tenant's rights under this Article 11 shall be null and void and of no further force or effect. The term "**Option Deposit**" shall mean the amount of cash deposit required in the Offer Notice or, if no cash deposit is specified in the Offer Notice, a sum equal to five percent (5%) of the purchase price for the Premises set forth in the Offer Notice.

11.1.2 If the Premises is not sold to Tenant pursuant to Section 11.1.1 above, Landlord shall have the right to direct the marketing of the Premises (including the unilateral right to select any broker to be utilized), and to take all actions in furtherance thereof, including, without limitation, the right and authority to execute, such agreements, documents, instruments and applications, including a purchase and sale agreement and a deed, assignment of leases, bills of sale and other conveyance documents conveying the Premises (collectively, "**Sale Documents**") as Landlord, may reasonably deem necessary or desirable in order consummate such sale, and, subject to Section 11.1.1 above and Section 11.2 below, Landlord shall be authorized to accept an offer for the sale of the Premises. If Landlord modifies the terms of its offer such that the purchase price is less than ninety-five percent (95%) of the consideration provided in the Offer Notice, then the proposed transaction shall again be subject to Tenant's rights under this Article 11, and Landlord shall deliver an amended Offer Notice to Tenant.

11.1.3 Tenant shall, at no material out-of-pocket cost to Tenant, reasonably cooperate with Landlord's efforts to sell the Premises, including by providing information with respect to the Premises, and by allowing and facilitating physical access to the Premises to prospective purchasers and their lenders and consultants, but such cooperation and execution by the Tenant shall not be a condition to the effectiveness of any actions taken by Landlord with respect to such sale or to the effectiveness of Sale Documents.

11.2 Tenant's Competitors. Provided that (i) no Event of Default by Tenant has occurred under this Lease, and (ii) the Tenant is Ionis Pharmaceuticals, Inc., or an affiliate, and such Tenant remains in possession of the Premises and operating for the Permitted Use, Landlord shall not sell the Premises (or any portion thereof, or all or substantially all of Landlord's interest therein) or enter into an agreement to that would transfer Landlord's interest in the Premises to a Competitor during the Term; provided, however, this Section 11.2 shall not prohibit Landlord from entering into an agreement to sell or transfer the Premises to a Competitor if the effective date of the transfer would occur after the expiration of the Term. As used herein, "**Competitor**" or "**Competitors**" means the companies expressly listed as competitors in Tenant's most recent publicly filed Annual Report (10-K); provided, however, (1) such companies shall be directly engaged in the development, manufacturing, or commercializing a medicine or other life sciences product, and "Competitor" shall not mean any affiliates, investors, parents, or other stake-holders of such companies, and (2) there shall not be more than twenty (20) Competitors at any one time. If Tenant's most recent publicly filed Annual Report (10-K) includes more than twenty (20) companies that would otherwise be deemed Competitors, only those companies that were previously listed in Tenant's Annual Report (10-K) shall be deemed a Competitor unless Tenant provides a written notice to Landlord specifying which companies listed in Tenant's most recent Annual Report (10-K) shall be included in the list of twenty (20) Competitors for the purposes of this Lease.

11.3 Transfers. Notwithstanding anything to the contrary herein, Tenant's rights under this Article 11 shall not apply to any transaction that meets at least one of the following criteria:

11.3.1 any sale/leaseback transaction made in connection with a bona fide financing, provided that the seller/lessee under any such transaction shall be bound by the provisions of this Article 11 at such time, if any, as such seller/lessee reacquires title to the Premises;

11.3.2 any sale or transfer of the Premises to a partnership, corporation, limited liability company, trust or other entity that is under control by, common control with, or controls Landlord or any direct or indirect owner of Landlord, but any such transferee shall hold title subject to Tenant's rights under this Article 11;

11.3.3 any transfer in the nature of a financing transaction with a financial institution that is made for a bona fide business purpose (i.e., other than in order to allow a transfer of the Premises in avoidance of Tenant's rights under this Article 11), including without limitation the granting of, foreclosure under, or giving of a deed-in-lieu of foreclosure under, a mortgage or the granting or exercise of any pledge of ownership interests; provided that, following any foreclosure of the Premises, deed in lieu thereof, or similar acquisition of title by a mortgagee, lender, or their affiliates, following the first sale of the Premises by such mortgagee, lender or their affiliates, the subsequent Landlord shall be bound by Tenant's rights under this Article 11;

11.3.4 any issuance or transfer of a direct or indirect interest in Landlord that represents a transfer of less than 80% of such interests (so long as such transfer does not also include the ability to control the day-to-day operations of Landlord); provided that any transferee of direct interests in Landlord otherwise described in this Section 11.3.4 is not a Competitor;

11.3.5 any issuance or transfer of a direct or indirect interest in Landlord on a nationally recognized stock exchange; and

11.3.6 any bona fide portfolio transaction that includes at least two other real estate assets (excluding the Premises and, if the Companion Lease is in effect, the Companion Premises) that in the aggregate have rentable space at least equal to 416,000 square feet of rentable space.

11.4 Termination. Upon (x) any sale of the Premises, (y) any portfolio transaction sale that includes the Premises, or (z) any foreclosure of a Mortgage on the Premises or conveyance by deed-in-lieu of foreclosure, in each case to a third-party person or entity in accordance with the terms of this Article 11, Tenant's right of first offer to purchase the Premises under this Article 11 shall forever terminate.

11.5 Confidentiality. Any Offer Notice and information in connection therewith, and any information regarding a sale of the Premises, provided to Tenant by Landlord pursuant to this Article 11 shall be held confidential by Tenant and not disclosed to any third party except as required by law or in connection with any dispute between Landlord and Tenant regarding this Article 11 and for disclosures to Tenant's legal advisors and third-party consultants to the extent such legal advisors and consultants are reasonably required for Tenant to evaluate such information and, in each case, provided that such legal advisors and consultants are made subject to the provisions of this paragraph or are otherwise bound by provisional obligations of confidentiality. Any such information shall be returned by Tenant to Landlord if Tenant's rights under this Article 11 terminate in accordance with the terms hereof. Nothing in this Section 11.5 shall prevent Tenant from making disclosures required by applicable public company disclosure laws, provided, however, such disclosures shall include no more information than what is minimally necessary to satisfy the legal requirement, and provided further that Landlord shall have the right to reasonably approve any disclosure that exceeds what is minimally necessary to satisfy the legal requirement, and provided further that Landlord shall have the right to review any disclosure prior to the filing of the same for purposes of confirming compliance with the terms of this sentence, to the extent that such review is permitted pursuant to Applicable Law.

ARTICLE 12
LIMITATION OF LIABILITY

12.1 Landlord's Liability. Tenant agrees from time to time to look only to Landlord's interest in the Premises for satisfaction of any claim against Landlord hereunder or under any other instrument related to the Lease (including any separate agreements among the parties and any notices or certificates delivered by Landlord) and not to any other property or assets of Landlord. If Landlord from time to time transfers its interest in the Premises, then from and after each such transfer Tenant shall look solely to the interests in the Premises of Landlord's transferees for the performance of all of the obligations of Landlord hereunder (or under any related instrument). The obligations of Landlord shall not be binding on any direct or indirect partners (or members, trustees, or beneficiaries) of Landlord or of any successor, individually, but only upon Landlord's or such successor's interest described above. Further, if Landlord is, or one of the parties comprising Landlord is, or the Lease is assigned to, a real estate investment trust ("**REIT**"), the parties acknowledge and agree that the obligations of the REIT hereunder and under all documents delivered pursuant hereto (and all documents to which the Lease may be pursuant) or which give effect to, or amend or supplement, the terms of the Lease are not personally binding upon any trustee thereof, any registered or beneficial holder of units (a "**Unitholder**") or any annuitant under a plan of which a Unitholder acts as a trustee or carrier, or any officers, employees or agents of the REIT and resort shall not be had to, nor shall recourse or satisfaction be sought from, any of the foregoing or the private property of any of the foregoing.

12.2 Assignment of Rents.

12.2.1 With reference to any assignment by Landlord of Landlord's interest in this Lease, or the rents payable hereunder, conditional in nature or otherwise, which assignment is made to the holder of a mortgage on property that includes the Premises, Tenant agrees that the execution thereof by Landlord, and the acceptance thereof by the holder of such mortgage shall never be treated as an assumption by such holder of any of the obligations of Landlord hereunder unless such holder shall, by notice sent to Tenant, specifically otherwise elect and, except as aforesaid, such holder shall be treated as having assumed Landlord's obligations hereunder only upon foreclosure of such holder's mortgage and the taking of possession of the Premises.

12.2.2 In no event shall the acquisition of Landlord's interest in the Premises by a purchaser that, simultaneously therewith, leases Landlord's entire interest in the Premises back to the seller thereof be treated as an assumption by operation of Law or otherwise, of Landlord's obligations hereunder, but Tenant shall look solely to such seller-lessee, and its successors from time to time in title, for performance of Landlord's obligations hereunder. In any such event, this Lease shall be subject and subordinate to the lease to such purchaser. For all purposes, such seller-lessee, and its successors in title, shall be the Landlord hereunder unless and until Landlord's position shall have been assumed by such purchaser-lessor.

12.2.3 Except as provided in Section 12.2.2, in the event of any transfer of title to the Premises by Landlord, the transferring Landlord shall thereafter be entirely freed and relieved from the performance and observance of all covenants and obligations hereunder, and Tenant shall only look to any subsequent party becoming Landlord hereunder the same. Tenant hereby agrees to enter into such agreements or instruments as may, from time to time, be requested in confirmation of the foregoing.

(SIGNATURES APPEAR ON NEXT PAGE)

IN WITNESS WHEREOF, the parties hereto have duly executed this Lease on the day and year first above written.

LANDLORD:

LOTS 21 & 22 OWNER (DE) LLC, a Delaware limited liability company

By: _____
Name: _____
Title: _____

TENANT:

IONIS PHARMACEUTICALS, INC., a Delaware corporation

By: _____
Name: _____
Title: _____

SCHEDULE 1

EXAMPLE SHOWING CALCULATION OF BASE RENT

Cost Item	**Ref**	**Preliminary Estimate**	**$PSF**
Land Acquisition		33,000,000	200
Closing Costs Allocation		330,000	2
Soft Costs		8,352,652	51
Hard Costs		94,878,874	576
Landlord Tenant Improvement Allowance		41,208,250	250
Development Fee(1)		3,921,111	24
Oxford Overhead		1,300,000	8
Operating Shortfall		2,607,603	16
Financing Costs		12,407,982	75
Total Budget	**(A)**	**198,006,472**	**1,201**
Yield-on-Cost	**(B)**	6.10%	
Annual Rent at Commencement	**(A * B)**	**12,078,395**	**73.28**
Monthly Rent at Commencement	**(A * B)/12**	**1,006,533**	**6.11**

(1) Calculated based on sum of (a) 3.0% of Hard and Soft Costs, and (b) 1.0% of Tenant Improvement Allowance and assumed lonis spend of $250 PSF

EXHIBIT A

LEGAL DESCRIPTION OF THE PREMISES

Real property in the City of CARLSBAD, County of San Diego, State of California, described as follows:

LOTS 21 AND 22 OF CARLSBAD TRACT NO. 97-13-03, CARLSBAD OAKS NORTH PHASE 3, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 16145, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, OCTOBER 13, 2016 AS DOCUMENT 2016-7000438 OF OFFICIAL RECORDS.

APN: 209-120-23-00 (Affects: Lot 21) and 209-120-24-00 (Affects: Lot 22)

EXHIBIT B
WORK LETTER

This Work Letter (this "**Work Letter**") is made and entered into as of _____ ("**Effective Date**") and is attached to and made a part of that certain Lease by and by and between **LOTS 21 & 22 OWNER (DE) LLC**, a Delaware limited liability company as landlord ("**Landlord**") and **IONIS GAZELLE, LLC**, a Delaware limited liability company as tenant ("**Tenant**") for the development of approximately 8.37 acres (the "**Land**") known as Lots 21 and 22 with approximately 164,833 gross square feet, which shall be comprised of a three (3) level lab and office building (the "**Building**"), a three (3) (inclusive of the rooftop deck) level parking structure ("**Parking Structure**") and a pedestrian bridge connecting the Building to an adjacent building leased by Tenant from an affiliate of Landlord (the "**Bridge**"). Capitalized terms not otherwise defined in this Work Letter shall have the meanings set forth in the Lease. In the event of any conflict between the terms hereof and the terms of the Lease, the terms hereof shall prevail for the purposes of design and construction of the Improvements (hereinafter defined).

1. Permits and Approvals. Prior to the Effective Date, Tenant has applied for and obtained (or Landlord has obtained by use of its self-help rights under the PSA, as defined below) the discretionary zoning and planning approvals and approvals by the Architecture Committee under the covenants, conditions and restrictions of the Carlsbad Oaks North Business Park Owners Association necessary to obtain a building permit for Landlord's Construction Work by right (as identified on Schedule 1, attached, the "**Entitlements**"), and, prior to commencement of construction, has obtained or will obtain the other ministerial permits necessary for the development and construction of the Landlord's Construction Work (as defined below) (as identified on Schedule 1, attached, the "**Ministerial Approvals**"; collectively, together with the Entitlements, the "**Permits and Approvals**"), which Permits and Approvals Tenant acknowledges and agrees are all of the permits, licenses, and approvals necessary for the commencement of construction of all of the Landlord's Construction Work, provided, however, that following the Effective Date, to the extent Tenant has not yet prepared and/or submitted applications for Ministerial Permits in accordance with the Development Schedule, Landlord (or General Contractor) shall be responsible for preparing and/or submitting such Ministerial Permits. The parties acknowledge that certain Permits and Approvals are necessary solely for commencing a particular aspect of the Landlord's Construction Work (e.g., the grading permit and lot line adjustment between lots 21 & 22). The parties further acknowledge that, following the commencement of vertical construction of the Building and Parking Structure, certain ministerial permits will be obtained by Landlord (or the General Contractor) in the ordinary course as normally obtained in the course of construction. Tenant shall use diligent, best efforts to pursue the Entitlements on or before the Outside Satisfaction Date as defined in (and subject to extensions expressly permitted under) that certain Purchase and Sale Agreement dated October **[To be filled in based on final executed version of PSA:]** _____, 2022, by and between Tenant and an affiliate of Landlord (the "**PSA**"). Tenant shall provide Landlord with updates regarding the status of the Permits and Approvals from time to time (and in any event no less often than once per month) and otherwise upon the written request of Landlord. Tenant shall not amend or modify the Entitlements, or submit any new applications for Entitlements, without the prior written consent of Landlord, and, in any event, the final Entitlements shall be subject to the final written approval of Landlord, in each case such consent and approval not to be unreasonably withheld, conditioned, or delayed, provided that it shall be reasonable for Landlord to disapprove of the Entitlements, amendments to them, or applications for any new Entitlements for Landlord's Construction Work, if they (a) contain conditions (i) the cost of which are not (A) includable within the Construction Costs (unless Tenant agrees in writing to pay such costs directly and such Entitlements, amendments, or applications for new Entitlements otherwise comply with the provisions of clause (ii)) or (B) otherwise the responsibility of Tenant pursuant to the terms of the Lease (unless Tenant agrees in writing to perform the same and such Entitlements, amendments, or applications for new Entitlements otherwise comply with the provisions of clause (ii)), or (ii) that are not customary for similar first class lab and office projects in the applicable leasing market (including without limitation with respect to costs or obligations resulting from the same that are recurring beyond the termination or earlier expiration of the Term), or (b) are inconsistent with the Approved Concept Plans (as defined below).

The Permits and Approvals shall provide for (a), at a minimum, as-of-right use of the Premises for the Permitted Use, (b) improvements with a lab to office ratio of no less than 35% to 65%, the calculation of which shall be made in good faith by Landlord and Tenant in consultation with the Architect (with any dispute being resolved pursuant to Article 13, below), (c) at least 164,833 square feet of gross floor area (as measured by the applicable zoning codes and ordinances), (d) no fewer than 426 parking stalls, floor-to-floor heights of at least 16 feet, (e) a floor load of at least 125 pounds per square foot live load, 15 pounds per square foot dead load and, in any event, on areas of the roof within areas of mechanical screening or otherwise intended for mechanical equipment installations, at least 150 pounds per square foot, (f) vertical MEP infrastructure sufficient to support a lab to office ratio of at least 50% to 50% (incorporating the minimum standards set forth on Schedule 8, attached), (g) building construction type of II-B, (h) MEP capacities consistent with Schedule 8 and MEP infrastructure consistent with the allocation of responsibility attached as part of Schedule 2, and (j) otherwise be consistent with first class life sciences use, generally (the "**Fundamental Requirements**"). Landlord shall approve or provide detailed objections to the Entitlements within ten (10) business days of its receipt of the same. If Landlord fails to respond within such ten (10) business day period, Tenant may provide a written reminder notice to Landlord. Landlord's failure to respond to such reminder notice within three (3) business days after delivery of such notice shall be deemed to be Landlord's approval of the Entitlements. Prior to making any material submission to a permitting or other governmental authority, committee, association, or other regulatory committee, agency or governing body having jurisdiction over the over the Landlord's Construction Work (collectively, "**governmental authorities**"), Tenant shall give the Landlord the opportunity to review and comment on the same, and Tenant shall give Landlord reasonable prior notice of any material meetings, hearings, or conversations with governmental authorities related the Permits and Approvals and give Landlord the reasonable opportunity to participate in the same. Furthermore, to the extent Tenant is responsible for Ministerial Approvals pursuant to this Section 1, Tenant shall submit such applications for Ministerial Approvals to Landlord for its review and comment prior to Tenant submitting the same to the applicable governmental authorities, but such review by Landlord is solely for the purpose of confirming that such applications are consistent with the terms and conditions of this Work Letter. Tenant shall cooperate with Landlord as reasonably required to facilitate obtaining the Ministerial Approvals in an orderly and timely manner to the extent the same have not been obtained by Tenant prior to the Effective Date, including by providing Landlord with such information as is necessary with respect to prior and pending applications.

2. Design of the Landlord's Construction Work. Prior to the Effective Date, Tenant has caused the Architect to prepare, and the Landlord and Tenant have approved, the conceptual plans and the allocation of responsibility for the Landlord's Construction Work as further described on Schedule 2, attached (collectively, the "**Approved Concept Plans**"). The Approved Concept Plans will be developed into Approved Core and Shell Plans as further provided in Section 5.2, below.

3. Landlord's Construction. Promptly following the date on which the Permits and Approvals have been received and are no longer subject to any potential appeal or challenge and the execution of the GMP Contract as set forth in Section 4.3 below (but in no event prior to the Effective Date), or on such earlier date as Landlord may elect in its discretion, Landlord shall cause the General Contractor (hereinafter defined) to commence and diligently prosecute the construction of the shell and core of the Building to completion pursuant to the Approved Shell and Core Plans (the "**Shell and Core**"), in accordance with the terms and conditions set forth in this Work Letter subject only to Shell and Core Permitted Changes and any other changes authorized pursuant to this Work Letter (all such construction, the "**Landlord's Construction Work**"). Tenant shall construct the tenant improvements in the Building pursuant to the Approved TI Plans (the "**Tenant Improvements**") as further provided below**.** The Landlord's Construction Work, together with the Tenant Improvements shall collectively be referred to herein as the "**Building Improvements**"**.** Landlord's Construction Work shall be constructed in a good and workmanlike manner, and in accordance with Applicable Laws (subject only to such incomplete work as will not materially adversely impact Tenant's continuous and uninterrupted use of the Premises for Tenant's Permitted Use). The allocation of responsibility for completion of the Building Improvements is included as part of Schedule 2.

3.1. Substantial Completion of Landlord's Construction Work. Landlord's Construction Work shall be deemed "**Substantially Complete**" or there shall be "**Substantial Completion**" at such time as (a) Landlord has received an AIA form certificate from the Architect confirming that the Landlord's Construction Work is substantially complete substantially in accordance with the Approved Shell and Core Plans, other than seasonal items such as balancing and landscaping, and other Punchlist Items (as defined below), and (b) all certifications and approvals with respect to the completion of the Landlord's Construction Work that may be required from any governmental authority to permit occupancy of the Premises for the Permitted Use, generally (as opposed to Tenant's use, specifically) have been obtained by Landlord (to the extent they may be obtained prior to the completion of the Tenant Improvements). The date on which Landlord's Construction Work is deemed Substantially Complete pursuant to the foregoing shall be referred to herein as the "**Substantial Completion Date.**" As used herein, the "**Delivery Date**" means the date (i) the Landlord's Construction Work is in the condition required by Schedule 7 (the "**Delivery Condition**"), and (ii) Landlord has provided Tenant with reasonably continuous and uninterrupted access to the Project for the construction of Tenant Improvements, subject to the reasonable requirements necessary for, and established by, Landlord's General Contractor to allow it to obtain Substantial Completion, complete the Punchlist Items and exercise any of its other rights or obligations under this Work Letter and the Lease within the time periods set forth herein.

On a date or dates reasonably specified by Landlord (but not later than five (5) business days following Substantial Completion of the Landlord's Construction Work), Landlord and Tenant and each of their architects shall inspect the Landlord's Construction Work for the purpose of preparing a list of the punchlist type items, and any items of a seasonal nature such as balancing and landscaping, then remaining to be completed for the Landlord's Construction Work (the items on such list being referred to as "**Punchlist Items**"). Landlord shall, within ten (10) business days after the date of such inspection, submit a final punchlist to Tenant, and Tenant shall sign and return the final punchlist to Landlord within five (5) business days of Landlord's delivery of such final punchlist to Tenant (or, if earlier, by the day before Tenant takes occupancy of the Premises for the Permitted Use), noting any items that Tenant reasonably believes should be added thereto. Items shall not be added to the final punchlist by Tenant after it is delivered to Landlord and the expiration of such five (5) business day period. If the final punchlist is not executed by Tenant and returned to Landlord within such five (5) business day period, then Tenant shall be deemed to have accepted the final punchlist as submitted to Tenant by Landlord without modification and, except as set forth on the final punchlist, Landlord shall have no further obligation to cause any other Landlord's Construction Work to be completed. With respect to items on the final punchlist not in dispute, Landlord shall cause such items to be completed as soon as reasonably practicable in a diligent manner during regular business hours, but in a manner that will seek to minimize interruption of Tenant's construction of the Tenant Improvements. In any event, Landlord shall use commercially reasonable efforts to complete all punchlist work within 60 days (or such longer period as is reasonably required with respect to applicable items), other than matters that cannot be completed owing to their seasonal nature (which shall be completed as soon as reasonably practicable in a diligent manner), and subject to extension for Force Majeure and Tenant Delays. With respect to any disputed final punchlist items, Landlord shall cause such items to be completed in like manner, but Landlord may nevertheless reserve Landlord's rights to require Tenant to pay the costs therefor as Construction Costs. In the event of a dispute between Landlord and Tenant over Punchlist Items, the parties shall submit such dispute to resolution pursuant to Section 13, below.

3.2. Schedule and Budget. As of the date hereof, Landlord and Tenant estimate that (a) the Delivery Date will occur on or before _____ **[NTD: insert the date that is 18 months following the Effective Date at execution]** (the "**Target Delivery Date**"), and (b) the Substantial Completion Date of Landlord's Construction Work will occur on or before _____ **[NTD: insert the date that is 28 months following the Effective Date at execution]** (the "**Target Substantial Completion Date**"). The final GMP agreement with the Contractor shall set forth an updated, estimated Delivery Date (the "**Estimated Delivery Condition Date**") and Substantial Completion Date (the "**Estimated Substantial Completion Date**") based on the initial construction of the Landlord's Construction Work. If Landlord reasonably believes the costs and expenses of achieving Substantial Completion of Landlord's Construction Work will exceed the contemplated costs and expenses thereof as set forth in the Budget, then Landlord will promptly notify Tenant's Authorized Representative (by telephone, fax, email, or letter) thereof. All books and records for the Landlord's Construction Work will be made available to Tenant on an "open book" basis (and Landlord's contract with the General Contractor shall require that the General Contractor shall also make available all of its books and records on the same "open book" basis, and, in coordination with the Landlord's final closeout of the construction contract with the General Contractor, Tenant may reasonably request that Landlord enforce its rights to audit the General Contractor's books and records to the full extent allowed by the Landlord's contract with the General Contractor, the costs of which audit shall be included in Construction Costs as a soft cost). Landlord's contract with the General Contractor for the Landlord's Construction Work shall be substantially in the form submitted to Tenant by e-mail delivery from Geoff Howell of DLA Piper LLP (US) to David Crawford of Cooley LLP and Mallorie Klemens of Ionis Pharmaceuticals, Inc. on August 22, 2022 and otherwise subject to Tenant's review and comment. Tenant shall have five (5) business days to review and reasonably comment on the final form of construction contract after delivery to Tenant. If Tenant fails to respond within such five (5) business day period, Landlord may provide a written reminder notice to Tenant. Tenant's failure to respond to such reminder notice within two (2) business days after delivery of such notice shall be deemed to be a waiver of Tenant's right to comment.

3.3. Construction Costs. Subject to the terms and provisions of this Work Letter, Landlord shall pay the costs to construct the Landlord's Construction Work in accordance with this Work Letter. As further provided in the definition of Base Rent within the Basic Lease Information section of the Lease, the Base Rent for the Premises shall be determined based on the costs of Landlord to acquire, design, construct, finance, and otherwise develop the Landlord's Construction Work ("**Construction Costs**") with a return-on-cost interest rate of 6.35%. Construction Costs include the costs and expenses of (a) Landlord's acquisition of the Land, including all closing costs and expenses thereof, (b) reimbursements to Tenant for the TI Allowance (hereinafter defined), (c) the General Contractor and other contractors and subcontractors, (d) space planning, architectural services, engineering and other related services, (e) building and other permits and other taxes, fees, charges and levies by any governmental authority for the entitlements (including without limitation pursuant to the Permits and Approvals) or for inspections of the Building Improvements, (f) labor, material, buildings, building systems, equipment, fixtures, additions and decorations, (g) all Taxes assessed or imposed and other carrying costs (including interest on debt) for the period from the Effective Date through the Commencement Date, (h) any association fees, (i) all utilities and other out-of-pocket operating costs necessary for development and construction, or deficiencies necessary to be paid in order to reconstruct the Landlord's Construction Work following any damage or destruction that occurs prior to the Lease Commencement Date, (j) insurance costs payable to the General Contractor and any other insurance obtained by Landlord pursuant to the terms of this Work Letter or otherwise required by any lender, (k) legal fees incurred in connection with the Landlord's Construction Work; (l) any costs incurred with respect to off-site improvements and mitigation such as traffic improvements, sidewalk improvements, and the like; (m) so-called linkage fees and other fees and payments in the nature of mitigation for project impacts as required by Applicable Law or the Permits and Approvals, (n) utility connection fees and deposits, (o) off-site improvements required by Permits and Approvals or to complete the Landlord's Construction Work in accordance with the Approved Core and Shell Plans, (p) pre-construction fees and payments to the General Contractor and other consultants, including any so-called design-assist fees and payments to subcontractors, (q) costs (including interests and fees thereon) incurred by Landlord or any holder of a direct or indirect interest in Landlord in connection with obtaining, negotiating and closing the financing of the acquisition and development of the Premises or the Landlord's obligations hereunder (including without limitation any construction loan for the Landlord's Construction Work), (r) any sales and use taxes on materials included within the Landlord's Construction Work, (s) the Developer Fee (as defined below), (t) costs to remove, store, remediate, and otherwise handle any Hazardous Materials, (u) reasonably allocated costs of the gross salary and wages or pro rata share thereof, federal and state unemployment taxes, social security taxes, group medical and health insurance premiums, worker's compensation insurance and other benefits of Landlord and its affiliates engaged in the design, construction, financing, and development of the Landlord's Construction Work, not to exceed $1,300,000.00 unless resulting from unusually frequent (when judged in accordance with industry custom and practice) change requests, unusually frequent (when judged in accordance with industry custom and practice) requests for information, or other acts or omissions of Tenant, Tenant Delays, Shell and Core Tenant Change Order Requests, or delays in the Landlord's Construction Work caused by Force Majeure, (v) costs to complete work and enforce warranties and indemnities during the Corrective Period (as defined below), and (w) any other costs and expenses necessary for the acquisition, design, development, financing, and construction of the Project as determined by Landlord in its reasonable discretion. Construction Costs shall not include any "project management" fees payable to Landlord or its affiliates, other than the Developer Fee, and Landlord acknowledges that it shall not include a third-party project management consultant in addition to the general contractor as part of Construction Costs. For purposes of this Lease, any funds delivered by Landlord to pay any Construction Costs shall be deemed to constitute "**Disbursements**", and "**Aggregate Disbursements**" will mean the aggregate amount of funds disbursed by Landlord for the Landlord's Costs. To the extent that Tenant has paid or does pay any design or pre-development costs directly prior to the Effective Date that would otherwise be an eligible Construction Cost if incurred by Landlord pursuant to this paragraph, such cost shall not be a Construction Cost or otherwise included in the determination of Base Rent. For purposes of clarity, it is acknowledged and agreed that Landlord shall (by assumption from Tenant in accordance with this Work Letter or directly) hold all contracts for the design and construction of the Landlord's Construction Work from and after the Effective Date, and Tenant shall hold all contracts for the design and construction of the Tenant Improvements.

3.4. For a period commencing, and not to exceed, sixty (60) days prior to the occurrence of Delivery Condition for the Premises, Tenant shall have the right, upon at least seventy-two (72) hours' prior written notice via e-mail to Landlord's Authorized Representatives, to commence the Tenant Improvements and prosecute the same on a schedule to be mutually agreed upon with Landlord and the General Contractor (the "**Early Access Schedule**") subject to Landlord's and the General Contractor's reasonable security and safety precautions; provided, however, that prior to any such entry, Tenant shall furnish to Landlord evidence reasonably satisfactory to Landlord in advance that insurance coverages required of Tenant under the provisions of Section 8.3, below are in effect. Such entry shall be at Tenant's sole risk and subject to all the terms and conditions of the Lease, except for the payment of Rent. In the course of such entry, Tenant and its contractors shall not interfere with or delay the occurrence of Delivery Condition or Landlord's completion of the Landlord's Construction Work. Tenant and any Tenant contractor shall not damage, the Landlord's Construction Work. Tenant shall be responsible for the costs to repair any Landlord's Construction Work to the extent damaged by Tenant's contractors during the early access period. Following the Effective Date, Landlord and Tenant shall review the Early Access Schedule monthly with the General Contractor to determine with the General Contractor whether updates are needed to reflect the actual progress of the Landlord's Construction Work (e.g., including to allow access on an earlier date than originally set forth in the Early Access Schedule if Landlord's Construction Work is ahead of schedule).

Any requirements of any such Tenant contractor for services from Landlord or the General Contractor, such as hoisting, electrical or mechanical needs, shall be paid for by Tenant and arranged between such Tenant contractor and Landlord or Landlord's Contractor. Should the Tenant Improvements depend on the installed field conditions of any item of Landlord's Construction Work, such Tenant contractor shall ascertain such field conditions after installation of such item of Landlord's Construction Work. Neither Landlord nor the General Contractor shall be required or obliged to alter the method, time or manner for performing Landlord's Construction Work on account of the Tenant Improvements, but Landlord's General Contractor shall cooperate with Tenant to allow Tenant access to prosecute its work in accordance with the Early Access Schedule. Tenant shall cause each Tenant contractor performing Tenant Improvements on the Premises prior to the occurrence of Delivery Condition to substantially clean up regularly and remove its debris from the Premises and Building to the extent reasonably required by the Landlord's General Contractor.

4. General Requirements.

4.1. Authorized Representatives.

(a) Landlord designates, as Landlord's authorized representative ("**Landlord's Authorized Representative**"), Michael Haverty (e-mail: mhaverty@oxfordproperties.com, phone: 857-305-8743) as the person authorized to initial plans, drawings, change orders, and provide consents and approvals pursuant to this Work Letter. Tenant shall not be obligated to respond to or act upon any such item until such item has been initialed or signed (as applicable) by the appropriate Landlord's Authorized Representative. Landlord may change Landlord's Authorized Representative upon one (1) business day's prior written notice to Tenant. Deliveries to Landlord's Authorized Representative by e-mail will be sufficient for purposes of delivery of notices and submissions required under this Work Letter, provided that an e-mail delivery made after 5 p.m. shall be treated as having been delivered on the next business day.

(b) Tenant designates Wayne Sanders (e-mail: [***], phone: [***]) ("**Tenant's Authorized Representative**") as the person authorized to initial all plans, drawings, change orders and provide consent and approvals pursuant to this Work Letter. Landlord shall not be obligated to respond to or act upon any such item until such item has been initialed or signed (as applicable) by Tenant's Authorized Representative. Tenant may change Tenant's Authorized Representative upon one (1) business day's prior written notice to Landlord. Deliveries to Tenant's Authorized Representative by e-mail will be sufficient for purposes of delivery of notices and submissions required under this Work Letter, provided that an e-mail delivery made after 5 p.m. shall be treated as having been delivered on the next business day.

4.2. Architects, Contractors and Consultants. The architect, engineering consultants, general contractor and major subcontractors responsible for the design and construction of the Landlord's Construction Work shall be selected by Landlord and approved by Tenant, which approval Tenant shall not unreasonably withhold, condition or delay. Landlord's request for approval of any design or construction professional shall be approved or disapproved by Tenant within five (5) business days after delivery to Tenant. If Tenant fails to respond within such five (5) business day period, Landlord shall provide a written reminder notice to Tenant. Tenant's failure to respond to such reminder notice within three (3) business days after delivery of such notice shall be deemed approval by Tenant of the applicable consultant. The parties acknowledge that DG Architects, Inc., dba DGA is approved as the architect, Spurlok is approved as the landscape architect, and EXP (mechanical, electrical and plumbing engineering, inclusive of Fire Alarm and Fire Sprinkler Basis of Design), KPFF (structural engineering), Pasco, Laret Suiter & Associates (civil engineering), Waveguide (acoustics/vibration consultant), Forsyth Consulting (building envelope consulting and waterproofing) are approved as engineers and consultants, and BNBuilders is approved as General Contractor. Except as pre-approved in this Section 4.2, Tenant may refuse to use any architects, consultants, contractors, subcontractors or material suppliers that Tenant reasonably believes could cause labor disharmony during the construction of the Tenant Improvements. The approved architect is referred to herein as the "**Architect**". Tenant shall enter into an architect's agreement with Architect (the "**Architect's Contract**") on a form provided by Landlord and approved by Landlord. Tenant shall use diligent, good faith efforts to enter into the Architect's Contract on or before November 1, 2022, and in any event shall enter into the Architect's Contract prior to the submission of schematic design plans to Landlord for its review. As of the Effective Date, Landlord shall assume the Architect's Contract. Prior to the Effective Date, Tenant shall not modify or amend the Architect's Contract or approve any changes in the personnel providing services under the Architect's Contract without the prior consent of Landlord, which may be withheld in its sole discretion, and Tenant shall copy Landlord on all written communications with, and submissions to, the Architect. Landlord acknowledges that Tenant may hire, at its sole cost (subject to reimbursement as a soft cost out of the TI Allowance), an "owner's representative" in connection with the Project (a "**Project Manager**"), which Project Manager shall be reasonably approved by Landlord and be entitled to participate in meetings and receive any information to which Tenant is entitled under this Work Letter. Landlord acknowledges that it has approved Project Management Advisors, Inc. dba PMA as Tenant's Project Manager. The "**General Contractor**" for the Landlord's Construction Work means BNBuilders (or such other general contractor as may be proposed by either party and approved by the other in writing, such approval not to be unreasonably withheld, conditioned, or delayed), the parties acknowledging that such selection took place prior to the Effective Date through a collaborative process based on Tenant's request for proposal submitted to the General Contractor candidates, a copy of which has been provided to Landlord. Tenant provided Landlord with copies of responses to the request for proposal as well as all material communications between Tenant and any general contractor candidates. As used in this Work Letter, **"significant subcontractors and material suppliers"** means those subcontractors and suppliers (including the General Contractor, with respect to any self-performed work) that the parties agree fall within the category of "material" based on the final list of trades needed to bid on the Landlord's Construction Work, as reasonably agreed to by the parties.

4.3. Landlord shall endeavor to cause Tenant to be designated as a third party beneficiary with respect to each warranty and/or indemnity with respect to the Landlord's Construction Work that is made by any "significant subcontractors and material suppliers" against which Landlord is able to exercise remedies pursuant to a contractual right (each, a "**Material Contractor**"**,** and each such warranty/indemnity, a "**Third Party Beneficiary Warranty**"**);** provided, however, that it shall not be a default of Landlord hereunder if Landlord is unable to do so. Tenant shall not exercise its rights with respect to any Third Party Beneficiary Warranty until Substantial Completion has occurred and then only if (a) Tenant identifies any part of the Landlord's Construction Work that violates such Third Party Beneficiary Warranty (a "**Warranty Issue**"*),* (b) Tenant provides Landlord with written notice of any Warranty Issue, (c) the GMP Contract does not prohibit Landlord as the owner or Tenant as the third party beneficiary from exercising its rights with respect to such warranty/indemnity, and (d) either (i) within fifteen (15) business days after receiving such notice from Tenant, Landlord has not requested that the respective Material Contractor address such Warranty Issue, or (ii) Landlord fails to diligently endeavor to cause the Material Contractor to address such Warranty Issue (the parties acknowledging that, from and after the Corrective Period (as defined below), Landlord has no obligation to pursue any such Warranty Issue). Following the Corrective Period, Landlord shall assign all warranties and indemnities for the Landlord's Construction Work to Tenant, to the extent assignable, and, whether or not assignable, shall cooperate with Tenant, at Tenant's sole cost, to the extent necessary in pursuing any warranty or indemnity claim under the third-party contracts for the Landlord's Construction Work. The provisions of this paragraph shall be the Tenant's sole remedy in the event of any defect in the Landlord's Construction Work.

4.4. GMP Contract. Following the completion of the Approved Core and Shell Plans, Landlord shall cause the General Contractor to solicit bids from at least three subcontractors for each significant subcontract and material supplier (unless fewer than three qualified bidders are available) and shall provide to, and review the bids with, Tenant. In the event that the General Contractor desires to self-perform a significant subcontract scope of work, either Landlord shall require the General Contractor to obtain at least two subcontractor bids for each trade to be self- performed, or Landlord shall engage a third-party cost estimator (as a Construction Cost) to provide an estimate of the same scope of work, and cause such cost estimator and General Contractor to reconcile estimates within +/-5% prior to approving the General Contractor's bid. Landlord shall select the lowest qualified bid unless otherwise instructed by Tenant. Landlord covenants that it will, within thirty (30) days following the completion of bidding, enter into a guaranteed maximum price contract between Landlord and General Contractor, which shall provide for the one hundred percent (100%) lien-free completion of the Landlord's Construction Work, provide for a correction period for defective work of at least twelve (12) (and not more than twenty-four (24)) months, and be based on the final bids and otherwise approved terms of the form of construction contract ((the "**GMP Contract**"). The GMP Contract shall contain a complete line item budget to complete the Landlord's Construction Work in a manner consistent with similar projects. The parties acknowledge that certain long lead packages may be bid and procured separately by Landlord prior to the execution of the GMP Contract. The parties further acknowledge that it may be prudent, on the advice of the General Contractor or any other consultant providing pre-construction services, to procure some long lead items contained within the Landlord's Construction Work prior the execution of the GMP Contract or to place deposits for the acquisition of the same, in each case as a means to mitigate against potential supply chain issues during construction. The parties shall collaborate and cooperate in discussing opportunities for such mitigation. In connection with any agreement to spend such amounts prior to the Effective Date, the parties shall agree on how such sums shall be treated for the purposes of Construction Costs (with the understanding that amounts spent by Landlord on any such items shall be considered part of Construction Costs, Landlord having no obligation to incur any such costs prior to the Effective Date). The parties further acknowledge that the GMP Contract shall reflect strategies developed with the General Contractor to mitigate against risks of supply chain delays; Landlord shall use reasonable efforts, in collaboration with Tenant, to minimize the right of the General Contractor under the GC Contract to claim extensions for Force Majeure resulting from supply chain delays, consistent with similar projects in the same market.

4.5. Schedule. The currently anticipated schedule for the development, and completion of the Landlord's Construction Work is attached hereto as Schedule 3 to the Work Letter (the "**Schedule**"). Following the Effective Date, the Landlord shall update the Schedule from time to time to reflect the actual status of the Landlord's Construction Work. Landlord will provide Tenant with regular updates to the Schedule; provided at a minimum, Landlord shall provide Tenant with a monthly updated Schedule and a reconciliation of the actual progress of Landlord's Construction Work against the Schedule. Landlord shall use commercially reasonable efforts to complete the Landlord's Construction Work in accordance with the Schedule, but Tenant acknowledges that such Schedule is subject to change from time to time to reflect the actual progress of the Landlord's Construction Work and that failure to comply with the same shall not result in a default under this Lease. Following the commencement of construction, Landlord shall hold weekly a construction meeting that includes Tenant's Project Manager, the General Contractor, and the Architect.

5. Shell and Core. Landlord's Construction Work related to the Shell and Core shall be performed by Landlord at Landlord's sole cost and expense substantially in accordance with the Approved Shell and Core Plans, subject only to changes made in accordance with this Work Letter.

5.1. Approved Design Development Plans. As noted above, the parties have approved the Approved Concept Plans. Prior to the Effective Date, Landlord acknowledges that Tenant shall have the right to make changes to the Approved Concept Plans as required to comply with the requirements of the City of Carlsbad, subject to Landlord's reasonable approval, such approval not to be unreasonably withheld, conditioned, or delayed (it being reasonable for Landlord to disapprove of such changes if such change will result in the Landlord's Construction Work not complying with the Fundamental Requirements). Once approved, any such change shall be incorporated into the Approved Concept Plans by the Architect.

5.2. Approved Shell and Core Plans. Prior to the Effective Date, and in any event no later than October 17, 2022, Tenant shall cause the Architect to develop full schematic design documents for the entire Premises that are consistent with the Approved Concept Plans, which schematic design documents shall be subject to Landlord's written approval, such approval not to be unreasonably withheld, conditioned or delayed provided that the same are consistent with the Concept Plans, the requirements of the Permits and Approvals, and the Fundamental Requirements, and achievement of Delivery Condition and Substantial Completion by the Target Delivery Condition Date and Target Substantial Completion Date, respectively (as approved, the "**Approved Schematic Plans**"). Following the Effective Date, Landlord shall cause the Architect to prepare design development documents and final 100% construction documents for the Landlord's Construction Work that (c) are consistent with and are logical evolutions of the Approved Schematic Plans or reasonably inferable therefrom, and (b) incorporate any Shell and Core Permitted Changes, and (c) incorporate any other Landlord-requested (and Tenant approved) Shell and Core Changes. As soon as such design development documents and the final construction documents (collectively, **"Landlord's Shell and Core Plans"**) are completed, Landlord shall deliver the same to Tenant for Tenant's approval, which approval may be withheld only if: (i) the applicable Landlord's Shell and Core Work Plans are neither consistent with nor logical evolutions of the Approved Schematic Plans or the previously approved design development documents, as applicable, or (ii) such plans are otherwise inconsistent with the requirements of this paragraph**.** Such Landlord's Shell and Core Plans shall be approved or disapproved by Tenant within ten (10) business days after delivery to Tenant (or five (5) business days with respect to any resubmission of plans to Tenant). If Tenant fails to respond within such ten (10) (or (five (5), as applicable) business day period, Landlord may provide a written reminder notice to Tenant. Tenant's failure to respond to such reminder notice within five (5) business days after delivery of such notice shall be deemed approval by Tenant of the applicable Landlord's Shell and Core Plans. If the applicable Landlord's Shell and Core Plans are disapproved by Tenant, then Tenant shall notify Landlord in writing of its detailed objections to such Landlord's Shell and Core Plans, and Landlord shall revise the applicable Landlord's Shell and Core Plans accordingly unless it disputes the basis of such objections, in which case such dispute shall be resolved as provided in Section 13, below. The final Landlord's Shell and Core Plans so approved, and all change orders and other changes thereto specifically permitted by this Work Letter, are referred to herein as the "**Approved Shell and Core Plans.**" If the Approved Schematic Plans are completed and finally approved by Landlord prior to the Effective Date, the parties acknowledge that they shall collaborate and cooperate to have Tenant cause the Architect to proceed with generating design development documents for the Landlord's Construction Work, with the intent of completing the same for submission to the parties on or about December 9, 2022. The approval of the design development documents by Landlord, to the extent occurring prior to the Effective Date, shall be handled in the manner applicable to the schematic design documents. As a condition to the authorization of the architect to proceed with the design development phase prior to the Effective Date, the parties shall agree on how such sums shall be treated for the purposes of Construction Costs. The parties acknowledge and agree that the Approved Shell and Core Plans shall be designed to meet at least LEED Gold certification standards and Tenant shall, prior to the Effective Date, submit the Building for pre-certification under LEED Gold standards and diligently pursue pre-certification. The parties shall cooperate as reasonable required to obtain LEED Gold (or such better standard as has been designed) certification for the Building, Landlord and Tenant acknowledging that the inability to obtain such certification for matters not within the control of Landlord and Tenant (such as the failure of the LEED program to continue to exist) shall not be deemed to be a default hereunder.

The parties shall cooperate to schedule periodic design and construction meetings at mutually agreeable times, such meetings to take place no less often than monthly, with respect to Landlord's Construction Work and Tenant Improvements, and (following commencement of the Tenant Improvements) bi-weekly with respect to the Tenant Improvements. The parties shall keep each other reasonably informed with respect to their respective work, and Landlord and Tenant agree to provide each other with such information as may be reasonably requested by the other party with respect to the Landlord's Construction Work and Tenant Improvements, as applicable.

5.3. Landlord Project Developer Fee. Tenant shall be required to pay Landlord a (a) project developer fee in the amount of three (3%) percent of the hard and soft costs of construction of the Landlord's Construction Work, and (b) an oversight fee in the amount of one (1%) percent of the hard and soft costs of construction of the Tenant Improvements (collectively, the "**Developer Fee**").

5.4. Changes to Shell and Core Plans. Any changes to the Approved Shell and Core Plans (each, a "**Shell and Core Change**") requested by Landlord or Tenant (other than Shell and Core Permitted Changes by Landlord, which do not require any approval) shall be requested and instituted in accordance with the provisions of this Section 5.4 and shall be subject to the written approval of the other party in accordance with this Work Letter.

(a) Shell and Core Changes Requested by Tenant.

(i) Shell and Core Tenant Change Order Request. Following the Effective Date (but in no event later than the date that is one month following the date that the final Landlord's Shell and Core Plans are submitted by Landlord to Tenant for approval), Tenant may request Shell and Core Changes to the Approved Shell and Core Plans to accommodate the design of the Tenant Improvements by notifying Landlord thereof in writing in a change order form provided by Landlord that is substantially the same form as the AIA standard change order form (a "**Shell and Core Tenant Change Order Request**"), which Shell and Core Tenant Change Order Request shall detail the nature and extent of any requested Shell and Core Changes, including, without limitation, (A) the Shell and Core Change and (B) any modification of the Approved Shell and Core Plans, as applicable. In the event Landlord approves any Shell and Core Change, Landlord shall: (1) notify Tenant if it reasonably believes such Shell and Core Change could cause a delay in the Estimated Delivery Condition Date or the Estimated Substantial Completion Date; and (2) provide Landlord's reasonable estimate of any additional costs and expenses associated with such Shell and Core Change. Shell and Core Tenant Change Order Requests shall be signed by Tenant's Authorized Representative.

(ii) Landlord's Approval of Shell and Core Changes. All Tenant- requested Shell and Core Changes shall be subject to Landlord's prior written approval, which shall not be unreasonably withheld, conditioned or delayed so long as such Shell and Core Change, as reasonably determined by Landlord, (A) could not reasonably be expected to (1) adversely impact (a) the exterior appearance of the Building, (b) the structural aspects of the Building, or (c) any building system, including, without limitation, the HVAC, mechanical, electrical, plumbing or life safety systems installed in connection with the Landlord's Construction Work; (2) create a foreseeable risk of violating any, or actually violate any, Applicable Law or the Permits and Approvals (or require a modification of the same), or any other permit requirement, (3) materially increase insurance premiums; (4) in Landlord's reasonable judgment, materially reduce the quality or value of the Building or the Property, (5) result in a Fundamental Change, or (6) delay the occurrence of Delivery Condition or Substantial Completion of the Landlord's Construction Work by more than 30 days when combined with all other then-existing Tenant Delays (each, a "**Design Problem**"), and (B) will not cause the hard costs of the Landlord's Construction Work to increase by more than one (1%) percent in the aggregate (based on the Landlord's Budget) unless Tenant makes provisions to pay for the same that are acceptable to Landlord and its construction lender. Landlord shall have ten (10) days after receipt of a Shell and Core Tenant Change Order Request to notify Tenant in writing of Landlord's decision either to approve or disapprove Tenant- requested Shell and Core Change. If Landlord fails to respond within such ten (10) day period, Tenant may provide a written reminder notice to Landlord. Landlord's failure to respond to such reminder notice within three (3) days after delivery of such notice shall be deemed approval by Landlord of the Shell and Core Tenant Change Order Request. Any dispute regarding the Landlord's disapproval of a Shell and Core Tenant Change Order Request shall be resolved in accordance with Section 13, below.

(b) Shell and Core Changes Requested by Landlord.

(i) Shell and Core Landlord Change Order Request. Landlord may request Shell and Core Changes to the Landlord's Construction Work by notifying Tenant thereof in writing in a change order form provided by Landlord that is substantially the same form as the AIA standard change order form (a "**Shell and Core Landlord Change Order Request**"), which Shell and Core Landlord Change Order Request shall detail the nature and extent of any requested Shell and Core Changes, including, without limitation, (A) the Shell and Core Change, (B) any modification of the Design Development Plans or the Approved Shell and Core Plans, as applicable, and (C) any changes to the Estimated Delivery Condition Date or Estimated Substantial Completion Date resulting from the Shell and Core Change. Notwithstanding the foregoing or anything herein to the contrary, Landlord shall have no obligation to request the approval of Shell and Core Permitted Changes.

(ii) Tenant's Approval of Shell and Core Change. Tenant shall have ten (10) days after receipt of a Shell and Core Landlord Change Order Request to notify Landlord in writing of Tenant's approval or rejection of the Landlord-requested Shell and Core Change, which approval shall not be unreasonably withheld, conditioned or delayed. If Tenant fails to respond within such ten (10) day period, then Landlord may provide Tenant with a second written notice stating that "Tenant's failure to respond within three (3) days after Landlord's second notice shall be deemed Tenant's approval to such Shell and Core Landlord Change Order Request," and if Tenant does not respond with such three (3) day period, then Tenant shall be deemed to have approved such Shell and Core Landlord Change Order Request. Any dispute regarding the Tenant's disapproval of a Shell and Core Tenant Change Order Request shall be resolved in accordance with Section 13, below.

(c) Shell and Core Permitted Changes. For purposes of this Work Letter, a "**Shell and Core Permitted Change**" shall mean: (i) minor field changes; (ii) changes required by governmental authority or to comply with Permits and Approvals or Applicable Laws; (iii) any other changes that both: (A) could not reasonably be expected to (1) adversely impact (a) the structural aspects of the Building, (b) the exterior appearance of the Building (other than de minimis changes that do not result from a change in exterior material specifications, such as locations of items behind screening on the roof, final adjustments in the positioning of exterior doors or loading bays, and the like), (c) Tenant's ability to construct the Tenant Improvements as shown on the Approved TI Plans, or (d) any building system, including, without limitation, the HVAC, mechanical, electrical, plumbing or life safety systems installed in connection with the Landlord's Construction Work; (2) create a foreseeable risk of violating any, or actually violate any, Applicable Law or the Permits and Approvals (or require a modification of the same), or any other permit requirement, (3) materially increase insurance premiums; or (4) delay the Substantial Completion of the Landlord's Construction Work by more than 30 days, and (B) do not materially change the size, cost, configuration, or overall appearance of the Building, Bridge or Parking Structure, materially and adversely affect Landlord's ability to perform the Landlord's Construction Work or materially and adversely affect Tenant's ability to operate its business in the Building, and (iv) changes required for the ordinary development of the Approved Shell and Core Plans in a manner not inconsistent with the Approved Shell and Core Plans. Shell and Core Permitted Changes may be made by Landlord in its reasonable discretion.

6. Tenant Improvements. Following delivery of the Premises to Tenant on the Delivery Date, the Tenant Improvements shall be performed by Tenant at Tenant's sole cost and expense (subject to the TI Allowance) substantially in accordance with the Approved TI Plans (subject only to changes made in accordance with Section 6.3), the provisions of the Lease governing Alterations (to the extent not inconsistent with this Work Letter), and this Work Letter. The schedule for the construction of the Tenant Improvements shall be in accordance with a schedule to be prepared by Tenant's general contractor (the "**TI Schedule**"). Tenant shall prepare the TI Schedule so that it is a reasonable schedule for the completion of the Tenant Improvements, taking into account the work necessary for Landlord to achieve Substantial Completion by the date set forth in the GMP Contract. The TI Schedule shall clearly identify estimated dates and time periods when Tenant's contractor will require access to areas that are under construction by Landlord. As soon as the TI Schedule is completed, Tenant shall deliver the same to Landlord for Landlord's approval, which approval shall not be unreasonably withheld, conditioned or delayed. Such TI Schedule shall be approved or disapproved by Landlord, following consultation with Landlord's General Contractor, within ten (10) business days after delivery to Landlord. Landlord's failure to respond within such ten (10) business day period shall be deemed approval by Landlord. If Landlord disapproves the TI Schedule, then Landlord shall notify Tenant in writing of its objections to such TI Schedule, with reasonable detail, and the parties shall confer and negotiate in good faith to reach agreement on the TI Schedule.

6.1. TI Plans. Tenant shall retain an architect reasonably approved by Landlord (the "**TI Architect**") to design the tenant improvements necessary for Tenant's particular use and occupancy of the Premises in accordance with the program attached as Schedule 5 and items identified as "by Tenant" on the allocation of responsibility attached as Schedule 2. Landlord acknowledges that it has approved the use of DGA as the TI Architect. Tenant shall cause the TI Architect to prepare, and Landlord shall approve, schematic plans, design development plans, and 100% construction document plans (the "**TI Plans**"), in each case fully coordinated with the Approved Core and Shell Plans, all in accordance with the milestone dates set forth on Schedule 4, subject to Force Majeure and Landlord Delays (as defined below). The TI Plans shall provide for a minimum investment equal to the TI Allowance across the entire Premises in accordance with the Approved Budget (as defined below). All material and equipment furnished by Tenant or its contractors as the Tenant Improvements shall be new or "like new;" and the quality of the Tenant Improvements shall be of a nature and character not less than a first-class standard for life sciences facilities. Any engineers used by Tenant or Tenant's TI Architect in the design of the Tenant Improvements shall be subject to Landlord's reasonable consent, Landlord acknowledging that the engineers referenced in Section 4.2 above, are deemed approved. Even if any such architect or engineers may have been otherwise engaged by Landlord or Landlord's affiliates in connection with the Landlord's Construction Work or any other property, Tenant shall be solely responsible for the liabilities and expenses of all architectural and engineering services relating to the Tenant Improvements (subject to reimbursement from the TI Allowance as provided below) and for the adequacy and completeness of the TI Plans submitted to Landlord.

"**Landlord Delays**" means any actual delay in the design of the Tenant Improvements to the extent resulting from the acts or omissions of Landlord or any Landlord Party, including, without limitation, any Landlord-requested TI Change. Except for Landlord Delays due to any Landlord requested TI Change for which Tenant provided to Landlord the estimated amount of any associated Landlord Delay (for which no notice will be required, and no obligation of Tenant to grant such request other than as expressly provided herein), if there is an event that Tenant contends is a Landlord Delay, then Tenant shall give Landlord written notice of such Tenant Delay as soon as is practicable following Tenant's knowledge of such delay ("**TI Delay Notice**") (provided, however, that no Landlord Delay shall be deemed to accrue under this Work Letter with respect to the Landlord Delay referenced in a TI Delay Notice until Tenant provides Landlord with such TI Delay Notice).

Any Landlord Delay of less than a full day shall be deemed to be equal to a delay of one (1) full day. Landlord and Tenant have agreed to determine the length of any Landlord Delay as follows: (i) any delays resulting from the failure of Landlord to act within a time period specified in this Work Letter with respect to the approval of the TI Plans shall be equal to one (1) day for each day that the applicable Landlord Delay continues beyond the applicable time period required for such action under the Lease, (ii) in the event of any agreed Landlord Delay, as the parties may agree in writing from time to time, the length of such Landlord Delay shall be as agreed upon in writing by the parties at the time such Landlord Delay arises, and (iii) with respect to any other Landlord Delay, Tenant shall notify Landlord in writing of the claimed estimated length of such Landlord Delay within ten (10) business days after its occurrence and Landlord may elect by written notice delivered to the other within ten (10) business days thereafter to dispute the claimed estimated Landlord Delay in accordance with Section 13 of this Work Letter. Unless such estimate is disputed by written notice delivered within such ten (10) business day period, the length of such Landlord Delay shall be no less than the claimed estimated Landlord Delay.

6.2. Approved TI Plans. Tenant shall prepare TI Plans that: (a) are consistent with and are logical evolutions of the previously approved iteration of the TI Plans, (b) incorporate any TI Permitted Changes, and (c) incorporate any other Landlord-requested (and Tenant approved) TI Changes. As soon as an applicable phase (i.e. schematic development, design development, and construction drawings) of TI Plans are completed, Tenant shall deliver the same to Landlord for Landlord's approval, which approval shall not be unreasonably withheld, conditioned, or delayed so long as such TI Plans are consistent with the previously approved TI Plans and do not cause Design Problems. Such TI Plans shall be approved or disapproved by Landlord within ten (10) business days after delivery to Landlord. If Landlord fails to notify Tenant of disapproval within such ten (10) business day period, then Tenant may provide Landlord with a second written notice stating that "Landlord's failure to respond within five (5) business days after Tenant's second notice shall be deemed Landlord's approval to such TI Plans," and if Landlord does not respond within such five (5) business day period, then Landlord shall be deemed to have approved such TI Plans. If the TI Plans are disapproved by Landlord, Landlord shall notify Tenant in writing of its objections to such TI Plans. Any dispute regarding Landlord's disapproval of TI Plans shall be resolved in accordance with Section 13, below. After the 100% final construction document phase of TI Plans are approved by Landlord and Tenant, Tenant shall promptly submit such TI Plans to each appropriate governmental authority for approval. The TI Plans so approved, and all change orders and other changes thereto specifically permitted by this Work Letter, are referred to herein as the "**Approved TI Plans**".

6.3. Changes to Tenant Improvements. Any changes to the TI Plans or the Approved TI Plans (each, a "**TI Change**") requested by Landlord or Tenant (other than TI Permitted Changes by Landlord which do not require any approval) shall be requested and instituted in accordance with the provisions of this Section 6.3 and shall be subject to the written approval of the other party in accordance with this Work Letter.

(a) TI Changes Requested by Tenant.

(i) TI Tenant Change Order Request. Tenant may request TI Changes after Landlord approves the approved design development phase of the TI Plans or the Approved TI Plans by notifying Landlord thereof in writing in a change order form provided by Landlord that is substantially the same form as the AIA standard change order form (a "**TI Tenant Change Order Request**"), which TI Tenant Change Order Request shall detail the nature and extent of any requested TI Changes, including, without limitation, (A) the TI Change and (B) any modification of the TI Plans or Approved TI Plans, as applicable.

(ii) Landlord's Approval of TI Changes. All Tenant-requested TI Changes shall be subject to Landlord's prior written approval, which shall not be unreasonably withheld, conditioned or delayed, provided that (a) such changes are not Fundamental Changes, (b) such changes do not require any modification of the Permits and Approvals for the Landlord's Construction Work, (c) such changes do not require any modification of the Landlord's Construction Work, (d) the requested work is compatible with the design, quality, equipment or systems of the Landlord's Construction Work, or (e) such changes otherwise comply with the provisions of the Lease. Landlord shall have ten (10) business days after receipt of a TI Tenant Change Order Request to notify Tenant in writing of Landlord's decision either to approve or disapprove the Tenant- requested TI Change. If Landlord does not approve in writing a Tenant requested TI Change within ten (10) business days after receipt of a TI Tenant Change Order Request, Tenant may provide a written reminder notice to Landlord. Landlord's failure to respond to such reminder notice within five (5) business days after delivery of such notice shall be deemed a rejection of such request by Landlord, and the Tenant Improvements shall not be altered as contemplated by such TI Tenant Change Order Request. Any dispute regarding the Landlord's disapproval of a TI Tenant Change Order Request shall be resolved in accordance with Section 13, below.

(b) TI Changes Requested by Landlord.

(i) TI Landlord Change Order Request. Landlord may request TI Changes by notifying Tenant thereof in writing in a change order form provided by Landlord that is substantially the same form as the AIA standard change order form (a "**TI Landlord Change Order Request**"), which TI Landlord Change Order Request shall detail the nature and extent of any requested TI Changes, including, without limitation, (A) the TI Change, and (B) any modification of the TI Plans or the Approved TI Plans, as applicable. Notwithstanding the foregoing to the contrary, Tenant's approval is not required for TI Permitted Changes, as defined below.

(ii) Tenant's Approval of TI Change. Tenant shall have ten (10) days after receipt of a TI Landlord Change Order Request to notify Landlord in writing of Tenant's approval or rejection of the Landlord-requested TI Change, which approval shall not be unreasonably withheld, conditioned or delayed, so long as such TI Landlord Change Order Request, as reasonably determined by Tenant, (A) could not reasonably be expected to (1) adversely impact the functionality or, in more than a de minimis manner, the appearance of the Tenant Improvements; (2) create a foreseeable risk of violating any, or actually violate any, Applicable Law or the Permits and Approvals (or require a modification of the same), or any other permit requirement, (3) materially increase insurance premiums; (4) result in a Fundamental Change, or (5) delay the completion of the Tenant Improvements in more than a de minimis manner (each, a "**TI Design Problem**"), and (B) following the final approval of the Approved TI Plans, will not cause the hard costs of the Tenant Improvements to increase by more than one (1%) percent in the aggregate (unless Landlord agrees to pay the same, in which case such amount shall be included in Construction Costs as a soft cost). If Tenant fails to respond within such ten (10) days period, then Landlord may provide Tenant with a second written notice stating "that Tenant's failure to respond within three (3) days after Landlord's second notice shall be deemed Tenant's approval to such Landlord-requested TI Change," and if Tenant does not respond within such three (3) day period, then Tenant shall be deemed to have approved such Landlord-requested TI Change.

(c) TI Permitted Changes. For purposes of this Work Letter, a "**TI Permitted Change**" shall mean (i) minor field changes; (ii) changes required by governmental authority or to comply with Applicable Laws; and (iii) changes that, when viewed in the aggregate, constitute Minor Alterations, as defined in the Lease. TI Permitted Changes may be made by Tenant in its sole but reasonable discretion. Tenant shall provide Landlord with reasonable prior notice of any TI Permitted Changes (other than minor field changes, of which Tenant shall provide notice as soon as reasonably practicable).

6.4. Construction of the Tenant Improvements; Coordination.

(a) Tenant shall retain the Landlord's General Contractor to construct the Tenant Improvements and shall obtain Landlord's prior written approval of the construction contract for the Tenant Improvements, which approval shall not be unreasonably withheld, conditioned, or delayed. Following approval of the Approved TI Plans, Tenant shall obtain all governmental approvals, authorizations, licenses, and permits (collectively, the "**Approvals**") necessary for the construction of the Tenant Improvements and provide copies of the same to Landlord. Tenant shall provide Landlord with a copy of the application for any material Approvals prior to submitting the same. The Approvals shall not contain material conditions that survive the termination of the Lease without the prior written consent of Landlord, such consent not to be unreasonably withheld, conditioned or delayed. Landlord shall cooperate with Tenant to obtain the Approvals, at no out of pocket cost or liability to Landlord. Following receipt of the Approvals, Tenant shall promptly commence and diligently prosecute to completion the Tenant Improvements in accordance with, and subject to, the provisions of this Work Letter and Section 3.4 of the Lease.

All Tenant Improvements shall be performed and constructed by Tenant in accordance with the Approved TI Plans and in compliance with Applicable Laws and the Approvals. No Tenant Improvements shall be performed except in accordance with the Approved TI Plans, as they may be modified in accordance with this Work Letter. Prior to the commencement of the Tenant Improvements, Tenant shall deliver to Landlord a copy of any contract with Tenant's contractors (including the architect), and certificates of insurance from the architect and any contractor performing any part of the Tenant Improvements evidencing insurance in compliance with the terms of the Lease. Tenant shall endeavor to have Landlord named as a third-party beneficiary (on a non-exclusive basis) of any contract entered into by Tenant with the Tenant's architect, any consultant providing design or engineering services for the Tenant Improvements, any contractor or any subcontractor, and of any warranty or indemnity made by any contractor or any subcontractor. Landlord shall not exercise its rights with respect to its third party beneficiary status under the immediately preceding sentence unless (i) Tenant is in default under the Lease beyond applicable notice and cure periods, (ii) the Lease has otherwise terminated or otherwise is no longer in effect, or (iii) otherwise where Landlord has a bona fide, good faith claim against such architect, consultant, contractor, or subcontractor, in which case Landlord and Tenant will cooperate to pursue such claim. All Tenant Improvements shall be constructed in a good and workmanlike manner, in compliance with Applicable Laws. All Tenant contracts related to the Tenant Improvements shall provide that Tenant may assign such contracts and any warranties with respect to the Tenant Improvements to Landlord, upon Landlord's request, effective at the end of the Term or in the event of a Default by Tenant under the Lease. Tenant shall take, and shall require its contractors to take, commercially reasonable steps to protect the Premises from damage as a result of the performance of any Tenant Improvements, including covering or temporarily removing any window coverings so as to guard against dust, debris or damage. Tenant shall conduct the Tenant Improvements in a manner that reasonably minimizes interference with other construction activities at the Premises, in a manner consistent with first-class life sciences buildings.

Tenant shall diligently prosecute and substantially complete the Tenant Improvements on or before the first anniversary of the Commencement Date. For purposes of this paragraph, "substantially complete" and "substantial completion" shall mean that the Tenant Improvements have been completed, other than minor punchlist-type items the completion of which will not unreasonably delay or interfere use of the affected areas of the Premises for the regular conduct of business. Promptly following substantial completion, Tenant shall provide Landlord with a certificate of substantial completion by Tenant's architect on a form reasonably approved by Landlord.

(b) Landlord and Tenant shall reasonably cooperate so as to coordinate the management, administration, and schedule of the Landlord's Construction Work and the Tenant Improvements following the Delivery Date in a manner that will permit Landlord to achieve its obligations to lenders and Tenant, and permit Landlord to achieve Substantial Completion by the Estimated Substantial Completion Date, and permit Tenant to complete the Tenant Improvements in a reasonably expeditious manner.

7. Force Majeure. Any prevention, delay or stoppage due to strikes, lockouts, labor disputes, acts of God, acts of war, terrorist acts, inability to obtain, or delays in obtaining, services, labor, or materials or reasonable substitutes therefor (including without limitation supply chain delays), governmental actions, civil commotions, casualty, actual or threatened public health emergency (including, without limitation, epidemic, pandemic, famine, disease, plague, quarantine, and other significant public health risk, such as the epidemic known as COVID-19 and its variants), governmental edicts, actions, declarations or quarantines by a governmental entity or health organization (including, without limitation, any shelter-in-place orders, stay at home orders or any restrictions on travel related thereto that preclude Tenant, its agents, contractors or its employees from accessing the Project for the activities related to construction of the Improvements, national or regional emergency), breaches in cybersecurity, and other causes beyond the reasonable control of the party obligated to perform, regardless of whether such other causes are (i) foreseeable or unforeseeable or (ii) related to the specifically enumerated events in this paragraph (collectively, a "**Force Majeure**"), shall excuse the performance of such party for a period equal to any such prevention, delay or stoppage and, therefore, if this Work Letter specifies a time period for performance of an obligation of either party, that time period shall be extended by the period of any delay in such party's performance caused by a Force Majeure. For purposes of this Section 5, the following shall be included as causes beyond the reasonable control of the party obligated to perform: epidemic; pandemic; disease; illness; national, regional or local emergency; quarantine; and governmental order. Notwithstanding anything to the contrary in this Work Letter, the inability to obtain financing or investment, or a lack of funding, shall not excuse a party's performance of its obligations hereunder.

8. Insurance.

8.1. Property Insurance. At all times during the period beginning with commencement of construction of the Landlord's Construction Work and ending when the Landlord's Construction Work is Complete pursuant to Section 11 of this Work Letter, Landlord shall maintain or cause to be maintained (in addition to the insurance required pursuant to the Lease) property insurance insuring Landlord and its affiliates, agents and employees, as their interests may appear. Such policy shall, on a completed values basis for the full insurable value at all times, insure against loss or damage by fire, vandalism and malicious mischief and other such risks as are customarily covered by the so-called "broad form extended coverage endorsement" upon all Landlord's Construction Work and the General Contractor's and any subcontractors' machinery, tools and equipment, all while each forms a part of, or is contained in, the Landlord's Construction Work or any temporary structures on the Premises, or is adjacent thereto; provided that, for the avoidance of doubt, insurance coverage with respect to the General Contractor's and any subcontractors' machinery, tools and equipment shall be carried on a primary basis by such General Contractor or subcontractor. Landlord agrees to pay any deductible, which deductible amount shall be considered a Construction Cost. Said property insurance shall contain an express waiver of any right of subrogation by the insurer against Tenant and its affiliates, agents and employees.

8.2. Workers' Compensation Insurance. At all times during the period of construction of the Landlord's Construction Work, Landlord shall, and shall cause its contractors or subcontractors to, maintain statutory workers' compensation insurance as required by Applicable Laws.

8.3 Tenant's Insurance. At all times during the period of construction of the Tenant Improvements, Tenant shall, and shall its contractors and subcontractors to, maintain insurance as required pursuant to the Tenant Construction Manual referenced in the Lease.

9. Requests for Consent. Except as otherwise provided in this Work Letter, Tenant shall respond to all requests for consents, approvals, information, or directions made by Landlord pursuant to this Work Letter within five (5) days following Tenant's receipt of such request. If Tenant fails to respond within such five (5) days period, then Landlord may provide Tenant with a second written notice stating that "Tenant's failure to respond within two (2) days after Landlord's second notice shall be deemed approval by Tenant," and if Tenant does not respond within such two (2) day period, then Tenant shall be deemed to have approved such item.

10. Budget and Tenant Improvement Allowance.

10.1. Budget. A preliminary budget for all hard and soft costs pertaining to the Landlord's Construction Work is attached hereto as Schedule 6 to the Work Letter (as the same may be modified or otherwise updated in accordance with this Work Letter, the "**Budget"**). The Budget includes a line item for contingency. Landlord may reallocate line items within the Budget and use the contingency in its sole discretion at any time. Landlord will use commercially reasonable efforts to provide Tenant with updates to the Budget and shall revise the Budget to reflect the final GMP; *provided* at a minimum, following the final approval of the Approved Core and Shell Plans Landlord shall provide Tenant with a monthly updated Budget and a reconciliation of actual costs incurred through the prior month. In addition, Landlord will (or will request that the General Contractor) copy Ionis Chief Accounting Officer, Dennis Gonzales (e-mail address: [***]) on all draw packages submitted to Landlord by the General Contractor related to the Landlord's Construction Work. The Budget is for informational purposes only and is not binding on Landlord in any respect, and shall not create any limit on Aggregate Disbursements.

10.2. Tenant Improvement Allowance. Provided no monetary or material non-monetary Event of Default exists, Landlord shall provide Tenant with a Tenant Improvement allowance ("**TI Allowance**") of $41,208,250.00, which TI Allowance shall automatically be reduced by the amount of $15 per gross square foot (based on the agreed-upon 164,833 gross square feet set forth in the Lease) for every whole 1% reduction in the ratio of lab to office below 40% as finally determined in the Approved TI Plans by the Architect (or as affected by any subsequent TI Change), nothing in this sentence being deemed to modify the Fundamental Requirements, which require the lab-to-office ratio to be no less than 35% to 65%. The TI Allowance can be applied by Tenant to offset the cost to permit, design and construct the Tenant Improvements (provided that in no event shall the TI Allowance be applied towards design and other so-called "soft costs", including without limitation consultant fees and the costs to acquire and install furniture, fixtures, and equipment) in an amount that exceeds 10% of the TI Allowance. Except as set forth in the immediately preceding sentence, in no event shall any of the TI Allowance be used for the acquisition of Tenant's furniture, fixtures, or equipment or other items of personal property, such as cabling and wiring. In no event may the TI Allowance be used for payments to any affiliates of Tenant. Landlord shall have no obligation to make any disbursements of TI Allowance not properly requisitioned by Tenant by the date that is one year following the Commencement Date and Tenant shall have no further right to any undisbursed TI Allowance thereafter.

(i) The TI Allowance will be available for monthly disbursements for permitted soft costs from and after the Effective Date of the Lease and for permitted hard costs following the commencement of the Tenant Improvements subject to the requirements set forth in this Work Letter. Landlord shall pay Landlord's Proportion (as defined below) of invoices made by Tenant on a form provided by Landlord within forty-five (45) days of receipt of a complete submission from Tenant (as set forth below), if Tenant requests and Landlord has received a satisfactory confirmation of non-responsibility on a form provided by Landlord, directly to the applicable vendor as requested by Tenant or to Tenant (to the extent Tenant has paid such requisitioned costs) on a progress payment basis. As a condition to Landlord's disbursement of any portion of the TI Allowance, Tenant shall provide Landlord with (A) appropriate paid or unpaid receipts or invoices for the amount requested to be paid from the TI Allowance, (B) partial, conditional lien waivers for such work from all persons or entities that could file mechanics' or materialmen's liens against the Building or the Project with respect to all work performed or services or materials provided through the date of each such invoice (subject only to receipt of the requisitioned amount) and, as a condition to the final release of retainage, final unconditional lien waivers for final payments, as applicable, for any contracts greater than Twenty Five Thousand Dollars ($25,000.00), which lien waivers shall comply with the appropriate provisions of California Civil Code, as reasonably determined by Landlord, (C) written authorization from Tenant to disburse the portion of the TI Allowance being requisitioned on a reasonable form provided by Landlord, (D) an application for payment from the Tenant's general contractors as approved and executed by Tenant and Tenant's architect, (E) evidence that amounts previously requisitioned by Tenant from the TI Allowance have been paid in full to the applicable third parties, and (F) such other documentation as may be reasonably requested by Landlord or its lender**.** Tenant may not make a requisition for application of the TI Allowance more frequently than once a month. The final disbursement of the TI Allowance shall be conditioned upon the recording of a Notice of Completion in a form reasonably approved by Landlord in the applicable county office.

"**Landlord's Proportion**" shall be a fraction, the numerator of which is the TI Allowance and the denominator of which is the sum of (1) the total contract price for the design and engineering of the Tenant Improvements and (2) the total contract price for the construction of the Tenant Improvements (as evidenced by reasonably detailed documentation delivered to Landlord upon Landlord's request). Notwithstanding anything to the contrary set forth elsewhere in this Work Letter, Landlord shall not have any obligation to expend any portion of the TI Allowance until Landlord has approved in writing the budget for the Tenant Improvements (the "**Approved Budget**"), such approval not to be unreasonably withheld, conditioned, or delayed. The proposed Approved Budget shall be approved or disapproved by Landlord within ten (10) business days after delivery to Landlord. If Landlord fails to notify Tenant of disapproval within such ten (10) business day period, then Tenant may provide Landlord with a second written notice stating that "Landlord's failure to respond within five (5) business days after Tenant's second notice shall be deemed Landlord's approval to such Approved Budget," and if Landlord does not respond within such five (5) business day period, then Landlord shall be deemed to have approved Tenant's proposed Approved Budget. Prior to Landlord's approval of the Approved Budget, Tenant shall pay all of the costs and expenses incurred in connection with the Tenant Improvements as they become due, subject to reimbursement from the Tenant Improvement Allowance following Landlord's approval of the Approved Budget. The Approved Budget shall provide for approximately proportionate spending across the entire Premises on a per square foot basis (subject to customary and/or reasonable variations on a floor-by-floor basis for the applicable use mix on such floor, such as between office and laboratory space). Landlord shall not be obligated to reimburse Tenant for costs or expenses relating to the Tenant Improvements that exceed the amount of the TI Allowance.

(ii) In the event Landlord fails to fund any portion of the Allowance when properly due hereunder within the aforementioned forty-five (45) day period, Tenant shall deliver written notice to Landlord and its lender stating that "Failure to fund the amount set forth in this request within 30 days may result in Tenant offset rights". If Landlord fails to remit such payment within an additional thirty (30) days following Landlord's receipt of Tenant's notice, Tenant shall have the right to offset such amounts against the next installments of Monthly Rent that become due and owing, which unpaid amounts shall bear interest at the Interest Rate accruing from the date the same were due and payable through the date paid in. Notwithstanding the foregoing, no such offset shall arise or accrue if Landlord disputes the Tenant's claim to an offset within ten (10) business days following Tenant's notice of the same. Any such disputes shall be resolved in accordance with Section 13, below.

11. Completion of Improvements. The Landlord's Construction Work shall be deemed "**Complete**" at such time as (a) Substantial Completion has occurred, (b) Landlord shall have provided Tenant with evidence that (i) the Landlord's Construction Work has been completed and paid for in full (which shall be evidenced by the Architect's certificate of completion), other than as provided in clause (ii), below, and (ii) the Punchlist Items (including any deficiencies noted in a third-party commissioning report for the Landlord's Construction Work, to the extent the same is included within the scope of the GMP Contract) have been completed and paid for in full, other than seasonal work such as landscaping. Following Completion, Landlord shall provide Tenant with electronic CADD files of the Landlord's Construction Work.

12. Tenant Delays.

(a) "**Tenant Delay**" means any actual delay in the Landlord's Construction Work to the extent resulting from the acts or omissions of Tenant or any Tenant Party (rather than from Force Majeure or other delays that may have occurred due to Landlord's General Contractor, for example), including, without limitation, due to any accommodation of a Tenant initiated request (e.g., a Tenant requested change to the Schedule), any Tenant requested Shell and Core Change, interference with the Substantial Completion of the Landlord's Work (including without limitation on account of Tenant's early access pursuant to Section 3.4, above), or failure of Tenant to provide its specifications for the Building Management System by the date required on Schedule 3. Except for Tenant Delays due to accommodation of a Tenant initiated request or any Tenant requested Shell and Core Change for which Landlord provided to Tenant the estimated amount of any associated Tenant Delay (for which no notice will be required, and no obligation of Landlord to grant such request other than as expressly provided herein) or delays resulting from Tenant's failure to respond to act within the periods set forth in this Work Letter, if there is an event that Landlord contends is a Tenant Delay, then Landlord shall give Tenant written notice of such Tenant Delay as soon as is practicable following Landlord's knowledge of such delay ("**LW Delay Notice**") (provided, however, that no Tenant Delay shall be deemed to accrue under this Work Letter with respect to the Tenant Delay referenced in a LW Delay Notice until Landlord provides Tenant with such LW Delay Notice).

(b) Any Tenant Delay of less than a full day shall be deemed to be equal to a delay of one (1) full day. Landlord and Tenant have agreed to determine the length of any Tenant Delay as follows: (i) any delays resulting from the failure of Tenant to act within a time period specified in this Work Letter shall be equal to one (1) day for each day that the applicable Tenant Delay continues beyond the applicable time period required for such action under the Lease, (ii) in the event of any agreed Tenant Delay, as the parties may agree in writing from time to time, the length of such Tenant Delay shall be as agreed upon in writing by the parties at the time such Tenant Delay arises, and (iii) with respect to any other Tenant Delay, Landlord shall notify Tenant in writing of the claimed estimated length of such Tenant Delay within ten (10) business days after its occurrence and Tenant may elect by written notice delivered to the other within ten (10) business days thereafter to dispute the claimed estimated Tenant Delay in accordance with Section 13 of this Work Letter. Unless such estimate is disputed by written notice delivered within such ten (10) business day period, the length of such Tenant Delay shall be no less than the claimed estimated Tenant Delay.

(c) If the Landlord's Construction Work is delayed by Tenant Delay, then the date on which the Landlord's Construction Work would have achieved Delivery Condition or been Substantially Complete but for such Tenant Delay (i.e., without regard for Force Majeure or other delays that may have occurred but do not constitute Tenant Delays), as evidenced by written notice from Landlord to Tenant, shall be deemed to be the Delivery Date or the date of Substantially Completion, as applicable, unless such notice disputed in a written notice by Tenant to Landlord within five (5) business days after delivery of such determination, in which case such dispute will be determined by arbitration pursuant to 13, below.

13. **Dispute Resolution Process.**

13.1. All disputes between Landlord and Tenant regarding Tenant Delays and other matters expressly referencing this Section 13 shall be resolved in accordance with this Section 13. Any arbitration decision under this Section 13 shall be enforceable in accordance with Applicable Laws in any court of proper jurisdiction.

(a) Any arbitration conducted pursuant to this Section 13 shall be conducted in as expeditious manner as possible to avoid delays in the construction of Landlord's Construction Work and Tenant Improvements.

(b) Any and all claims or disputes to be resolved pursuant to this Section 13 shall be resolved as follows: Landlord and Tenant shall promptly meet and confer to attempt in good faith to resolve such dispute and, if such dispute is not fully resolved within fifteen (15) days after delivery of written notice of such dispute, the parties agree that the claims or disputes shall be settled by arbitration administered by the American Arbitration Association ("**AAA**") under its Construction Industry Arbitration Rules (or any successor organization), and judgment on the award rendered by the arbitrator may be entered in any court having jurisdiction thereof. Further, Landlord and Tenant agree to direct the San Diego Regional Office of the AAA to appoint a single arbitrator who (i) shall have a minimum of fifteen (15) years of experience in construction disputes involving first class office and laboratory buildings in the appliable market, (ii) has not worked for either party for the prior five (5) years, (iii) is not be affiliated with either Landlord or Tenant, and (iv) has not worked for either party or its affiliates at any time during the prior five (5) years (a "**Qualified Construction Arbitrator**").

13.2 Both Landlord and Tenant shall have the opportunity to present evidence and outside consultants to the appointed arbitrator. The arbitrator shall decide the dispute by written decision. The arbitration shall be conducted in accordance with the expedited procedures of the AAA's Construction Industry Arbitration Rules insofar as such rules are not inconsistent with the provisions of the Lease (in which case the provisions of the Lease shall govern) and shall be concluded, with a decision issued, no later than ten (10) business days after the date that such dispute is submitted to the appointed arbitrator. The decision of the arbitrator shall be final and binding on the parties. The parties shall comply with any orders of the arbitrator establishing deadlines for any such proceeding. The fee of the arbitrator shall be paid equally by the parties, and each party shall pay all other costs incurred by it in connection with the arbitration.

14. Miscellaneous.

14.1. Number; Headings. Where applicable in this Work Letter, the singular includes the plural and the masculine or neuter includes the masculine, feminine and neuter. The section headings of this Work Letter are not a part of this Work Letter and shall have no effect upon the construction or interpretation of any part hereof.

SCHEDULE 1

PERMITS AND APPROVALS

Entitlements:

Architectural Committee Review under the CCRs
CEQA determination that the project is exempt from CEQA
Site Development Plan

Ministerial Approvals:

Grading Permit
Lot Line Adjustment between Lots 21 & 22
Building Permit for Landlord's Construction Work
Shoring Permit
Landscaping Permit
Traffic Control Permit for Pedestrian Bridge

SCHEDULE 2

CONCEPT PLAN AND ALLOCATION OF RESPONSIBILITY

Site Development Permit Package SDP 2021-0029 Prepared by DGA and last revised 8/31/22

Site Development Permit Package SDP 2021-0029 – Landscape Plans - Prepared by DGA and last revised 8/31/22

Site Development Permit Package SDP 2021-0029 – Civil Plans - Prepared by DGA and last revised 8/31/22

Copies of the foregoing plans are on file with Landlord.

Development - Landlord / Tenant Responsibility Matrix

DESCRIPTION	ALLOCATION		Remarks
	Landlord	Tenant	
GENERAL			
Building Core & Shell shall be designed to Meet LEED-BD&C Gold.	X		Prior to Effective Date, Tenant to control design process - including submission for precertification
Tenant Fit-out shall be designed to Meet no less than LEED-CI Gold		X	
Chemical Storage Rooms on Ground Floor (if needed by Tenant)		X	
Hazardous Waste Holding Rooms on Ground Floor (if needed by Tenant)		X	
Hazardous Waste Shed Pit and associated Infrastructure (if needed by Tenant)		X	
Hazardous Waste Shed Building, Including Installation and Hookup		X	
Parking count to be provided as required by Entitlements	X		
SITEWORK			
Complete site improvement package as shown on the final approved plans	X		
Complete hardscape as shown on the final approved plans	X		
Telephone service to main demarcation room from local exchange carrier, size / quantity will be consistent with existing buildings	X		
Domestic sanitary sewer connection to street	X		
Lab waste connection from meet-me point in designated location to main sewer, including sample port	X		
Roof storm drainage	X		
Electrical service from exterior to main switch room	X		
Gas service from exterior to main distribution point within the building	X		
Domestic water service to Building	X		
Fire protection water service to Building	X		
Street landscaping and hardscaping	X		
Ground mounted exterior monument sign (if requested by Ionis)		X	

STRUCTURE			
Structural steel frame, concrete on metal deck - 125 psf Live Load and 15 psf Dead Load everywhere, except at roof area within mechanical screening where it should be 150 psf Live Load	X		
Structural enhancements for specific Tenant loads		X	
Structural enhancements for tenant required vibration criteria greater than 125psf or better performing than 8,000 MIPS		X	
Structural framing dunnage above roof for Base Building mechanical equipment	X		
Structural framing stubs through roofing for future Tenant framing dunnage platforms	X		
Structural framing dunnage above roof for Tenant equipment subject to Landlord review and approval		X	
Framed openings for Base Building utility risers	X		
Framed openings for Tenant utility risers within Base Building Cores	X		
Miscellaneous metals items and/or concrete pads for Base Building equipment	X		
Miscellaneous metals items and/or concrete pads for Tenant equipment (subject to LL review and approval)		X	
Seismic Anchorage of Tenant equipment, as required by local code		X	
ROOFING			
Complete Roofing System	X		
Roofing penetrations for Base Building equipment/systems	X		
Roofing penetrations for Tenant equipment/systems (subject to LL review and approval). Must be installed by a qualified, manufacturer approved roofing contractor to maintain applicable warranty.		X	
Walkway pads to Base Building equipment	X		
Walkway pads to Tenant equipment (subject to LL review and approval)		X	
EXTERIOR			
Building Exterior Envelope Systems including glazed curtain wall	X		
Structural glazing and herculite door at main entry lobby to match campus aesthetic	X		
Loading dock overhead door(s)	X		
Penthouse or roof screen enclosure for Base Building rooftop equipment	X		
Penthouse or roof screen enclosure for Tenant rooftop equipment (subject to LL review and approval)		X	
COMMON AREAS			
Accessible main entrance with security hardware	X		
First floor finished lobby consistent with a Class A Building		X	
Building Exterior security systems - Infrastructure for base building entrances to be included in core/shell	X		
Building Exterior security systems - Devices / card readers to be tenant supplied (if requested by tenant)		X	
Core area toilet rooms with Class A finishes.	X		
Interior signage for all Base Building rooms (as required by Code)	X		
Interior wayfinding signage, building directory, room ID signage		X	
Loading dock area with dock leveler(s), 48” minimum high at raised position	X		
Tenant Storage room demising barriers & signage		X	
ELEVATORS			
Building Passenger Elevators serving all occupied floors, with 3500# capacity	X		

One (1) 5000# Freight Elevator serving all occupied floors of the building	X		
WINDOW TREATMENT			
Provided by tenant, to meet building standard (subject to LL review and approval)		X	
TENANT AREAS			
Core and shell fire-rated partitions (constructed with base building)	X		
Control Area fire ratings can be added to core/shell work through a tenant change if required, subject to Work Letter provisions governing changes.		X	
Interior partitions, chemical compartmenalization / lab suite demising partitions		X	
Additional toilet rooms within Tenant Premises		X	
Tenant Premises HVAC and Plumbing Rooms		X	
Electrical closets within Tenant Premises		X	
Tel / data rooms for interconnection with Tenant tel / data		X	
Interconnecting stairs within tenant spaces (Other than Fire Stairs, subject to LL review and approval)		X	
Tenant kitchen areas (subject to LL review and approval)		X	
Partitions, ceilings, flooring, column covers, painting, finishes, doors, frames, hardware, millwork, casework and buildout		X	
Fixed and movable casework		X	
Laboratory equipment including, but not limited to, biosafety cabinets, autoclaves, glasswashers and bioreactors		X	
Chemical fume hoods, bench fume hood and lab casework		X	
All interior signage for Tenant Premises (subject to LL review and approval)		X	
Sound attenuation upgrades for Tenant Premises to comply with Tenant acoustical criteria and design of Tenant Areas		X	
FIRE PROTECTION			
Fire service entrance including fire department connection, alarm valve, back flow protection, and fire pump.	X		
Base Building area distribution piping shall have finished type sprinklers Tenant shell spaces shall have upturned heads (designed for Ordinary Hazard).	X		
Standpipes, distribution and hose connections within egress stairs, and lobby. Stair distribution piping and sprinkler heads	X		
All run outs, drop heads, and related equipment within Tenant Premises		X	
Modification of sprinkler piping and head locations to suit Tenant layout and hazard index		X	
Specialized extinguishing systems including FM200 or pre-action dry-pipe systems within Tenant premises		X	
Fire extinguisher cabinets		X	
Fire extinguisher cabinets within Tenant Premises		X	
Additional hose connections within Tenant Premises if desired by Tenant, including distribution piping (subject to LL review and approval)		X	
PLUMBING			
Domestic water service with backflow prevention and Base Building risers	X		
Base Building restroom plumbing fixtures compliant with accessibility requirements	X		
Domestic water distribution within Tenant Premises including reduced pressure backflow preventer		X	

Additional tenant restroom plumbing fixtures within tenant premises compliant with accessibility requirements (in addition to those provided by the Base Building and subject to LL review and approval)		X	
Storm drainage system	X		
Sanitary waste and vent service for Core Restroom areas	X		
Sanitary waste and vent service within Tenant Premises		X	
Non-potable cold water risers for lab use including water booster system and reduced pressure backflow preventer	X		
Non-potable water distribution within Tenant Premises		X	
Hot water generation for Base Building restrooms	X		
Lab waste and vent pipe risers	X		
Lab waste and vent pipe distribution serving Tenant Premises including test trap for future monitor on tenant lab waste runouts and development of Ionis specific SOP for waste		X	
Future two stage active pH neutralization system to be planned during C&S design. Will not be installed Day 1 but space planning needs to be achieved	X		
Non-potable hot water generation for Tenant use		X	
Tenant lab air compressor		X	
Compressed air piping risers (if required due to location of tenant compressor)		X	
Compressed air pipe distribution within Tenant Premises for specific points of use		X	
Tenant lab vacuum system		X	
Lab vacuum pipe risers (if required due to location of vacuum pumps)		X	
Lab vacuum pipe distribution within Tenant Premises for specific points of use		X	
Tepid water generation and risers	X		
Tepid water pipe distribution and emergency fixtures within Tenant Premises		X	
Pure water generation/distribution system		X	
Pure water pipe risers & distribution within tenant spaces		X	
Manifolds, piping, and other requirements including cylinders, for lab gases, not specifically mentioned above		X	
NATURAL GAS			
Natural gas service to Building	X		
Natural gas service to Base Building boilers	X		
Natural gas service, pressure regulator and meter for Tenant equipment, vent to roof		X	
Natural gas piping from Tenant meter to Tenant Premises or Tenant equipment area		X	
Natural gas pipe distribution within Tenant Premises		X	
HEATING, VENTILATION, AIR CONDITIONING			
Main electric room ventilation system	X		
Central Heating Plant	X		
Hot water pipe risers	X		
Hot water pipe distribution within Tenant Premises		X	
Reheat coils within Tenant Premises		X	
Reheat coils within Base Building areas	X		
Building Management System (BMS) for Base Building, expandable to include Tenant System. Tenant spec to be provided	X		Spec to be provided by Tenant at least 30 days prior to finalization of construction documents

BMS (compatible with Landlord's system) within Tenant's Premises monitoring Tenant infrastructure (subject to LL review and approval).		X	
Restroom exhaust for Base Building area restrooms	X		
Restroom exhaust for new restrooms built within Tenant Premises		X	
Electric room ventilation system for Base Building electrical closets	X		
Electric room ventilation system for electrical closets within Tenant Premises		X	
Chemical storage room ventilation and exhaust systems in base building areas (if needed by Tenant)		X	
Chemical storage room ventilation and exhaust systems in tenant areas		X	
Sound attenuation for Base Building equipment to comply with Zoning Ordinance	X		
Sound attenuation for Tenant equipment to comply with Zoning Ordinance		X	
Additional/ dedicated cooling equipment for Tenant requirements		X	
Central chilled water plant	X		
Chilled water distribution to Base Building AHU's	X		
Cooling towers, supporting condenser water pumps and Process condenser water pipe risers piping, space cooling/heating and supplemental cooling.	X		
Condensor water piping for space heating/cooling and supplemental cooling within Tenant Premises..		X	
BTU meters on hot water, chilled water and condenser water runouts to tenant heat pumps, and reheat coils and radiation compatible with and tied back to Landlord BMS Metering System (if requested by tenant)		X	
100% outdoor air supply air handling units with prefilters, final filters, chilled water coils, hot water coils		X	
Supply air duct risers		X	
Airflow measuring station on supply air takeoff to tenant duct distribution compatible with and tied back to Landlord BMS Metering system		X	
Supply air duct distribution, VAV terminals or fan coils, equipment connections, insulation, air terminals, dampers, hangers, etc. within Tenant Premises • Office: 0.2 CFM / SF • Lab: 2.0 CFM / SF		X	
Supply air duct distribution, VAV terminals, equipment connections, insulation, air terminals, dampers, hangers, etc. within Base Building areas	X		
Supply air duct distribution, VAV terminals, equipment connections, insulation, air terminals, dampers, hangers, etc. within Tenant Premises		X	
Exhaust air high plume dilution fans	X		
Exhaust air duct risers suitable for general laboratory work	X		
Specialty exhaust air duct risers and associated dilution fans for tenant needs (shaft space provided by LL)		X	
Exhaust air duct distribution, exhaust air valves, equipment connections, insulation, air terminals, dampers, hangers, etc. within Base building Areas	X		

Exhaust air duct distribution, exhaust air valves, equipment connections, insulation, air terminals, dampers, hangers, etc. within Tenant Premises (up to maximum 2.0 CFM/SF)		X	
RO/DI water system for tenant use		X	
ELECTRICAL			
Primary service feed from Utility Company, electrical service switchboards and related Base Building equipment	X		
480/277V bus risers in electrical closets for Tenant connection	X		
Life safety generator - Base Building to provide 5 watts/sf of lab area for standby power. Sound attenuation as required by Zoning Ordinance.	X		
Bus plug, meter socket, utility meter, and disconnect for bus tie in	X		
Standby power distribution within Tenant Premises		X	
Lighting and power distribution for Base Building areas	X		
Lighting and power distribution for Tenant Premises		X	
Life safety emergency lighting/signage including panels and circuit breakers for Base Building areas	X		
Life safety emergency lighting/signage for Tenant Premises		X	
Tenant panels, transformers, etc. supporting Tenant Premises		X	
Allocation of normal bus power for Tenant use (w/USF): • Office Power & Lighting: 6.5w / SF • Lab Power & Lighting: 15w/ SF	X		
Standby natural gas generator for Tenant, including sound attenuation as required by Zoning Ordinance (subject to LL review and approval)		X	
Automatic transfer switches for Tenant stand-by power load and stand-by power distribution		X	
FIRE ALARM			
Base Building expandable voice annunciated fire alarm system with devices within Base Building areas	X		
Base building equipment requiring Fire Alarm Interface such as Air Handler Duct Smokes, Floor Dampers	X		
Bi-Directional Radio Antenna for Fire Fighter Communications	X		
Fire alarm sub panels and devices for Tenant Premises with integration into Base Building system		X	
Alteration to fire alarm system to facilitate Tenant program		X	
TELEPHONE/DATA			
Underground local exchange carrier service to primary demarcation room	X		
Tel/data riser closet	X		
Vertical pathways from primary demarcation room to Tel/Data riser closets on each floor	X		
Tenant tel/data rooms		X	
Pathways from Tel/Data riser closets into Tenant Premises (subject to LL review and approval)		X	
Tel/data cabling including copper and fiber-optic (from demarcation rooms to Tenant Premises tel/data rooms including vertical risers)		X	
Tel/data infrastructure including, but not limited to, servers, computers, phone systems, switches, routers, MUX panels, racks, ladder racks, HVAC, etc.		X	
Provisioning of circuits and service from service providers		X	
Audio visual systems and support		X	
Station cabling from Tenant tel./data room to all Tenant locations, within the suite and exterior to the suite, if needed		X	

Common area and exterior area WIFI coverage	X		
Tenant area WIFI coverage		X	
SECURITY			
Card access to Building entries, elevators and stairs		X	
Card access into or within Tenant Premises on separate Tenant installed and managed system		X	
Video camera coverage of exterior premises including building entries and loading dock, compatible with and integrated into Tenant security system. (if requested by tenant)		X	
Video camera coverage of Tenant Premises on separate Tenant installed and managed system (if requested by tenant)		X	

SCHEDULE 3

DEVELOPMENT SCHEDULE

[TO BE ATTACHED]

SCHEDULE 4

TENANT IMPROVEMENT DESIGN MILESTONES

100% Schematic Design	March 7, 2023
100% Design Development	May 1, 2023
85% Construction Documents (Permit Submittal)	July 3, 2023
100% Construction Documents	August 4, 2023

SCHEDULE 5

TENANT IMPROVEMENT PROGRAM

The program for the Tenant Improvements shall be compatible in all respects with the Fundamental Requirements, provide for the improvements necessary for full occupancy of the Premises, and otherwise be consistent with first-class office and laboratory use, with ancillary uses as permitted pursuant to the Permitted Use. The Tenant program shall provide for fit and finishes consistent with, or of a better quality than, Tenant's existing office and laboratory premises located at 2855 Gazelle Ct., Carlsbad, California. The fit plan attached is representative of the scope and nature of the Tenant Improvements.

SCHEDULE 6

PRELIMINARY BUDGET

Cost Item	Ref	Preliminary Estimate	$PSF
Land Acquisition		33,000,000	200
Closing Costs Allocation		330,000	2
Soft Costs		8,352,652	51
Hard Costs		94,878,874	576
Landlord Tenant Improvement Allowance		41,208,250	250
Development Fee[(1)]		3,921,111	24
Oxford Overhead		1,300,000	8
Operating Shortfall		2,607,603	16
Financing Costs		12,407,982	75
Total Budget	**(A)**	**198,006,472**	**1,201**

SCHEDULE 7

DELIVERY CONDITION

1. The Building becomes "dried in" meaning that is a water tight shell.
2. As part of Tenant's schematic document submission to Landlord for the Tenant Improvements, Tenant shall identify any locations (not to exceed a reasonable number) where Tenant desires to place deck inserts on each floor of the Premises to accommodate Tenant's internal staircases or similar, customary items consistent with comparable first- class buildings used for life sciences purposes. Landlord shall cooperate and collaborate with Tenant to allow for the installation of such approved deck inserts, if any, prior to the occurrence of Delivery Condition, subject to agreeing with Tenant on the minimum amount of Tenant Delay resulting from the same and the other terms and conditions of the Work Letter.
3. Tenant shall have safe and reasonably efficient access to the work site.
4. Installation of floors should be sufficiently complete to allow layout to begin of floor surfaces, column lines, control lines or (to the extent applicable) Trimble reference points. Any stored material for Landlord's Construction Work (including turnover attic stock) must be located outside of the building (on site), or in an area or areas on each applicable floor designated by the General Contractor that permit the orderly progress of Tenant Improvements.
5. Site access is available, as reasonably designated by the General Contractor, for efficient material delivery and Building loading.
6. Site access is available for the Tenant Improvement contractor and subcontractor's construction trailer (if applicable) and laydown space in a location reasonably designated by the General Contractor.
7. Permanent electrical service is available to the Premises and Building, with sufficient capacity to power small tools, temporary lighting and equipment to provide temporary ventilation/heating to perform the Tenant Improvements using normal means of power use. Electrical rooms within the Premises to be constructed as part of the Landlord's Construction Work are accessible for performance of the Tenant Improvements, should Tenant Improvements be required in those areas.
8. Tenant's Contractor has ability to terminate electrical wires in electrical panels installed as part of the Landlord's Construction Work.
9. All base Building shafts within the Premises are installed.
10. Tenant's contractor is able to use fire stairs to travel to and from the street level and between each Tenant floor. Use of stairs subject to coordination with Landlord's completion of finishes and inspections of the stairs. Completion of and ability to connect Landlord-provided wet stacks (vent, sanitary, storm) to the extent included within Landlord's Construction Work, subject to any required government approvals.
11. Fire Life Safety systems (fire sprinkler, fire alarm) are complete and able to be tied into by the Tenant Improvement contractor.

12. At least one elevator is available for Tenant Improvement contractor use in coordination with the General Contractor.

Schedule 8

Minimum Vertical MEP Infrastructure Standards

Must include the following:

Tenant will size the following spaces to accommodate equipment for a 50/50 lab office ratio given the "Typical San Diego Life Science Tenant MEP Performance Table" set forth below for the following areas: service yard for generator; sizing for main electrical room; floor level electrical room sizing and risers; plumbing site connections for sanitary, storm, domestic water and natural gas (if code allows); plumbing room sizing; service yard sizing for cooling towers; mechanical room sizing for chillers, boilers and air handling units; roof area allocated for MEP equipment; mechanical shaft sizes/locations – supply air, lab exhaust air, restroom exhaust and office return air.

Tenant agrees to meet the typical 50/50 lab office ratio minimum for cooling tonnage listed in the "Typical San Diego Life Science Tenant MEP Performance Table" (1163 tons), which includes sizing of the chillers, cooling tower/s, chiller pumps, chill water piping (upstream of the air handling units), insulation and associated electrical services to the equipment listed above.

Tenant agrees to meet the typical 50/50 lab office ratio minimum for heating loads listed in the "Typical San Diego Life Science Tenant MEP Performance Table" (5830 MBH), which includes sizing of heating hot water boilers, heating hot water pumps, heating hot water piping (upstream of the air handling units), insultation and associated electrical services to the equipment listed above.

May include the following ("Tenant Optional MEP Infrastructure"):

Tenant may, but shall not be required to, meet the minimum supply and exhaust CFM/SF per the "Typical San Diego Life Science Tenant MEP Performance Table". All ductwork and its insulation, air handling units, and exhaust fans will be sized to meet the TI Plans.

Typical San Diego Life Science Tenant MEP Performance Table

	CFM/SF (Supply)	CFM/SF (Exhaust)	Heating Loads (MBH)	Cooling Tons
Typical 40/60 Lab Office Ratio	1.52	0.93	5357	1040
Typical 50/50 Lab Office Ratio	1.6	1.15	5830	1163

To the extent that the Approved Core and Shall Plans do not contain any of the Tenant Optional MEP Infrastructure, then Landlord shall have the option to either (1) on or before the first to occur of (x) the date that is 90 days following the Tenant's final approval of the Approved Core and Shell Plans or (y) the date that is fifteen (15) days following Tenant's delivery of the schematic design phase of the TI Plans to Landlord, notify Tenant in writing of Landlord's election pursuant to this clause (1) and thereafter cause the Architect to modify the Approved Core and Shell Plans to include such Tenant Optional MEP Infrastructure as Landlord may elect and the General Contractor to construct the same as part of the Landlord's Construction Work (but such costs shall not be included within the Construction Costs) (any such changes being deemed to be Shell and Core Permitted Changes), or (2) notwithstanding anything in the Lease to the contrary, in the event that the Lease terminates prior to the scheduled expiration date, draw on the Letter of Credit in whole or in part, as Landlord elects, from time to time and use the funds so drawn to design and construct all or any part of the Tenant Optional MEP Infrastructure not included within the Approved Core and Shell Plans. The provisions of this paragraph shall survive the termination or earlier expiration of the Lease.

EXHIBIT C

FORM OF TENANT ESTOPPEL CERTIFICATE

The undersigned as Tenant under that certain Lease Agreement (the "**Lease**") made and entered into as of _____,with LOTS 21 & 22 OWNER (DE) LLC, a Delaware limited liability company, as Landlord, for the Building, land, and parking facilities located at 2850, 2855 & 2859 Gazelle Court, Carlsbad, California (the "**Premises**"), certifies as follows:

1. Attached hereto as Exhibit A is a true and correct copy of the Lease and all amendments and modifications thereto. The documents contained in Exhibit A represent the entire agreement between the parties as to the leasing of the Premises. Capitalized terms used but not defined herein have the meanings ascribed to them in the Lease.

2. The undersigned has commenced occupancy of the Premises described in the Lease, currently occupies the Premises, and the Term commenced on _____, 20___.

3. The Lease is in full force and effect and has not been modified, supplemented or amended in any way except as provided in Exhibit A. Tenant is not entitled to receive any concession or benefit (rental or otherwise) or other similar compensation in connection with leasing the Premises other than as set forth in the Lease.

4. Tenant has not transferred, assigned, or sublet any portion of the Premises nor entered into any license or concession agreements with respect thereto except as follows _____.

5. Rent became payable on _____, 20___.

6. The current Term expires on _____, 20___.

7. The Lease is enforceable and neither Tenant nor, to Tenant's actual knowledge, Landlord is in default thereunder except as follows: _____. Without limiting the foregoing, (i) all construction and installation of tenant improvements required to be performed by or paid by Landlord under the Lease have been completed and paid and (ii) there are no unpaid allowances or rental concessions payable or creditable to Tenant which have not been paid or credited in full, except as follows: _____.

8. No rental has been paid in advance.

9. As of the date hereof, Tenant has no presently exercisable defenses or offsets which preclude enforcement of the Lease by Landlord except as follows: _____.

10. All monthly installments of Base Rent, Additional Rent, and Taxes have been paid when due through _____. The current monthly installment of Base Rent is $_____.

11. Except for the Right of First Negotiation granted to Tenant pursuant to Article 11, Tenant does not have any option to purchase or right of first refusal or first offer to purchase the Premises, or any portion thereof, or any interest therein and the only interest of Tenant in such property is as the Tenant under the Lease.

12. The amount of the Security Deposit held by Landlord, to secure Tenant's performance under the Lease is _____ Dollars ($_____). No portion of the Security Deposit has been utilized or applied by Landlord.

13. Tenant is not the subject of any bankruptcy, insolvency, debtor's relief, reorganization, receivership or other similar proceeding.

The undersigned acknowledges that this Estoppel Certificate may be delivered to Landlord's prospective mortgagee, trust deed holder or a prospective purchaser or investor, and acknowledges that it recognizes that if same is done, in addition to Landlord, said mortgagee, prospective mortgagee, trust deed holder or prospective purchaser or investor will be relying upon the statements contained herein in making the loan or acquiring the Premises, and in accepting an assignment of the Lease as collateral security, and that receipt by it of this Estoppel Certificate is a condition of making the loan or acquisition of the Premises.

If Tenant is a corporation, limited liability company or partnership, each individual executing this Estoppel Certificate on behalf of Tenant hereby represents and warrants that Tenant is a duly formed and existing entity qualified to do business in the State of California, if required by law, and that Tenant has full right and authority to execute and deliver this Estoppel Certificate and that each person signing on behalf of Tenant is authorized to do so.

Tenant, by providing this Estoppel Certificate, does not waive (i) any of its claims, defenses, offsets, or rights against Landlord discovered after the date hereof, or (ii) any of Tenant's rights first arising after the date hereof provided by any federal, state or local laws, ordinances, rules and regulations, court orders, governmental directives and governmental orders and all interpretations of the foregoing.

Nothing in this Estoppel Certificate shall be deemed to amend, modify or alter the Lease and in the event of any conflict between the Lease and this Estoppel Certificate, the Lease shall prevail. This Estoppel Certificate is delivered in good faith and shall not subject Tenant or the individual signatory to any liability (other than estoppel effect) for any purpose, including, without limitation, damages for inaccuracies, errors or omissions, except to the extent resulting from fraud or an intentional and material misstatement of fact.

[Remainder of page intentionally left blank]

Executed at _____on the _____ day of _____, 20____.

"Tenant"

IONIS PHARMACEUTICALS, INC., a
Delaware corporation

By: _____
Name: _____
Title: _____
Date
Signed: _____

EXHIBIT D

FORM OF MEMORANDUM OF LEASE

This Memorandum of Lease (this "**Memorandum of Lease**") is made as of this [ ]day _____ of [_____] , 20__, by and between LOTS 21 & 22 OWNER (DE) LLC, a Delaware limited liability company with its principal mailing address of [__] ("**Landlord**"), and IONIS PHARMACEUTICALS, INC., a Delaware corporation, with its principal mailing address of [_____] ("**Tenant**"). All capitalized terms not otherwise defined herein shall have the meaning ascribed to such term in the Lease (as defined below).

1. Premises. Landlord owns and leases, demises and grants to Tenant, and Tenant leases from Landlord, that certain real property located at 2850, 2855 & 2859 Gazelle Court, Carlsbad, California, 92010, as more particularly described on Schedule A attached hereto and made a part hereof (the "**Leased Premises**") pursuant to the terms, covenants and conditions of that certain Lease Agreement dated as of _____, 20__ (the "**Lease**"). Capitalized terms used herein shall have the same meaning as set forth in the Lease, except to the extent such terms are specifically defined in this Memorandum of Lease.

2. Term. The initial Term of the Lease shall be for a period of fifteen (15) years commencing on [_____], [20__] and expiring on the last day of the one hundred eightieth (180th) full calendar month next following such date.

3. Option to Extend. Landlord grants to Tenant the option to extend the term of the Lease at the expiration of the Initial Term for two (2) successive periods of five (5) years each, aggregating twenty (10) years. Each such renewal option must be exercised no later than twelve (12) months prior to the expiration of the initial Term or the then-current Renewal Term.

4. Successors and Assigns. The conditions and provisions hereof shall inure to the benefit of and shall be binding upon Landlord, Tenant, and their respective successors and assigns, and shall run with the land.

5. Memorandum. The rentals to be paid by Tenant and all of the obligations and rights of Landlord and Tenant are set forth in the Lease. This Memorandum of Lease is merely a memorandum of the Lease and is subject to all of its terms, conditions and provisions. In the event of any inconsistency between the terms of the Lease and this Memorandum of Lease, the terms, covenants and conditions of the Lease shall prevail.

6. Counterparts. This Memorandum of Lease may be executed in any number of counterparts, each of which shall be an original, but all of which shall together constitute one and the same document.

[No further text on this page. Signature page to follow.]

IN WITNESS WHEREOF, Landlord has caused its duly authorized officer to execute this Memorandum of Lease as of the date first noted above.

LANDLORD:
LOTS 21 & 22 OWNER (DE) LLC, a
Delaware limited liability company

By: _____ [SEAL]
Name: _____
Title:_____

STATE/COMMONWEALTH OF _____)
CITY/COUNTY OF _____)

On the __ day of _____ in the year 20__, before me, the undersigned, a Notary Public in and for said state, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument, and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed this instrument.

_____
Notary Public

My Commission Expires:_____

IN WITNESS WHEREOF, Tenant has caused its duly authorized officer to execute this Memorandum of Lease as of the date first noted above.

TENANT:

IONIS PHARMACEUTICALS, INC., a
Delaware corporation

By :_____
Name: _____
Title:_____

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
) §
County of_____)

On _____, before me, _____ a Notary Public, personally appeared _____ who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct

WITNESS my hand and official seal.

_____
Signature of Notary

(Affix seal here)

Schedule A to
Memorandum of Lease

[to be attached]

EXHIBIT E

FORM OF SNDA

WHEN RECORDED MAIL TO

_____

_____

_____

Attention: _____

SPACE ABOVE THIS LINE FOR RECORDER'S USE

SUBORDINATION, NON-DISTURBANCE AND ATTORNMENT AGREEMENT

This SUBORDINATION, NON-DISTURBANCE AND ATTORNMENT AGREEMENT (hereafter referred to as "Agreement") made as of _____, 2022, by and between _____, having an address at , as administrative agent (with its successors or assigns, "Agent") for itself and certain lenders now or hereafter party to the Loan Agreement (as hereinafter defined) (the "Lenders"), _____, a _____, having an address of _____ ("Tenant") and _____, a _____, having an address at _____ ("Landlord").

The Lenders have made a loan to Landlord in the maximum principal amount of $_____ in accordance with the terms of that certain [Loan Agreement] dated as of _____, 2022 (the "Loan"), by and among Landlord, Agent and Lenders (as the same may hereafter be amended, reinstated, extended, supplemented or otherwise modified from time to time, the "Loan Agreement"),

Pursuant to the Loan Agreement, the Agent, for the benefit of the Lenders, is the holder of a certain [Deed of Trust, Security Agreement, Assignment of Leases and Rents, and Fixture Filing] (as the same may be amended, extended, supplemented or otherwise modified or restated from time to time, the "Security Instrument") granted by Landlord to Agent, for the benefit of the Lenders, and recorded in the official records of San Diego County, California, which constitutes a first lien against the real property described on Schedule A attached hereto and the improvements thereon or to be constructed thereon (the "Property").

Tenant has entered into a lease with Landlord dated as of _____, 2022 (the "Lease") covering all of the Property (the "Premises"). All capitalized terms used but not defined in this Agreement shall have the meanings set forth in the Lease.

For mutual consideration, including relying on the mutual covenants and agreements contained in this Agreement, the receipt and sufficiency of which are hereby acknowledged, Agent, Landlord and Tenant agree as follows:

1. **Subordination of Lease**. Subject to the terms of this Agreement, the Lease and all of Tenant's right, title, and interest in and to the Property thereunder (including, but not limited to, any option to purchase, right of first refusal to purchase, or right of first offer to purchase the Property or any portion thereof) is and shall be subject and subordinate to the Security Instrument and to all present and future advances under the obligations secured thereby and all renewals, amendments, modifications, consolidations, replacements and extensions thereof, to the full extent of the principal amount and other sums secured thereby and interest thereon, so that at all times the Security Instrument shall be and remain a lien on the Property prior to and superior to the Lease for all purposes, subject to the provisions set forth in this Agreement. Such subordination shall have the same force and effect as if the Security Instrument and such renewals, modifications, consolidations, replacements and extensions of the Security Instrument had been executed, acknowledged, delivered and recorded prior to the Lease, all amendments or modifications of the Lease, and any notice of the Lease.

2. **Attornment**. Tenant will attorn to and recognize: (i) Agent (including for this purpose any transferee or nominee of Agent), whether as mortgagee in possession or otherwise; or (ii) any purchaser at a foreclosure sale under the Security Instrument; or (iii) any transferee that acquires possession of or title to the Property (whether by acceptance of a deed in lieu of foreclosure or otherwise); or (iv) any successors and assigns of such purchasers and/or transferees (each of the foregoing persons or entities described in clauses (i) through (iv) above, a "Successor"), as its landlord for the unexpired balance (and any extensions, if exercised) of the term of the Lease upon the terms and conditions set forth in the Lease (as affected by this Agreement), and Tenant shall pay and perform in favor of Successor all of the obligations of Tenant under the Lease as if Successor were the original lessor under the Lease. Such attornment shall be effective and self- operative without the execution of any further instruments by any party hereto; provided, however, that Tenant will, upon request by Agent or any Successor, execute a reasonable written agreement attorning to Agent or such Successor, which agreement shall, in any event, be subject to the terms and provisions of this Agreement.

3. **Non-Disturbance**. So long as the Lease is in effect and Tenant complies with Tenant's obligations under this Agreement and is not in default (beyond the expiration of any applicable cure period) under the Lease, Agent and any Successor (i) will recognize the Lease and Tenant's rights and options under the Lease as the tenant of the Premises for the remainder of the term of the Lease (as affected by this Agreement), including any extension options, if exercised, and (ii) will not disturb Tenant's use, possession and quiet enjoyment of the Premises, nor will Tenant's rights under this Lease be impaired (except as provided in this Agreement), and (iii) shall not name or join Tenant as a defendant in any foreclosure action, sale under a power of sale or transfer in lieu of the foregoing (collectively, a "Foreclosure") unless a joinder is required by law to perfect a Foreclosure or other remedy, but then only for such purpose and not for the purpose of terminating the Lease.

4. **Assignment of Leases**. Tenant acknowledges that it has been advised that Landlord has assigned the Lease and the rents thereunder to Agent, for the benefit of the Lenders, pursuant to the Security Instrument. Tenant acknowledges that the interest of the Landlord under the Lease is to be assigned to Agent solely as security for the purposes specified in the Security Instrument, and, on account of the Security Instrument, Agent shall have no duty, liability or obligation whatsoever under the Lease or any extension or renewal thereof, either by virtue of the Security Instrument or by any subsequent receipt or collection of rents thereunder, unless Agent shall specifically undertake such liability in writing. The foregoing agreement by Tenant shall not adversely affect any rights of Tenant under the Lease with respect to the Landlord in the event of nonperformance by Landlord, subject to the terms of this Agreement. Tenant agrees that if Agent, pursuant to the Security Instrument, and whether or not it becomes a mortgagee in possession, shall give written notice to Tenant that Agent has elected to require Tenant to pay to Agent the rent and other charges payable by Tenant under the Lease, Tenant shall (without any duty to inquire as to the enforceability or validity of Agent's notice) until Agent shall have canceled such election in writing, thereafter pay to Agent all rent and other sums payable under the Lease and such payments to Agent shall be treated as payments made under the Lease. Any such payment shall be made notwithstanding any right of setoff, defense or counterclaim which Tenant may have against Landlord, or any right to terminate the Lease. Landlord authorizes and directs Tenant to immediately and continuously make all such payments at the direction of Agent, releases Tenant of any and all liability to Landlord for any and all payments so made, and agrees that payments actually made by Tenant to Agent shall be credited towards the amounts due under the Lease.

5. **Limitation of Liability**. In the event that Agent (including for this purpose any transferee or nominee of Agent) or any other Successor succeeds to the interest of Landlord under the Lease, or title to the Property, then none of Agent, any Lender or any Successor shall be: (i) liable in any way to Tenant for any act or omission, neglect or default on the part of any prior landlord under the Lease; provided, that, nothing in this clause being deemed to relieve Agent or any Successor of an ongoing default on the part of Landlord with respect to repair and maintenance of the Premises that first arose prior to such succession, provided that Tenant notified Agent of such default in accordance with Section 7 of this Agreement and Agent failed to cure same and Agent or any Successor shall have the obligation to cure such ongoing repair and maintenance defaults on the part of Landlord that continue from and after Successor succeeds to the rights of Landlord under the Lease, regardless of when such default or obligation from arose, provided that Tenant notified Agent of such default in accordance with Section 7 of this Agreement and Agent failed to cure same; (ii) responsible for any monies (including security deposits) owing by or on deposit with (or any letter of credit on deposit with) Landlord to the credit of Tenant (except to the extent any such deposit or letter of credit is actually received by Agent or such Successor, as applicable); (iii) subject to any defense, counterclaim or setoff which theretofore accrued to Tenant against any prior landlord; provided, however, that the foregoing shall not limit Tenant's right to exercise against Agent or such Successor any offset right otherwise available to Tenant because of events occurring after the date of succession and attornment; (iv) bound by any termination, amendment or modification, or assignment/subletting of the Lease after the date hereof (unless Agent expressly approved in writing such termination, amendment or modification, or assignment or subletting or the same does not require the Agent's approval pursuant to the terms of the Loan Agreement) of the Lease (provided that, (A) as it relates to any assignments/subletting of Lease undertaken in connection with the terms and provisions set forth in the Lease, Agent shall have the same approval rights as the Landlord has with respect to same and (B) no such approval shall be required with respect to amendments solely evidencing the exercise of Tenant's option to extend the Lease and assignments or sublets that do not require the consent of the Landlord pursuant to the terms of the Lease); (v) bound by any previous prepayment of rent for more than one (1) month of the date due, which was not approved in writing by Agent ;(vi) required after a fire, casualty or condemnation of the Property or Premises to repair or rebuild the same to the extent that such repair or rebuilding requires funds in excess of the insurance or condemnation proceeds specifically allocable to the Premises and arising out of such fire, casualty or condemnation which have actually been received by Agent, and then only to the extent required by the terms of the Lease (Agent acknowledging that the exercise by Tenant of its remedies pursuant to Article 9 of the Lease are unaffected by the provisions of this clause (vi)), (vii) be liable for or incur any obligation with respect to any representations or warranties made by Landlord under the Lease; (viii) liable beyond Agent's, such Lender's, or such Successor's, as applicable, interest in the Property and in the rents, proceeds and profits therefrom; or (ix) except as expressly provided below, responsible for any obligation of Landlord to undertake or complete any work or fund any allowance for tenant improvements.

Furthermore, notwithstanding anything to the contrary contained in this Agreement (except as set forth in the immediately following paragraph) or the Lease, no Agent, Lender or Successor shall have any obligation to undertake or complete any of the Landlord's Construction Work (as defined in the Lease) or advance the TI Allowance (as defined in the Lease) after it succeeds to the interest of Landlord under the Lease or title to the Property (collectively, the "Landlord Work Obligations").

[Only applicable prior to the occurrence of Substantial Completion under the Lease:] Notwithstanding the foregoing, if the Landlord Work Obligations have not been fulfilled in accordance with the terms and provisions of the Lease, then Agent or Successor (as applicable) shall have thirty (30) days from the earlier of the date on which either of the following occur (the "Succession Date"): (i) Agent or any Successor (as applicable) provides written notice to the Tenant that Agent or Successor (as applicable) has succeeded to the interest of Landlord under the Lease, or (ii) Agent or Successor (as applicable) has taken title to the Property, to send written notice (the "Intention Notice") to Tenant stating whether or not Agent or such Successor intends to fulfill the remaining Landlord Work Obligations under the Lease (which may include fulfillment of the obligation to complete the Landlord's Construction Work without fulfilling the obligation to fund the TI Allowance or vice versa). If and to the extent in such Intention Notice Agent or such Successor (as applicable) states that Agent or such Successor intends to be so bound, then such provisions of the Lease shall be binding on the Agent or such Successor (as applicable). If in such Intention Notice Agent or Successor (as applicable) states in writing that it does not intend to be so bound with respect to the Landlord's Construction Work or fails to timely provide such Intention Notice to Tenant within such thirty (30) day period, then Tenant shall have the right, by giving a notice to the Agent or such Successor (as applicable) (the "Succession Election Notice") within sixty (60) days following the Intention Notice, or if no Intention Notice has been delivered, within sixty (60) days of the Succession Date, to, subject to compliance with the Tenant Completion Conditions (as defined below), complete the Landlord's Construction Work at its expense in accordance with the terms and conditions of the Lease (in which case Base Rent shall be determined based on amounts previously expended by Landlord for Construction Costs plus any TI Allowance funded by Agent or such Successor, and otherwise in accordance with the Lease), and if Agent or Successor (as applicable) agreed to complete the Landlord's Construction Work but declined to fund any remaining TI Allowance, exercise its right pursuant to the Lease to deduct the remaining amount of TI Allowance when due from Base Rent in accordance therewith to the extent the same has been included in the calculation of Base Rent under the Lease, until the full amount of TI Allowance included within the Base Rent is recouped by Tenant (but without the necessity of giving any additional notices to Landlord); and further provided, however, that the Agent or Successor (as applicable) can render any Succession Election Notice null and void and of no force and effect if, within thirty (30) days after the giving of such Succession Election Notice, the Agent or Successor (as applicable) agrees to be bound by the applicable provisions of the Lease. Tenant's failure to give a Succession Election Notice in the time period required above shall be deemed to be an election pursuant to the [clause (X)][1] of the immediately preceding sentence. To the extent the Tenant delivers the Succession Election Notice, Tenant hereby acknowledges and agrees that the Agent or Successor (as applicable) is released (except to the extent set forth in the Intention Notice and as otherwise expressly set forth in this paragraph) from any and all obligations under the Lease with respect to the Landlord's Construction Work and the payment of the TI Allowance.

As used herein, the "Tenant Completion Conditions" shall mean, provided that the Lender or Successor (as applicable) has not rendered any Succession Election Notice null and void and of no force and effect, compliance with the following conditions:

(a) Within thirty (30) days following the delivery of the Succession Election Notice, if Landlord has not completed all of the Landlord Work Obligations, then Tenant shall provide reasonable evidence to Lender that Tenant has sufficient cash and other liquid assets to fulfill the Landlord Work Obligations ("Tenant Funds");

(b) Tenant shall have entered into a contract with a person or entity ("Replacement Manager"), which Replacement Manager shall be acceptable to the Lender or Successor (as applicable) as determined in Lender's or Successor's (as applicable) reasonable discretion, that is qualified and experienced in the development of properties and construction of improvements which are of similar type and nature to the improvements contemplated to have been constructed by Landlord pursuant to the Approved Shell and Core Plans (as defined in the Lease);

(c) Tenant shall provide Lender or Successor (as applicable) each month through the completion of the Landlord Work Obligations, with the following: (i) the opportunity for Lender to hold an inspection by Lender's or Successor's (as applicable) construction consultant, confirming the work as to which each contractor seeks payment is in compliance with the Approved Shell and Core Plans, (ii) a copy of contractor's application for payment to Tenant and signed by Tenant's architect on AIA Forms G702 and G703/G703A or other forms acceptable to Lender or Successor (as applicable) and confirmed by Lender's or Successor's (as applicable) inspector, (iii) if requested by Lender or Successor (as applicable), paid invoices or receipts and unconditional statutory lien waivers for all construction work and costs included in the previous request for advance, (iv) if requested by Lender or Successor (as applicable), evidence that any inspection required by any governmental authority has been completed with results satisfactory to that governmental authority, (v) such certifications of job progress by Tenant's architect, in form satisfactory to Lender or Successor (as applicable), as Lender or Successor (as applicable) may request, and (vi) such other conditions as are contained within the Loan Agreement and customary in the administration of a construction loan of a size and type as the one evidenced by the Loan Agreement;

(d) Tenant shall complete Landlord Work Obligations by **[NTD: will be the completion date established under the core/shell contract:]** _____, subject to extensions for Force Majeure;

If Tenant fails to comply with any Tenant Completion Condition, Lender or Successor (as applicable) shall provide Tenant with written notice of Tenant's failure to comply therewith and if Tenant fails to cure such non-compliance within thirty (30) days of receipt of written notice thereof (or such reasonable additional time if the cure cannot reasonably be completed within such 30-day period and Tenant has commenced to cure such non-compliance within such 30-day period and thereafter diligently pursues such cure), the Lender shall be entitled to either (i) terminate the Lease, without any liability to the Tenant whatsoever, including, without limitation, under the Lease or under this Agreement, or (ii) fulfill the Landlord Work Obligations.

Tenant agrees that any person or entity which at any time hereafter becomes the landlord under the Lease, including without limitation, Agent or any Successor (as applicable), shall be liable only for the performance of the obligations of the landlord under the Lease that arise during the period of Agent's or such Successor's ownership of the Premises. Tenant further agrees that any liability of Agent or any Successor under the Lease shall be limited to the interest of Agent or such Successor in the Property and in the rents, proceeds and profits therefrom.

6. Purchase Rights. Each of the parties hereto acknowledges that pursuant to the Lease, Tenant holds a right of first offer to purchase the property pursuant to Article 11 of the Lease (the "Purchase Rights"). The parties hereto agree that the Purchase Rights shall remain valid and in full force and effect, but subject and subordinate to the lien(s) of the Security Instrument. In the event that Agent or a Successor succeeds to the interest of Landlord under the Lease, such Purchase Rights shall not be extinguished by a Foreclosure; provided, however, that Agent or Successor shall not be bound to the Purchase Rights, and such Purchase Rights shall not apply, with respect to (i) a Foreclosure, including, without limitation, the granting of, foreclosure under, or giving of a deed-in-lieu of foreclosure under, a mortgage or the granting or exercise of any pledge of ownership interests, or (ii) the first subsequent sale of the Property following Agent's or Successor's acquisition of title to the Property, but thereafter any successor landlord to Agent or such Successor shall be bound by such Purchase Rights in accordance with the terms of the Lease.

7. Right to Cure Defaults. Tenant agrees to give to Agent, either by certified U.S. mail (return receipt requested) or overnight courier service (i.e., FedEx), a duplicate of each notice of any default by Landlord under the Lease at the time Tenant gives such notice to Landlord, specifying the nature of such default, and thereupon Agent shall have the right (but not the obligation) to cure such default, and Tenant shall not exercise its remedies under the Lease unless the Tenant first gives such notice to Agent and provides Agent with notice of such default, and an opportunity to cure the same within a period of time that shall be not less than the period of thirty (30) days beyond any period afforded to the Landlord to cure the default under the provisions of the Lease, and a reasonable period of time in addition thereto (i) if the circumstances are such that said default cannot reasonably be cured within such period and Agent has commenced and is diligently pursuing such cure, plus (ii**)** a reasonable period (not to exceed 270 days unless the cure cannot be effected without Agent taking possession of the Property) during any litigation or enforcement action or proceeding, including a foreclosure, bankruptcy, reorganization, possessory action or a combination thereof provided that Agent or any Successor provides Tenant with written notice of its intent to cure such default and then proceeds diligently to cure Landlord's default upon acquiring possession of the Premises. It is specifically agreed that Tenant shall not exercise its remedies under the Lease against Agent or any Successor for failure to cure any bankruptcy, insolvency or reorganization default on the part of Landlord, any breach by Landlord of any representation or warranty, or any other breach or default under the Lease that is personal to Landlord or otherwise not reasonably susceptible of cure by Agent or such Successor. Tenant shall accept performance by Agent of any term, covenant, condition or agreement to be performed by Landlord under the Lease with the same force and effect as though performed by Landlord. Without limitation on the foregoing, if the Lease is terminated for any reason other than (a) a termination which is effected unilaterally by Tenant in accordance with the express terms of the Lease, (b) the expiration of the term of the Lease, or (c) a termination that occurs in compliance with this Agreement, then upon Agent's written request given within thirty (30) days after Agent receives written notice of such termination, Tenant shall, within fifteen (15) days after such request, execute and deliver to Agent a new lease of the Premises for the remainder of the term of the Lease, such new lease to be upon all of the same terms, covenants and conditions of the Lease applicable to the remainder of the term of the Lease (as affected by this Agreement).

8. **Tenant's Agreements**. Tenant hereby represents, warrants, covenants and agrees that: (i) Tenant shall not pay any rent under the Lease more than one month in advance of the date due except as expressly required in the Lease with respect to security deposits, operating expenses, taxes and the like; (ii) Tenant shall have no right to appear in any Foreclosure action under the Security Instrument (unless named by Agent in such action, Agent agreeing however not to name Tenant unless required pursuant to applicable laws, and then only for such purposes); (iii) Tenant shall not amend or modify, or assign or sublet, the Lease and Tenant shall have no right to cancel or terminate the Lease, without Agent's prior written consent (provided that, (x) as it relates to any assignments/subletting of Lease undertaken in connection with the terms and provisions set forth in the Lease, Agent shall have the same approval rights as the Landlord has with respect to same and (y) no such approval shall be required with respect to amendments solely evidencing the exercise of Tenant's option to extend the Lease and assignments or sublets that do not require the consent of the Landlord pursuant to the terms of the Lease), and any attempted amendment or modification, assignment or subletting, cancellation or termination of the Lease in violation of the foregoing shall be of no force or effect as to Agent; (iv) Tenant shall not subordinate the Lease to any lien or encumbrance (other than the Security Instrument) without Agent's prior written consent; (v) except as expressly set forth in Section 6, above, Tenant has no right or option of any nature whatsoever, whether pursuant to the Lease or otherwise, to purchase the Property, or any portion thereof or any interest therein, and to the extent that Tenant hereafter acquires any such additional rights or options, the same is hereby acknowledged to be subject and subordinate to the Security Instrument and is hereby waived and released as against Agent and any Successor, (vi) Tenant shall promptly, to the same extent and within the same time period required by the Lease, deliver to Agent, from time to time, a written estoppel statement in the form, and with the certifications, required by the Lease; (vii) this Agreement supersedes and satisfies any requirement in the Lease relating to the granting of a non-disturbance agreement or providing for subordination of the Lease; (viii) Tenant is the sole owner of the leasehold estate created by the Lease; (ix) the interest of Landlord under the Lease is assigned to Agent solely as security for the obligations secured by the Security Instrument, and neither Agent nor the Lenders shall have any duty, liability or obligation under the Lease or any extension or renewal thereof, unless Agent either (a) specifically undertakes such liability in writing, or (b) subject to the express terms of this Agreement, Agent becomes a Successor; (x) if this Agreement conflicts with the Lease, then this Agreement shall govern as between the parties and any Successor, including upon any attornment pursuant to this Agreement; and (xi) upon Agent's transfer or assignment of Agent's interests in the Loan, the Lease (or any new lease executed pursuant to this Agreement), or the Property, Agent shall be deemed released and relieved of any obligations under this Agreement, the Lease (or any new lease executed pursuant to this Agreement), and with respect to the Property.

9. **Authority**. Each of Landlord, Agent, and Tenant warrants and represents to the other parties hereto that it has duly executed and delivered this Agreement and that the execution, delivery and performance by it of this Agreement (i) are within its powers, (ii) have been duly authorized by all requisite action, and (iii) do not violate any provision of law or any order of any court or agency of government, or any agreement or other instrument to which it is a party or by which it or any of its property is bound.

10. **Miscellaneous**.

Section 10.1 The provisions hereof shall be binding upon and inure to the benefit of Tenant and Agent and their respective successors and assigns, the term "Agent" as used herein includes any successor or assign of the named Agent herein, and the terms "Tenant" and "Landlord" as used herein include any successor and assign of the named Tenant and Landlord herein, respectively; provided, however, that such reference to Tenant's or Landlord's successors and assigns shall not be construed as Agent's consent to any assignment or other transfer by Landlord in any instance where Agent's consent to such assignment or transfer is required hereunder, under the Security Instrument or under any other document executed in connection therewith.

Section 10.2 Any notices, demands or requests to be given under this Agreement shall be in writing and shall be deemed sufficiently given if served personally or upon the first to occur of receipt or the refusal of delivery if mailed by United States certified mail, return receipt requested, postage prepaid, or if sent by prepaid Federal Express or other similar overnight delivery service which provides a receipt, addressed to the Primary Address of Landlord, Tenant, or Agent set forth below, along with copies to the applicable Supplemental Addresses set forth below, or such other address as such party may specify in writing from time to time;

If to Tenant:

Primary Address:

_____

_____

_____

Supplement Addresses:

_____

_____

_____

If to Landlord:

Primary Address:

_____

_____

_____

Supplement Addresses:

_____

_____

_____

If to Agent:

Primary Address:

_____

_____

_____

Supplement Addresses:

_____

_____

_____

Section 10.3 This Agreement may not be changed, terminated, amended, supplemented, waived or modified orally or in any manner other than by an instrument in writing signed by the party against which enforcement of the change, termination, amendment, supplement, waiver or modification is sought.

Section 10.4 The captions or headings at the beginning of each paragraph hereof are for the convenience of the parties and are not part of this Agreement;

Section 10.5 This Agreement shall be governed by and construed under the laws of the State of New York (excluding the choice of law rules thereof);

Section 10.6 This Agreement represents the final agreement between the parties hereto with respect to the subject matter hereof and may not be contradicted by evidence of prior, contemporaneous or subsequent oral agreements of the parties. There are no unwritten oral agreements between the parties with respect to the subject matter hereof.

Section 10.7 If any provision of this Agreement is held to be invalid or unenforceable by a court of competent jurisdiction, such provision shall be deemed modified to the extent necessary to be enforceable, or if such modification is not practicable, such provision shall be deemed deleted from this Agreement, and the other provisions of this Agreement shall remain in full force and effect.

Section 10.8 This Agreement may be executed in one or more counterparts, each of which when so executed and delivered shall be deemed an original, but all of which taken together shall constitute but one and the same instrument.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties hereto have signed and sealed this instrument as of the day and year first above written.

TENANT

_____

By: _____
Name (Print) _____,
Title:

[Acknowledgment to be added]

AGENT:

_____

By: _____
Name (Print) _____,
Title:_____

[Acknowledgment to be added]

LANDLORD

_____

By: _____
Name (Print) _____,
Title:_____

[Acknowledgment to be added]

Schedule A (to Exhibit E)

PROPERTY DESCRIPTION

EXHIBIT F

FORM OF NON-DISCLOSURE AND CONFIDENTIALITY AGREEMENT

NON-DISCLOSURE AND CONFIDENTIALITY AGREEMENT

This Non-Disclosure and Confidentiality Agreement (this "***Agreement***") is entered into_____, 20___ (the "***Effective Date***"), by and between [_____], a [_____], whose address is [_____] ("***Prospective Purchaser***"), and **Ionis Gazelle, LLC**, a Delaware limited liability company, whose address is [_____] ("***Ionis***"). Prospective Purchaser and Ionis are sometimes referred to individually as a "***Party***" and collectively as the "***Parties***".

RECITALS

WHEREAS, Ionis currently leases and occupies that certain real property located on Lots 21 & 22, Whiptail Loop W in Carlsbad, 92010 California (the "***Property***") pursuant to that certain Lease Agreement dated as of [_____], 2022 (the "***Lease***"), by and between Ionis and LOTS 21 & 22 OWNER (DE) LLC, a Delaware limited liability company ("***Landlord***");

WHEREAS, Prospective Purchaser has a bona fide interest in purchasing the Property from Landlord, and may thereby become Ionis' landlord under the Lease;

WHEREAS, in connection with (i) Prospective Purchaser's evaluation of a purchase of the Property, and (ii) Prospective Purchaser's actions as landlord under the Lease, if Ionis shall continue to lease and occupy the Property and in the event Prospective Purchaser purchases the Property (collectively, the "***Purpose***"), Prospective Purchaser may enter the Property and may gain access to materials and information and observe processes which are non-public, confidential or proprietary in nature; and

WHEREAS, the Parties recognize the critical importance of preserving the non-public, confidential or proprietary nature of any disclosed, observed or exchanged materials and information provided in the course of discussions regarding the Purpose and the Property, and Prospective Purchaser potentially becoming Ionis' landlord under the Lease.

NOW THEREFORE, the Parties agree, each with the other, as follows:

1. Confidential Information. Except as set forth in Section 2 below, "***Confidential Information***" means all non-public, confidential or proprietary information (i) disclosed by or on behalf of Ionis, its Affiliates, or their respective agents, or employees (collectively, the "***Ionis Parties***") to Prospective Purchaser, its Affiliates and subcontractors, or their respective agents, employees, or advisors, or any other person or entity providing the services by and through Prospective Purchaser (collectively, the "***PTP Parties***"), whether disclosed orally or in written, electronic or other form or media, and whether or not marked, designated or otherwise identified as "confidential," (ii) observed by any of the PTP Parties in entering on to the Property and (iii) as may be observed or obtained by Prospective Purchaser in the course of acting as landlord under the Lease (should Prospective Purchaser purchase the Property and Ionis shall continue to lease and occupy the Property pursuant to the Lease), including, without limitation, Trade Secret Information, any information that would reasonably be considered non-public, confidential or proprietary given the nature of the information and the Ionis Parties' businesses and all notes, analyses and other materials prepared by or for the Purpose that contain any of the foregoing. As used in this Agreement, "***Trade Secret Information***" means all information that is unique to Ionis' business and that is not commonly known by or available to the public or otherwise known through Prospective Purchaser's business and that: (i) derives or creates economic value for Ionis' business, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy. The Ionis Parties' Trade Secret Information may include, but is not limited to, all confidential information relating to Ionis' business and operations and in the form of the Ionis Parties' research and development plans and activities; design plans; compilations of data; product plans; inventions; engineering processes and activity; manufacturing plans, processes and activity; proprietary computer software and programs (including object code and source code); and proprietary computer and database technologies, systems, structures, and architectures.

2. Exclusions from Confidential Information. the term "Confidential Information" as used in this Agreement shall not include information that:

(a) at the time of disclosure is, or thereafter becomes, generally available to and known by the public other than as a result of any breach of this Agreement by Prospective Purchaser;

(b) at the time of disclosure is, or thereafter becomes, available to Prospective Purchaser on a non-confidential basis from a third-party source, provided that such third-party is not and was not, to Prospective Purchaser's knowledge, prohibited from disclosing the information to Prospective Purchaser by any legal, fiduciary or contractual obligation;

(c) was known by or in the possession of Prospective Purchaser prior to being disclosed by or on behalf of the Ionis Parties pursuant to this Agreement;

(d) was independently developed by Prospective Purchaser without reference to or use of, in whole or in part, any Confidential Information; or

(e) Ionis has agreed in writing is free of such obligations.

3. Confidential Information and Other Property of the Ionis Parties. All Confidential Information shall be deemed the property of the Ionis Parties. All information, documents, and electronic media (including, but not limited to Confidential Information) furnished by or on behalf of the Ionis Parties to the Prospective Purchaser shall be the property of the Ionis Parties.

4. Prospective Purchaser Obligations. Prospective Purchaser shall:

(a) protect the Confidential Information from unauthorized disclosure and use, with at least the same degree of care as the Prospective Purchaser would use in protecting its own confidential information, but no less than a commercially reasonable degree of care;

(b) not use the Confidential Information, or permit it to be accessed or used, for any purpose other than the Purpose;

(c) not disclose the Confidential Information to any person or entity, including, without limitation, to any of the PTP Parties, except to PTP Parties who: (i) need to know the Confidential Information to assist Prospective Purchaser, or act on its behalf, in relation to the Purpose; (ii) are informed by Prospective Purchaser of the confidential nature of the Confidential Information (each an "***Authorized Party***") (Prospective Purchaser acknowledging that a breach of this Agreement by a PTP Party shall be treated as a breach of this Agreement by Prospective Purchaser);

(d) not use any of the Ionis Parties' computers, computer systems, equipment, tools, or other property of the Ionis Parties without Ionis Parties' consent;

(e) not use any Confidential Information to compete or prepare to compete against the Ionis Parties, or for or on behalf of any competitor of the Ionis Parties;

(f) upon Ionis' written request, destroy or deliver promptly to Ionis, or Ionis' designee, all Confidential Information (including all copies thereof, regardless of the medium in which such information may be stored) and all computers, equipment, tools, and other property of the Ionis Parties that happen to be in Prospective Purchaser's possession;

(g) promptly notify Ionis upon discovery of any unauthorized disclosure of Confidential Information caused by Prospective Purchaser and reasonably cooperate with Ionis in any effort undertaken by Ionis to enforce its rights related to any such unauthorized disclosure;

(h) not record in any form, including by hand, video or audio, any Trade Secret Information observed on the Property, without Ionis' written consent;

(i) be responsible if any provisions of this Agreement are violated by any Authorized Party;

(j) at all times while on the Property be accompanied by an authorized representative of Ionis and not attempt to access areas of the Property without being accompanied by such authorized representative unless Ionis provides its express written consent to access without being accompanied; and

(k) at all times while on the Property follow all safety protocols as instructed by an authorized representative of Ionis.

5. Prospective Purchaser Representations and Warranties. Prospective Purchaser represents and warrants that:

(a) the performance of its obligations herein does not and will not violate any other contract or obligation to which Prospective Purchaser is a party, including covenants not to compete and confidentiality agreements; and

(b) unless and until becoming landlord under the Lease (as and to the extent Ionis continues to lease and occupy the Property pursuant to the Lease), it is entering upon the Property for the sole purpose of evaluating a potential purchase of the Property.

6. No Ionis Representations or Warranties; Disclaimer of Liability. The Ionis Parties make no representation or warranty, express or implied, as to the accuracy or completeness of the Confidential Information disclosed to Prospective Purchaser hereunder. The Ionis Parties shall not be liable to Prospective Purchaser for any losses relating to or resulting from the Prospective Purchaser's use of any of the Confidential Information or any errors therein or omissions therefrom.

7. Court Ordered Disclosure. Notwithstanding anything to the contrary herein, Prospective Purchaser may disclose certain Confidential Information, without violating the obligations of this Agreement, to the extent such disclosure is required by law or regulation or by a subpoena or other validly issued administrative or judicial process, provided that, Prospective Purchaser shall (a) provide Ionis with reasonable prompt notice of the disclosure(s) (to the extent legally permissible), (b) limit disclosure to only that portion of the Confidential Information which Prospective Purchaser is legally compelled to disclose and (c) reasonably cooperate in assisting Ionis (at Ionis' expense) in its efforts to ensure confidential treatment will be accorded any Confidential Information so furnished (to the extent legally permissible).

8. Survival of Obligations; Return or Destruction of Confidential Information. Prospective Purchaser's obligations to protect any Confidential Information received from the Ionis Parties shall continue for a period of three (3) years from the date of disclosure, notwithstanding whether or not Prospective Purchaser purchases the Property. At Ionis' written request, so long as the same is no longer reasonably necessary for Prospective Purchaser's use in connection with the Purpose, Prospective Purchaser shall promptly destroy all copies, whether in written, electronic or other form or media, of the Ionis Parties' Confidential Information and certify in writing to Ionis that such Confidential Information has been destroyed; provided that Prospective Purchaser shall not be required to destroy electronic copies of any portions of the Confidential Information created pursuant to standard archival or back-up procedures and not available to end users, and provided that Prospective Purchaser may retain one (1) copy of the Confidential Information for its legal archives for the sole purpose of documenting its receipt thereof.

9. No Proprietary Interest. Prospective Purchaser understands and agrees that Prospective Purchaser shall not obtain any proprietary interest in any Confidential Information. This Agreement shall not operate in a way to grant or confer any right or license in any of the Confidential Information, nor as a consent by the Ionis Parties to Prospective Purchaser for Prospective Purchaser's use of any Confidential Information which may become public knowledge through any breach of this Agreement by or on behalf of Prospective Purchaser.

10. Agreement Confidential. The existence of this Agreement shall be considered to be of a confidential nature and shall be accorded the same protections as the Confidential Information.

11. No Further Agreement. Nothing in this Agreement shall be construed as representing any commitment by either Party to enter into any other agreement, whether relating to the Purpose or otherwise. Neither the execution and delivery of this Agreement nor the delivery of any Confidential Information hereunder shall be construed as granting to Prospective Purchaser by implication, estoppel or otherwise, any right in or license under any present or future invention, trade secret, trademark, copyright, or patent, now or hereafter owned or controlled by the Ionis Parties.

12. Remedies. Prospective Purchaser acknowledges and agrees that the Confidential Information is a valuable, special and unique asset of the Ionis Parties' business which gives the Ionis Parties an advantage over the Ionis Parties' actual and potential competitors and any unauthorized disclosure or unauthorized use of the Confidential Information may irreparably injure the Ionis Parties. If any action should have to be brought by Ionis against Prospective Purchaser to enforce the provisions of this Agreement, Prospective Purchaser recognizes, acknowledges and agrees that Ionis shall be entitled to seek all of the civil remedies provided by federal, state and local law, including without limitation, preliminary and permanent injunctive relief restraining Prospective Purchaser from any actual or threatened unauthorized use or disclosure of any Confidential Information, in whole or in part. Nothing in this Agreement shall be construed as prohibiting Ionis from pursuing any other legal or equitable remedies available for breach or threatened breach of this Agreement.

13. Notice. Any and all notices or other communications or deliveries required or permitted to be given or made pursuant to any of the provisions of this Agreement shall be in writing and: (i) hand delivered; (ii) sent by a nationally recognized overnight courier, costs prepaid, or (iii) sent by email, provided that the sender promptly delivers a hard copy to the recipient by the method set forth in (i) or (ii), in each case to the applicable addresses set forth below or to such other address as such Party has designated by notice so given to the other Party:

If to Ionis: Ionis Gazelle, LLC
Attention:
Email:

with a copy to:

Cooley LLP
4401 Eastgate Mall
San Diego, CA 92121-1909
Attn: David L. Crawford, Esq.
Email: [***]

If to Prospective Purchaser:

_____
_____
_____
_____

Such notice sent in accordance with clauses (i) or (ii) shall be deemed to have been given upon the date of actual receipt or delivery (or refusal to accept delivery), as evidenced by the notifying Party's receipt of written or electronic confirmation of such delivery or refusal, and such notice sent electronically in accordance with clause (iii) shall be deemed to have been given upon the date that such electronic notification was sent, provided such notice clearly confirms, without alteration of the email, the date and time the email was sent, in each case if such notice is received by the Party to be notified between the hours of 8:00 A.M. and 5:00 P.M. Pacific time on any business day, with delivery made after such hours to be deemed received the following business day.

14. Rules of Construction.

(a) This Agreement shall be governed and construed in accordance with the statutory and common law of the State of California and applicable federal law, without regard to any conflicts of law principles that. Any actions brought to enforce or interpret this Agreement shall be brought only in a court of competent jurisdiction located in the State of California.

(b) No change, modification or termination of any other terms, provisions, or conditions of this Agreement shall be effective unless made in writing and signed or initialed by both Parties to this Agreement. The waiver by a Party of a breach or a threatened breach of any provision of this Agreement by the other Party shall not be construed as a waiver of any subsequent breach.

(c) Each provision of this Agreement shall be valid and enforced to the fullest extent permitted by law. The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision.

(d) This Agreement constitutes the entire Agreement between the Parties pertaining to the subject matter hereof, and it supersedes all negotiations, preliminary agreements, and all prior and contemporaneous discussions and understandings of the Parties in connection with the subject matter hereof. Following the acquisition of the Property by Prospective Purchaser or its Affiliate, if it occurs, this Agreement shall be deemed incorporated into the Lease by reference and shall terminate at such time, if any, as Prospective Purchase or such Affiliate ceases to be the Landlord thereunder.

(e) This Agreement may be executed in any number of counterparts, and by facsimile or electronically transmitted signature and each such counterpart and signature shall be deemed to be an original and all of which shall constitute one agreement that is binding on all parties hereto.

(f) As used herein, "***Affiliates***" means any individual, partnership, corporation, limited liability company, limited liability partnership, trust or other entity that directly, or indirectly through one or more intermediaries, controls, is controlled by or is under common control with a Party. For the purposes of this definition, "control" means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of an individual, partnership, corporation, limited liability company, limited liability partnership, trust or other entity, whether through the ownership of voting securities, by contract or otherwise, and the terms "controlling" and "controlled" have the meanings correlative to the foregoing.

IN WITNESS WHEREOF, the Parties have executed this Agreement effective as of the date first set forth above.

IONIS GAZELLE, LLC	**[PROSPECTIVE PURCHASER]**
By: _____	By: _____
Name: _____	Name: _____
Title: _____	Title: _____

EXHIBIT G

LANDLORD SIGNAGE

EXHIBIT H

COMMENCEMENT AND TERMINATION DATE AGREEMENT

THIS COMMENCEMENT AND TERMINATION DATE AGREEMENT, made as of _____, 20 ___, is by and between Lots 21 & 22 Owner (DE) LLC, a Delaware limited liability company ("Landlord"), and Ionis Pharmaceuticals, Inc., a Delaware corporation ("Tenant"). Reference is made to that certain Lease Agreement dated _____, 2022, (the "Lease") pursuant to which Landlord leases to Tenant the Premises described therein.

1. Capitalized terms used, but not defined, herein shall have the same meanings given to them in the Lease.

2. The Commencement Date occurred on _____, 20____.

3. The Expiration Date is scheduled to occur on _____, 20 ___, unless Tenant exercises any option to extend the Term of the Lease or unless the Lease terminates earlier as provided in the Lease.

4. The date of commencement of the first Extension Option shall be _____, 20 ___, if Tenant effectively exercises its option in respect thereof, and if Tenant does so, the Term of the Lease shall expire on _____, 20 ___, unless Tenant exercises any option to further extend the Term of the Lease or unless the Lease terminates earlier as provided in the Lease.

5. The date of commencement of the second Extension Option shall be _____, 20 ___, if Tenant effectively exercises its option in respect thereof, and if Tenant does so, the Term of the Lease shall expire on _____, 20 ___, unless Tenant exercises any option to further extend the Term of the Lease or unless the Lease terminates earlier as provided in the Lease.

6. The parties agree that this Agreement may be electronically signed pursuant to the terms of the ESIGN Act of 2000 and is legally binding. The parties agree that any electronic signatures appearing on this Agreement are the same as handwritten signatures for the purposes of validity, enforceability and admissibility.

IN WITNESS WHEREOF, the parties hereto have caused this Commencement and Termination Date Agreement to be executed as of the date first above written.

LANDLORD:
Lots 21 & 22 Owner (DE) LLC

By: _____
Name: _____
Title: _____

TENANT:
Ionis Pharmaceuticals, Inc.

By: _____
Name: _____
Title: _____

EXHIBIT I

TENANT CONSTRUCTION MANUAL

[Attached]

Section 1: GENERAL INFORMATION

1.01 Introduction

These Construction Rules and Regulations been prepared to introduce Tenants and Contractors to the Oxford Properties Group Design, Systems and Building Regulations in order to assist in the design and construction of the leased premises. These Rules and Regulations are to be read in conjunction with the building lease document. In the event of any conflict between these Rules and Regulations and the lease, the provisions of the lease or any other specific written agreements between the Landlord and Tenant shall prevail.

Subject to the preceding paragraph, the Landlord reserves the right, from time to time, to add to or amend the information, procedures and regulations contained herein in a reasonable manner consistent with similar single tenant NNN facilities in the Carlsbad, California area and the Lease, upon reasonable prior notice to Tenant. Any such additions or amendments will affect any Construction work undertaken after the addition or amendment has been issued.

1.02 Tenant Coordination

The Landlord will appoint the Property Manager who will act as a point of contact within the Landlord's organization. All questions, comments and submissions are to be addressed to:

Oxford Properties Group
_____
_____

1.03 Tenant Design and Working Drawings

To the extent required by the Lease, please submit for review a detailed scope of work, PDF and CAD ver. 14 or later and three (3) sets of Tenant Design Working Drawings and Specifications of all work proposed within the Leased premises. The landlord requires that drawing packages are provided in the following stages:

- Preliminary space plan
- Building Permit submission
- Issued for Construction Submission
- As-built drawings as further outlined in the Lease

To the extent Landlord's approvals of such drawings is required by the Lease, once drawings have been reviewed the Landlord will forward an approval letter to the Tenant outlining any comments or changes, if any, that pertain to the drawings. The drawings may be subject to change if requested. Revised drawings are to include all the comments and corrections and a set of prints provided prior to commencing work. Drawings to be resubmitted shall be revised to conform to the requirements and re-submitted for subsequent Landlord review. Any revisions to the Landlord reviewed drawings must be submitted for further review, and work must not proceed until the revised drawings are returned to the contractor. A Copy of the Landlord reviewed drawings must be kept on the job site for viewing throughout the construction period. Landlord shall respond to requests for approval as provided in the Lease.

Additional or expanded information, for purposes of definition or clarification before giving approval may be required. Working drawings should supply the information listed below (depending on the stage).

1.03.01 ***Complete Floor Plans (drawing scale of 1/8" = 1')***

a) Location of all major fixed elements within the leased premises dimensionally related to grid lines and demising partitions.

b) Location and layout of rooms of unusual loading concentrations such as cranes, racking areas and calculations of unusual loadings which may result in floor damage.

c) Location of power, telephone, data and communications outlets. Room names and uses.

d) Floor materials and finishes throughout the premises.

e) Location of exit lights.

1.03.02 ***Complete Reflected Ceiling Plans (scale: 1/8" = 1')***

These should include lighting layout.

1.03.03 ***Complete Construction Details***

These plans should be appropriately scaled and indicate methods of construction.

1.03.04 ***Complete Electrical, Mechanical, Sprinkler, Building Automation, Security, Communications, Data, Life Safety System Drawings (scale: 1/8"=1') complete with Engineer's stamp.***

Details of all alterations and all additions to the **BASE BUILDING**, as well as base building conditions, which remain unchanged.

Details of all metering equipment changes to conform to base building standards. Schedule for any changes to fire, sprinkler and security systems.

1.03.06 ***Complete Structural Drawings***

These drawings must be supplied where special conditions warrant their production i.e. openings in slabs, erection of racking units, the addition of cranes, ramps, etc.

1.03.07 ***Completion***

Upon completion of construction, to the extent required by the Lease the Tenant is responsible to submit "as built" Architectural, Electrical, Mechanical, Security, Communications, Data and Structural Drawings on CAD ver. 14 or later disk to the Landlord for their records.

1.04 Certificates and Approvals

The Tenant is responsible for ensuring that all the following requirements have been complied with before construction begins:

1. **Insurance**. Landlord requires evidence of insurance for contractors and subcontractors as required by the Lease.

2. **Permits** Tenant's design and construction work must comply with all applicable by-laws. The Tenant must obtain all necessary permits and approvals or construction work in the leased premises from the appropriate government authorities. Permits and approval that are required to commence construction must be obtained before construction begins within the leased premises. A copy of all permits must be delivered to the Landlord. The Tenant must correct immediately any work, which does not meet with the approval of the building inspector, even though the Tenants drawings may have been reviewed previously by the appropriate government authorities and the Landlord.

3. **Applicable Hazardous Materials Law**. All contractors, sub-trades and suppliers shall abide by applicable laws governing use of Hazardous Materials when working in the Building.

4. **Workers Compensation** To the extent applicable, Tenant contractor shall furnish written evidence of good standing with the North Carolina Industrial Commission and that all employees engaged in the work are covered in accordance with the statutory requirements of authorities having jurisdiction.

5. **Occupational Health and Safety** The Tenant acknowledges that it is solely responsible for the health and safety of all its employees and workers, as well as for the continuing safe conditions in the Premises. The Tenant shall comply with and shall require all of its employees and workers to comply with the provisions of all Laws respecting Occupational Health and Safety, the Environment, Worker's Compensation and the safe condition of the Premises.

   All materials and supplies used by the Tenant's personnel in the Demised Premises and the Lands shall be used, handled, stored, otherwise dealt with and properly labeled in accordance with the Workplace Hazardous Materials Information System.

1.05 Appointment of Contractors

All Tenant contractors are subject to approval by the Landlord to the extent provided in the Lease.

1.06 Reserved

1.07 Commencement of Construction

For work subject to Landlord consent, the Tenant is required to carry out its construction work in strict accordance with the "Landlord Reviewed Drawings", subject to modifications permitted in accordance with the Lease.

Construction may proceed only after the Tenant has:

a) Submitted acceptable evidence of insurance coverage to the Landlord as set out in these Rules and Regulations.
b) Posted all required permits and safety signage on site, where applicable.
c) For work subject to Landlord's consent, made available on the leased premises one (1) set of prints, of the Tenant Design Working Drawings and Specifications for the duration of the construction period for reference by the Landlord's Tenant Coordinator.
d) For work subject to Landlord's consent, submitted a schedule showing the timetable for the progress and completion of the Tenant's work and a list of all trades requiring access to the premises including the trades address and telephone number.

1.08 Completion of Tenant's Construction

Following completion of the job, and within 30 days, the Tenant must submit to the Landlord a certificate from its architect or designer stating that all work, including that of the mechanical and electrical contractors (if any), has been completed substantially in accordance with the reviewed drawings if such work was subject to Landlord's consent. Upon the request of Landlord or the property manager, Tenant shall provide similar certifications for Minor Alterations previously performed (to the extent not already in the possession of Landlord).

A full set of architectural, mechanical and electrical "as built" CAD drawings ver. 14 or later shall accompany the above noted certificates where required by the Lease.

Further, the Landlord requires copies of all permits and certificates issued by authorities having jurisdiction over all or any part of the Tenant's Alterations. For work requiring Landlord's consent, such copies shall be provided prior to the commencement of work, or within 30 days following the completion of such work to the extent obtained during or following completion. Upon the request of Landlord or the property manager, Tenant shall provide copies of all permits and certificates issued by authorities having jurisdiction over all or any part of Minor Alterations previously performed (to the extent not already in the possession of Landlord).

Section 2: RULES AND REGULATIONS GOVERNING TENANT WORK

While carrying out work in the leased premises, the Tenant and all of its contractors, agents and employees are required to abide by the reasonable rules and regulations defined and communicated by the Landlord in advance. *Failure to comply will result in work stoppage.*

2.01 Inspection of Tenant Work in Progress

As and to the extent provided in the Lease, the Landlord and its agents, architects, engineers and consultants shall have reasonable access to the Tenant's premises for the purpose of inspecting the Tenant work in progress. If Landlord and its architects, engineers or consultants note deficiencies in the Tenant work, Tenant shall correct the same.

Contractor/Tenant must contact the appointed Property Manager to attend final inspection of work that is subject to Landlord's consent under the Lease.

2.02 Security Control

Tenant is responsible for providing its contractor's access to the Premises.

The Tenant is fully responsible for the physical security of the leased premises and the contents therein throughout the construction period.

2.03 Public Safety

It is the Tenants responsibility to ensure that the Tenant contractor observes and complies with all applicable construction safety regulations.

2.04 Emergency Contact

The Tenant and its contractor are required to post at the site the emergency contact name and telephone number with copies forwarded to Landlord.

2.05 Temporary Services

The Tenant's Contractor is responsible for the distribution of temporary power and telephone service within the leased premises during the construction period. The Tenant and Tenant's Contractor are responsible for providing operable fire extinguishers in the premises throughout the construction period. Landlord shall have no obligation to provide any services to Tenant's Contractor.

2.06 Work Areas

All construction materials, tools, equipment and workbenches must be kept within the leased premises throughout the construction period and not stored in areas outside of the building.

2.07 Waste Removal

Removal of garbage and construction debris generated by the work of a Tenant's contractor will be the total responsibility of the contractor, subject to the waste removal and recycling program of the complex, if any.

All disposals to comply with applicable law.

All cost incurred are responsibility of the Tenant and Contractor.

2.08 Drilling or Cutting

Tenant's contractor is not permitted to drill, cut or chase openings of any description in any part of the building structure without prior approval from the Landlord as and when provided under the Lease. If such work is approved by the Landlord, drilling, etc. shall be carried out by the Tenant's Landlord approved contractor at the Tenant's cost. Any work of this type may require x-ray inspection of the slab prior to drilling, which will also be at the Tenant's expense.

2.09 Welding

If pressurized gas cylinders are used for welding, cutting or other purposes, the Tenant's contractor shall ensure that their use is in accordance with requisite safety provisions and requirements. An operational fire extinguisher shall be available in the immediate vicinity of the work.

No welding or soldering on any part of a floor shall be done without knowledge of the Landlord as these activities may trigger a fire alarm. Work Permits requesting the deactivation of a floor's fire alarm system must be obtained from the Landlord.

2.10 Hot Work Permits

The Contractor is responsible for providing the required "Fire Watch" during and after the Hot Work is completed.

2.11 Wiring and Conduit

All wiring must be a minimum of #12 solid wire for runs under 75 feet and a minimum #10 solid wire for runs greater than 75 feet. Absolutely no BX cable is to be used in the electrical rooms.

All cabling and telephone type wiring used above the ceiling must be installed in conduit in accordance with the Building and Fire Codes. Conduit may not be required when cabling with FT6/IBM type 2 or 4 (fire rated) cable, if approved by the Landlord.

2.12 Smoking

There is no smoking allowed in any Oxford Property managed buildings or loading docks including the Construction areas.

2.13 PENALTIES FOR FALSE ALARMS

Tenant is responsible for all governmental penalties imposed on account of false alarms, except to the extent caused by Landlord or any of its agents or contractors or their respective employees.

Section 3: READY TO START

3.01 Are You Ready to Start Construction?

Prior to a work permit being issued by the Landlord for work requiring Landlord consent, the following items must be completed and submitted to the Landlord's Tenant Coordinator.

- Drawings, Specifications and Scope of Work as outlined within this document.
- Insurance Certificate provided on Landlord's standard form.
- Building Permit or copy of Building Permit application.
- List of Contractors and Trades to be used including contact names and phone numbers.
- Detailed Construction Schedule.
- Emergency Contact Numbers for all contractors and supervisors responsible for project.

3.02 Have You Completed Construction?

It is the tenant's responsibility to ensure the construction has been completed in accordance with this Document. The following documents must be complete and submitted to the Landlord's Tenant Coordinator for work requiring Landlord consent.

- Fire Alarm and Life Safety Verification.
- Architect's Certificate of Completion.
- Final Electrical and Mechanical engineers sign-off stating work is completed substantially in accordance with design drawings and specifications.
- Copies of all permits and certificates related to work.
- As-built Mechanical Drawings with the associated CAD disk ver. 14 or later. Disks are to be labeled as follows:
  - Indicate "As-Builts" – Mechanical
  - Name of Contractor
  - Project Name, Floor and Address
  - Project Date (Month-Year)
  - Name of Company Prepared By
- As and to the extent required by the Lease, As-built Electrical Drawings with the associated CAD disk ver. 14 or later. Disks are to be labeled as follows:
  - Indicate "As-Builts" – Electrical
  - Name of Contractor
  - Project Name, Floor and Address
  - Project Date (Month-Year)

- Name of Company Prepared By

Exhibit A

REQUIRED CONTRACTOR AND SUBCONTRACTOR INSURANCE

Certificates of Insurance

Landlord requires all contractors and subcontractors performing work at the Property to carry insurance. Property Management collects certificates of insurance, which contain information about the vendor's insurance. This insurance must meet certain minimum requirements and name Landlord, Oxford Properties Group, Arcadia Management Group, Inc., and Oxford I Asset Management US as additional insureds.

Service Contractor Certificates

The specific insurance requirements for a particular service contractor are those written into their contract with the building owner/manager or tenant, and to the extent approved by Landlord these may differ from the guidelines listed below. When determining whether or not a certificate shows coverage that meets the actual requirements for a particular service contractor, always refer to the contract wording.

The standard operating procedures require having a certificate of insurance naming Landlord, Oxford Properties Group, Arcadia Management Group, Inc., and Oxford I Asset Management US as additional insured, and having a signed contract/service agreement in place listing the insurance requirements and having an indemnification section.

General Guidelines

The following are insurance guidelines for contractors and subcontractors performing work under $20,000,000; for work in excess of such amount, the limits of liability will be subject to Landlord's reasonable approval. Landlord and Tenant shall reasonably cooperate in good faith to determine such insurance liability limits within thirty (30) days after the Effective Date.

1. **Workers Compensation:** Statutory Coverage in accordance with the laws of your state.

2. **Employers Liability:** Limits of not less than $1,000,000 each accident/occurrence, $1,000,000 each employee/disease, $1,000,000 disease/policy limit.

3. **General Liability:** Please see the chart below for General Liability per Occurrence/ General Aggregate.

   Commercial General Liability, including but not limited to comprehensive form, premises operations, explosion and collapse hazard and underground hazard, products and a minimum of twelve (12) months completed operations hazard, contractual liability on a "blanket" basis designating all written contracts related to the work, broad form property damage (including completed operations), independent contractors' protective, personal injury liability, automobile liability comprehensive form for owned, hired and non-owned vehicles, elevators and escalators hazards, and incidental medical malpractice coverage hazards, and as follows: combined single limits for (i) bodily injury and (ii) property damages, endorsed such that the policy aggregate applies to each property location where work occurs. Bodily injury shall include, without limitation, damages for care and loss of services because of bodily injury, including death at any time resulting therefrom, sustained by any person or persons. Property Damage Liability Insurance shall include, without limitation, losses due to damages to or destruction of tangible property, including loss of use of such property resulting therefrom in compliance with the amounts set forth above; Contractor shall provide X, C and U coverage if Contractor's operations involve any exposure to explosion, collapse or underground damage. Products and Completed Operations to be maintained for 3 years after final payment.

4. **Automobile Liability:** Bodily injury and property damage in an amount not less than $2,000,000 combined single limit covering all owned, non-owned, hired or leased vehicles.

5. **Excess / Umbrella Liability:** $1,000,000 in excess of the above primary Employer's Liability, General Liability, and Automobile Liability.

6. **Property:** Property Insurance will cover the physical loss, including theft, or damage to equipment, machinery, supplies or tools owned, leased, hired or borrowed by contractor, utilized or operated by contractor while performing contracted services. The valuation basis shall be "replacement cost".

7. **Professional Liability (Errors and Omissions):** If the nature of the work involves a professional liability exposure (e.g. design/build), contractor shall maintain professional liability (errors and omissions) coverage at a minimum limit of $2,000,000 or $5,000,000, depending on project size, for each claim.

8. **Contractors Pollution - Asbestos Legal Liability:** If the nature of the services performed involves pollutants or any other materials which would affect soil, water or structures, then the contractor shall maintain contractors pollution – asbestos legal liability coverage for a limit of not less than $1,000,000 each occurrence - $2,000,000 policy aggregate, including errors and omissions. However, see attached requirements for higher limits for asbestos abatement and hazardous material removal contractors.

Certificate Holders, Additional Insured's, and Additionally Insured Endorsement

Service contractors are required to add the Landlord as an additional insured with regard to the General Liability policy. An additional Additionally Insured Endorsement is required based on the required amounts contained in the Certificate of Insurance Limits chart below.

CERTIFICATE OF INSURANCE LIMITS REQUIREMENT

1. For insurance requirements for crane lifts or any special contract work; contact for the property team for specific coverage and language.

2. Commercial General Liability Coverage Required (millions, per occurrence and aggregate) is the sum of the basic coverage + excess umbrella.
   See Example for Electrical Maintenance below:

- Commercial General Liability Coverage Required = 5MM. This requirement is met by:
- General Liability each Occurrence 3MM + Excess umbrella 2MM = 5MM
- General Liability General Aggregate 3MM + Excess umbrella 2MM = 5MM

Certificate of Insurance Limits

Type of Service	General Liability Each Occurrence / General Aggregate	Employers' Liability Each Accident / Disease – Each Employee / Disease – Policy Limit	Automobile Liability Combined Single Limit	Excess / Umbrella Liability Each Occurrence / Aggregate
Alarm Systems Service and Repair	1MM / 2MM	1MM	1MM	2MM
Appliance Repair & Maintenance	1MM / 1MM	1MM	1MM	1MM
Architectural *	3MM / 3MM	1MM	1MM	2MM
Asbestos Abatement and Hazardous Material Removal ****	5MM / 5MM	1MM	1MM	10MM
Audio-Visual Equipment	1MM / 1MM	1MM	1MM	1MM
Backflow Testing	1MM/1MM	1MM	1MM	1MM
Cabling	1MM / 1MM	1MM	1MM	2MM
Carpet/Floor Finishes	1MM / 2MM	1MM	1MM	2MM
Crane/Rigging	5MM / 5MM	1MM	1MM	10MM
Custom Fabrication & Installation Millwork	1MM / 1MM	1MM	1MM	2MM
Doors & Locks	1MM / 1MM	1MM	1MM	1MM
Electrical Maintenance	3MM / 3MM	1MM	1MM	2MM
Elevator/Escalator Service & Maintenance	5MM / 5MM	1MM	1MM	10MM
Elevator interior installation	2MM / 3MM	1MM	1MM	5MM
Engineering Consulting Service*	3MM / 3MM	1MM	1MM	2MM
Fire Extinguishing in Restaurants	1MM / 1MM	1MM	1MM	2MM
Fitness Equipment Maintenance	1MM / 2MM	1MM	1MM	2MM
Garbage Removal & Disposal, incl. dumpster maintained on premises	1MM / 2MM	1MM	1MM	2MM
General Contractors	3MM / 3MM	1MM	1MM	2MM
Generator Maintenance	1MM / 3MM	1MM	1MM	2MM
Glass Repair & Maintenance	1MM / 2MM	1MM	1MM	2MM
Glass Repair & Maintenance elevated	5MM / 5MM	1MM	1MM	10MM

Type of Service	General Liability Each Occurrence / General Aggregate	Employers' Liability Each Accident / Disease – Each Employee / Disease – Policy Limit	Automobile Liability Combined Single Limit	Excess / Umbrella Liability Each Occurrence / Aggregate
Graffiti Removal	1MM / 3MM	1MM	1MM	2MM
Handyman	1MM / 1MM	1MM	1MM	2MM
Heating, Ventilation & Air Conditioning Service/install	3MM / 3MM	1MM	1MM	2MM
Insulation/Fiberglass	1MM / 3MM	1MM	1MM	2MM
Interior Design Consulting*	1MM / 2MM	1MM	1MM	2MM
Life Safety/Fire Equipment	3MM / 3MM	1MM	1MM	2MM
Life Safety/Monitoring	3MM / 3MM	1MM	1MM	2MM
Lighting re-lamping (interior)	1MM / 2MM	1MM	1MM	2MM
Elevated Lighting Maintenance	5MM /5MM	1MM	1MM	5MM
Moves/Relocations/ reconfiguration	3MM / 3MM	1MM	1MM	2MM
Office Equipment Service	1MM / 2MM	1MM	1MM	2MM
Overhead and Revolving Door	1MM / 2MM	1MM	1MM	2MM
Painting	1MM / 2MM	1MM	1MM	2MM
Parking Surface Maintenance/sweeping	2MM / 2MM	1MM	1MM	2MM
Paving and Striping	2MM / 3MM	1MM	1MM	2MM
Plumbing	3MM / 3MM	1MM	1MM	2MM
Power washing (non-elevated)	1MM / 2MM	1MM	1MM	2MM
Power washing (elevated)	5MM /5MM	1MM	1MM	5MM
Pump Maintenance	3MM / 3MM	1MM	1MM	2MM
Roofing	5MM /5MM	1MM	1MM	10MM
Signage non elevated	2MM / 2MM	1MM	1MM	2MM
Signage Elevated	5MM / 5MM	1MM	1MM	10MM
Sprinkler System Service and Repair	3MM / 3MM	1MM	1MM	2MM
Stonework/Marble/wood/ metal cleaners and refinishers Repair & Maintenance	1MM / 2MM	1MM	1MM	2MM

Type of Service	General Liability Each Occurrence / General Aggregate	Employers' Liability Each Accident / Disease – Each Employee / Disease – Policy Limit	Automobile Liability Combined Single Limit	Excess / Umbrella Liability Each Occurrence / Aggregate
Telecommunications and TV Equip. Master Wiring and Antennas (non-elevated)	3MM / 3MM	1MM	1MM	2MM
Telecommunications and TV Equip. Master Wiring and Antennas (elevated or roof)	5MM / 5MM	1MM	1MM	5MM
UPS/SEP Equipment Maintenance	3MM / 3MM	1MM	1MM	2MM
Walk Off Mat Cleaning	1MM / 1MM	1MM	1MM	2MM
Water Treatment	1MM / 2MM	1MM	1MM	2MM
Window coverings (non-elevated)	1MM / 1MM	1MM	1MM	2MM
Window Washing and Swing Station Equipment Services	5MM / 5MM	1MM	1MM	10MM

* Design and Engineering vendors must include Professional Errors and Omissions Insurance in the following amounts:
    - Architects = 5MM
    - Engineers = 5MM
    - Interior Design = 2MM (or call Risk Management if limited scope)
    - Any deviation from requested amount should be cleared through Oxford Properties Risk Management.
    - Errors & Omissions is not based on spend, but rather the scope detail (access liability), such as no structural issues and what amount of damage/cost could be sustained if done incorrectly.

This Exhibit A may be updated from time to time as may be reasonably requested by Landlord at any time after the end of the fifth (5th) Lease Year and no more frequently than once every three (3) Lease Years thereafter, but not in excess of the amounts and types of insurance then being required by landlords of buildings comparable to and in the vicinity of the Building.

EXHIBIT J

TENANT STANDARD OPERATING PROCEDURES

[Attached]

Exhibit 10.26

CERTAIN CONFIDENTIAL PORTIONS OF THIS EXHIBIT HAVE BEEN OMITTED AND REPLACED WITH "[***]". SUCH IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THIS EXHIBIT BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL.

LEASE AGREEMENT

DATED

OCTOBER 20, 2022

Between

2850 2855 & 2859 GAZELLE OWNER (DE) LLC
a Delaware limited liability company

AS LANDLORD

and

IONIS PHARMACEUTICALS, INC.,
a Delaware corporation

AS TENANT

BASIC LEASE INFORMATION

For convenience of the parties, certain basic provisions of this Lease are set forth herein, and are, together with any Exhibits and Schedules, expressly incorporated into the Lease. The provisions set forth herein are subject to the remaining terms and conditions of this Lease and are to be interpreted in light of such remaining terms and conditions.

TERMS OF LEASE	**DESCRIPTION**
"**Commencement Date**":	October 20, 2022 (i.e., upon the occurrence of "Closing," as such term is defined in that certain Purchase and Sale Agreement dated as of October 20, 2022, (the "**PSA**") between Tenant, as seller, and Landlord, as buyer).
"**Premises**":	That certain real property described on Exhibit A attached hereto and the buildings (the "**Buildings**") and other improvements thereon, located at 2850, 2855 & 2859 Gazelle Court, Carlsbad, 92010 California consisting of approximately 246,699 gross square feet, and the appurtenances thereto. The square footage of the Premises set forth above is deemed conclusive and shall not be subject to remeasurement.
"Companion Lease":	That certain lease to be executed between Landlord or its affiliate and Tenant pursuant to the PSA for certain real property located across Whiptail Loop W adjacent to the Premises (the "**Companion Premises**") and the improvements to be constructed thereon consisting of approximately 164,833 square feet, and the and the improvements thereon appurtenances thereto, as described therein.
"**Term**": (Article 1)	The period commencing on the Commencement Date and ending on the Expiration Date.
"Expiration Date"	The date that is one hundred eighty (180) months after the Commencement Date; provided, however, if Landlord, or its affiliate, and Tenant enter into the Companion Lease, the Expiration Date of this Lease shall be automatically extended to be the same date as the "Expiration Date" as defined in the Companion Lease, together with any Extension Period as to which an Extension Option is exercised under Section 1.4.

TERMS OF LEASE	DESCRIPTION
"**Escalation**": (Article 2)	The percentage of increase, if any, shown by the Consumer Price Index for All Urban Consumers U.S. City Average, All Items (base years 1982-1984 = 100) ("**Index**"), published by the United States Department of Labor, Bureau of Labor Statistics, for the month immediately preceding the Adjustment Date as compared with the Index for the month immediately preceding the Commencement Date (with respect to the first Adjustment Date), or the month immediately preceding the prior Adjustment Date (for all subsequent Adjustment Dates), but the percentage of increase shall not be less than 2.5% nor greater than 5.5%.
"**Option to Renew**": (Article 1)	Tenant shall have two (2), five year (5) options at ninety-five percent (95%) of fair market rent.
"**Base Rent**": (Article 2)	An annual amount of $15,542,037 beginning on the Commencement Date until the first Adjustment Date, and thereafter the amount calculated pursuant to Section 2.1.3.
"**Net Lease**": (Article 2)	Landlord and Tenant acknowledge and agree that this is an "absolute net lease" and that Landlord shall receive the Base Rent during the Term, free from all charges, assessments, impositions, expenses and deductions of any and every kind or nature whatsoever relating to the Premises. Landlord shall have no obligations relating to the repair, maintenance or operation of the Premises, or any part thereof. Tenant shall be solely responsible for same.
"**Purchase Option**": (Article 11)	Tenant shall have a right of first offer to purchase the entire Premises.
"**Security Deposit/Letter of Credit**": (Article 2)	Tenant shall provide a Letter of Credit equal to three (3) months of the initial Base Rent at Closing.
"**Permitted Use**": (Article 3)	Premises may be used solely for biotechnology and other life sciences uses, including research and development, laboratory, manufacturing, assembly, storage, warehousing, office and administrative uses, all of which must be ancillary to biotechnology and other life sciences uses and, in each such case, to the extent Tenant remains in compliance with current zoning for the Premises and all Applicable Laws.

TERMS OF LEASE	DESCRIPTION
"**Address of Tenant**": (Article 13)	Ionis Pharmaceuticals, Inc. 2855 Gazelle Ct. Attention: General Counsel Email: [***] With a copy to: Cooley LLP 4401 Eastgate Mall San Diego, CA 92121-1909 Attn: David L. Crawford, Esq. Email: [***]
"**Address of Landlord**": (Article 13)	c/o Oxford Property Group 125 Summer Street, 12th Floor Boston, MA 02110 United States Attn: Kristin Binck, Esq., Vice President, Legal Email: [***] With a copy to: c/o Oxford Property Group 101 Second St, Suite 300 San Francisco, CA 94105 Attn: Abby Mondani and DLA Piper LLP (US) 33 Arch Street, 26th floor Boston, MA 02110 United States Attn: John L. Sullivan, Esq. Email: [***]

TERMS OF LEASE	DESCRIPTION
	and all legal notices shall also be sent to: [***]

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LEASE AGREEMENT

This Lease Agreement (this "**Lease**"), dated _____, 2022 (the "**Effective Date**"), is made between 2850 2855 & 2859 Gazelle Owner (DE) LLC, a Delaware limited liability company ("**Landlord**"), and Ionis Pharmaceuticals, Inc., a Delaware corporation ("**Tenant**").

ARTICLE 1
LEASE OF PREMISES; TERM

1.1 Lease. Landlord hereby leases to Tenant, and Tenant hereby leases from Landlord, the Premises for the Term. Landlord and Tenant acknowledge that Tenant is in possession of the Premises as of the Commencement Date and accepts the Premises in its "as is" condition with all faults. All of the terms and covenants of this Lease shall be effective as of the Effective Date. After the Commencement Date, Tenant and Landlord shall execute, acknowledge and deliver a written agreement in the form attached hereto as Exhibit J memorializing the Commencement Date, the Expiration Date, the original Term, and the commencement and termination dates of the Extension Terms if such are exercised.

1.2 As Is; No Representations. Tenant's lease of the Premises is on an "AS IS WHERE IS" basis. Landlord has not made any representation or warranty to Tenant regarding (a) the condition or suitability of the Premises for the conduct of Tenant's business (including, without limitation, any utilities serving the Premises, any structural components of the improvements or the condition of any Building system), (b) the restrictions that may affect the conduct of Tenant's business in, or Tenant's use of, the Premises, or any other rights or benefits under this Lease, (c) the suitability of the Premises for Tenant's intended Permitted Use, or (d) compliance with Environmental Laws at the Premises or any environmental conditions at, or Hazardous Materials on, under, above, emanating to or from, or having emanated to or from, the Premises. TENANT EXPRESSLY WAIVES ANY WARRANTY OF CONDITION OR OF HABITABILITY OR SUITABILITY FOR OCCUPANCY, USE, HABITATION, FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, EXPRESS OR IMPLIED, RELATING TO THE PREMISES. Tenant assumes full responsibility for all costs and expenses required to cause the Premises to comply with all Applicable Laws. "**Applicable Laws**" means all applicable present and future federal, state, municipal and local laws, codes, ordinances, rules and regulations of governmental authorities, committees, associations, or other regulatory committees, agencies or governing bodies having jurisdiction over the Premises or any portion thereof, Landlord or Tenant, including both statutory and common law and Environmental Laws. "**Environmental Laws**" means any applicable present and future federal, state and local laws, statutes, ordinances, rules, and regulations, as well as common law, relating to protection of human health, natural resources or the environment or governing the use, transport, or disposal of biological, bio-hazardous wastes, or radiological elements. The term "Environmental Laws" includes, but is not limited to, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended ("**CERCLA**"), 42 U.S.C. §9601 et seq.; the Toxic Substance Control Act, 15 U.S.C. §2601 et seq.; the Hazardous Materials Transportation Act, 49 U.S.C. §5101 et seq.; the Resource Conservation and Recovery Act, 42 U.S.C. §6901, et seq.; the Clean Water Act, 33 U.S.C. §1251 et seq.; the Safe Drinking Water Act, 42 U.S.C. §300f et seq.; the Clean Air Act, 42 U.S.C. §7401 et seq.; Federal Water Pollution Control Act, 33 U.S.C. §§ 1251 et seq.; Clean Air Act, 42 U.S.C. §§ 7401 et seq.; Emergency Planning and Community Right-To-Know Act, 42 U.S.C. §§ 11001 et seq.; Occupational Safety and Health Act, 29 U.S.C. §§ 65 et seq.; California Labor Code §63.82, California Health and Safety Code §25249.5, et seq., and all other applicable federal, state and local laws, regulations, ordinances, rules, and orders that are equivalent or similar to the laws recited above, or otherwise relate to human health, natural resources or the environment, in each case together with their implementing regulations, guidelines, rules, or orders, and all state, regional, county, municipal, and other local laws, regulations, ordinances, rules, and orders that are equivalent or similar to the federal and state laws recited above.

1.3 Holdover. If Tenant retains possession of any portion of the Premises after the Termination Date (as hereinafter defined) without Landlord's written consent, then Landlord shall be entitled to exercise all remedies that may be available under this Lease or at law or in equity, and Tenant shall (a) be a tenant at sufferance only, (b) be liable to perform all of the obligations of Tenant set forth in this Lease, and (c) (i) for the first ninety (90) days following the Termination Date, pay Base Rent at a rate of one hundred twenty-five percent (125%) of the monthly Base Rent in effect immediately prior to the Termination Date, and (ii) for each month thereafter, pay Base Rent at a rate of one hundred fifty percent (150%) of the monthly Base Rent in effect immediately prior to the Termination Date, prorated on a daily basis. If Tenant retains possession of any portion of the Premises for more than thirty (30) days following the Termination Date without Landlord's written consent, Tenant shall also pay to Landlord all damages, direct, consequential, or indirect, sustained by Landlord by reason of any such holding over. Otherwise, such holding over shall be on the terms and conditions set forth in this Lease as far as applicable. "**Termination Date**" means the date on which this Lease terminates for any reason, including the Expiration Date. The provisions of this Section 1.3 shall not operate as a waiver by Landlord of any right of re-entry provided in this Lease.

1.4 Extension Option.

1.4.1 Exercise of Extension Option. Tenant shall have two (2) successive options (each, an "**Extension Option**") to extend the Term of this Lease for a period of five (5) years each (each, an "**Extension Period**"), on the same terms and conditions in effect under this Lease immediately prior to the Extension Period, except that Base Rent shall be determined as set forth below and Tenant shall have no further right to extend the Term of this Lease after the end of the second (2nd) Extension Period; provided, however, it shall be a condition of Tenant's exercise of the Extension Option that Tenant also exercise the corresponding "Extension Option" as defined in the Companion Lease. If Tenant exercises an Extension Option, such extension shall apply to the entire Premises. Tenant may exercise an Extension Option only by giving Landlord irrevocable and unconditional written notice thereof (the "**Extension Notice**") on or before the date which is twelve (12) months prior to the commencement date of each applicable Extension Period and such Extension Period shall commence on the day immediately succeeding the expiration date of the preceding Term or the preceding Extension Period, as the case may be, and shall end at midnight Eastern Time on the last day of the applicable Extension Period. Such exercise shall, at Landlord's election, be null and void if any Event of Default shall have occurred and is continuing at the date of such notice. Upon delivery of the Extension Notice, Tenant shall be irrevocably bound to lease the Premises for the Extension Period. If Tenant shall fail to timely exercise the Extension Option in accordance with the provisions of this Section 1.4, then the Extension Option shall terminate, and shall be null and void and of no further force and effect. If this Lease or Tenant's right to possession of the Premises shall terminate in any manner whatsoever before Tenant shall exercise the Extension Option, then immediately upon such termination the Extension Option shall simultaneously terminate and become null and void. Time is of the essence with regard to this Section 1.4.

1.4.2 Base Rent Determination. The Base Rent starting on the Commencement Date of each Extension Period and continuing for sixty (60) months thereafter will be ninety-five percent (95%) of the then-prevailing market rate for new leases for comparable life sciences office and lab space to the Premises in comparable buildings to the Buildings in the Market Area (defined below) that a willing, comparable, non-equity tenant (excluding sublease and assignment transactions) would pay, and a willing, comparable landlord would accept, at arm's length, for a similar life sciences laboratory and research space in a first-class or "Class A" property ("Fair Market Rent"); provided, however, in no event shall the Fair Market Rent rate per month for the first year of each Extension Period be less than 103% of the Base Rent rate for the last month of the immediately preceding portion of the Term. Thereafter, escalations in the Base Rent shall be established using standard market escalations in the determination of Fair Market Rent, but in no event shall escalations in Base Rent be increased by less than three percent (3%) on each annual anniversary of the Commencement Date of the Extension Term. Fair Market Rent will reflect all monetary and non-monetary considerations and other relevant factors taken into account for comparable transactions, including, without limitation, the location of the Premises, age, quality and layout of the existing improvements in the Premises, brokerage commissions, improvements paid for by tenant improvement allowances, moving allowances, and all other relevant tenant concessions. Fair Market Rent will be adjusted to take into account the size of the Premises, the length of the Extension Period, and the credit of Tenant. The term "**Market Area**" means the real estate market area that includes Carlsbad, Sorrento Valley, Sorrento Mesa, University Town Center, and Delmar Heights.

1.4.3 Fair Market Rent. Landlord will notify Tenant of its determination of the Fair Market Rent (consistent with the methodology reflected above) for the applicable Extension Period no later than ninety (90) days prior to the commencement date of the applicable Extension Period. If Tenant delivers written notice to Landlord within ten (10) business days after its receipt of Landlord's determination of Fair Market Rent whereby Tenant disagrees with Landlord's determination of the Fair Market Rent, Tenant shall include in its notice Tenant's determination of the Fair Market Rent, and Landlord and Tenant will diligently and in good-faith confer for a period of thirty (30) days thereafter (the "**Negotiation Period**") in an attempt to agree on the Fair Market Rent. If Landlord and Tenant are unable to agree on the Fair Market Rent during the Negotiation Period, then, within five (5) business days after the expiration of such period, Landlord and Tenant shall jointly appoint an independent arbitrator (the "**Arbitrator**") who shall not have previously been employed by or otherwise worked with either Landlord or Tenant with experience in real estate activities, including at least ten (10) years' experience serving as a broker, appraiser and/or attorney in leasing transactions involving commercial life sciences laboratory and research space of comparable size and Class A quality to the Premises (collectively, the "Qualifications"), which Arbitrator shall, within twenty (20) days following the Arbitrator's appointment, determine and report in writing to Landlord and Tenant the by selecting either Landlord's or Tenant's determination of the Fair Market Rent for the Extension Period, according to whichever of the applicable determinations is closer to the Fair Market Rent, as determined by the Arbitrator. If Landlord and Tenant cannot agree on the Arbitrator in accordance with the foregoing, Landlord or Tenant may apply to the American Arbitration Association to appoint the Arbitrator in accordance with the aforementioned criteria. The Arbitrator shall have no discretion other than to select Landlord's or Tenant's determination of the Fair Market Rent as aforesaid. The costs of the Arbitrator shall be shared equally by Landlord and Tenant, and each of Landlord and Tenant shall reasonably cooperate with the Arbitrator in providing documentation and any other reasonable evidence regarding how Landlord or Tenant, as applicable, arrived at its determination of the Fair Market Rent. If the Renewal Period commences prior to the final determination of the Fair Market Rent, Tenant shall pay to Landlord the monthly rate in effect immediately prior to the commencement of the applicable Renewal Period, subject to adjustment upon resolution of such dispute.

1.4.4 General. Notwithstanding any provision of this Section to the contrary, the Extension Option shall be void, at Landlord's election, if (i) Tenant is in default hereunder, after any applicable notice and cure periods have expired, at the time Tenant elects to extend the Term or at the time the Term would expire but for such extension, or (ii) any Transfer has occurred under Article 5 of the Lease (other than a Permitted Transfer, or a sublease(s) comprising less than twenty-five percent (25%) of the Premises).

ARTICLE 2
RENT

2.1 Base Rent and Additional Rent.

2.1.1 Tenant shall pay to Landlord, without notice or demand and without deduction or set-off of any amount for any reason whatsoever, the annual Base Rent in equal monthly payments on or before the first day of each full calendar month during the Term. Base Rent as well as any other amounts payable by Tenant to Landlord under the terms of this Lease shall be paid by wire or electronic transfer of funds pursuant to directions provided to Tenant by Landlord. In addition to Base Rent, Tenant shall pay to Landlord a property management fee ("**Management Fee**") of one percent 1%) of the gross annual revenue form the Premises, which amount shall be paid in equal monthly payments on the same date and in the same manner as Base Rent.

2.1.2 If the Commencement Date is not the first day of a calendar month, Tenant shall pay to Landlord on the Commencement Date the prorated Base Rent for period from the Commencement Date until the end of the calendar month in which the Commencement Date occurs. Base Rent due for any partial calendar month at the end of the Term shall also be prorated and paid on the first day of such calendar month. Tenant shall pay to Landlord all items of Rent (as defined below), without deduction or offset and without notice or demand (except as specifically provided in this Lease in respect of Additional Rent (as defined below)), and Tenant shall deliver such payments to the payment address set forth in the Basic Lease Information, or to such other person, at such other place, or in such other manner as Landlord may designate by giving to Tenant Notice (as defined below) thereof. "**Additional Rent**" means all other amounts payable by Tenant to Landlord in accordance with this Lease, other than Base Rent. "**Rent**" means all amounts payable by Tenant to Landlord in accordance with this Lease, including, but not limited to Base Rent and Additional Rent.

2.1.3 Landlord shall, on or within thirty (30) days prior to each Adjustment Date, calculate the Escalation after the United States Department of Labor publishes the Index on which the amount of the increase will be based. Landlord's determination of the Escalation shall be binding absent manifest error. Landlord shall give written notice of the Escalation, multiplied by the number of installments of rent due under this Lease since the Adjustment Date. Tenant shall pay this amount, together with the monthly rent next becoming due under this Lease, and shall thereafter pay the monthly rent due under this Lease at this increased rate, which shall constitute Base Rent. Landlord's failure to make the required calculations promptly shall not be considered a waiver of Landlord's rights to adjust the monthly Base Rent due, nor shall it affect Tenant's obligations to pay the increased Base Rent, subject to this Section 2.1.3. If Landlord does not deliver its calculation of the Escalation within twelve (12) months after the applicable Adjustment Date, Tenant may provide Landlord with a written request for the calculation of the Escalation, and, if Landlord fails to provide the calculation of Escalation (which request shall include, in bold and prominent print on the first page, a notation that "**FAILURE TO RESPOND TO THIS REQUEST WITHIN 30 DAYS MAY RESULT IN THE LOSS OF RIGHTS PURSUANT TO SECTION 2.1.3 OF THE LEASE**") within thirty (30) days after Tenant's written request, Tenant shall not be required to so pay the increased Base Rent in arrearage for the applicable period based on an Escalation; provided, however, the foregoing waiver of Tenant's obligation to pay arrearage amounts for the applicable period shall not affect Landlord's calculation of any future Escalations. If the Index is changed so that the base year differs from that in effect on the Commencement Date, the Index shall be converted in accordance with the conversion factor published by the United States Department of Labor, Bureau of Labor Statistics. If the Index is discontinued or revised during the Term, the government index or computation with which it is replaced shall be used to obtain substantially the same result as if the Index had not been discontinued or revised. The "**Adjustment Date**" means the first anniversary of the Commencement Date and on each successive anniversary thereafter during the Term, including any exercised Extension Period.

2.2 Expenses; Taxes; Insurance Expenses.

2.2.1 Expenses. Tenant shall perform all obligations with respect to the maintenance, operation, repair and replacement of the Premises and shall pay directly for all costs and expenses incurred in connection therewith, including, but not limited to: all insurance, maintenance, repair and replacement of any improvements (including, without limitation, the Buildings, the structural and nonstructural components of the Buildings, the Building systems, equipment (owned and maintained), the foundation, roof, walls, heating, ventilation, air conditioning, plumbing, electrical, mechanical, utility (owned and maintained) and safety systems, paving and parking areas, roads and driveways); maintenance of exterior areas such as gardening and landscaping, snow removal and signage; maintenance and repair of roof membrane, flashings, gutters, downspouts, roof drains, skylights and waterproofing; painting; lighting; cleaning; refuse removal; security; utilities for, or the maintenance of, outside areas; Premises personnel costs; rentals or lease payments paid by Tenant for rented or leased personal property used in the operation or maintenance of the Premises; and fees for required licenses and permits, including in order to operate for the Permitted Use. In addition to the foregoing, Tenant shall perform the work described in Exhibit I, at Tenant's sole cost and expense, within the following time periods: (i) items identified as a Repair Type "Immediate" on Exhibit I shall be completed within six (6) months after the Commencement Date and (ii) items identified as a Repair Type "Short Term" on Exhibit I shall be completed within twelve (12) months after the Commencement Date (with "replacement reserve items" to be monitored and addressed as noted).

2.2.2 Taxes. Subject to Tenant's right to contest Taxes as set forth below, Tenant will pay directly all Taxes allocable to the Term in a timely manner and prior to when the same shall become due and payable. Landlord and Tenant shall cooperate to place all Taxes in the name of Tenant, however, if and to the extent any Taxes are billed to Landlord, then Tenant shall pay the same upon receipt of such bill from Landlord and provide Landlord with evidence of such payment promptly thereafter. In any event, Tenant shall pay all Taxes prior to the date due. "**Taxes**" means all real property taxes and other assessments on the Premises, including, but not limited to, real estate taxes, personal property taxes, transfer taxes, documentary stamps or taxes, fees, assessments and other charges of any kind or nature, whether general, special, ordinary, or extraordinary (without regard to any different fiscal year used by such governmental authority) that are levied in respect of this Lease or the Premises (or Landlord's interest therein), or in respect of any improvement, fixture, equipment, or other property of Landlord, real or personal, located at the Premises, and used in connection with operation of the Premises. Tenant and Landlord acknowledge that Proposition 13 was adopted by the voters of the State of California in the June 1978 election ("**Proposition 13**") and that assessments, taxes, fees, levies and charges may be imposed by governmental agencies for such services as fire protection, street, sidewalk and road maintenance, refuse removal and for other governmental services formerly provided without charge to property owners or occupants, and, in further recognition of the decrease in the level and quality of governmental services and amenities as a result of Proposition 13, Taxes shall also include any governmental or private assessments or contribution towards a governmental or private cost-sharing agreement charged to the Premises for the purpose of augmenting or improving the quality of services and amenities normally provided by governmental agencies. Taxes shall not include (i) Landlord's corporate franchise taxes, estate taxes, inheritance taxes or net income taxes, or (ii) transfer taxes or other taxes incurred in connection with Landlord's sale of the Premises or any interest therein, other than taxes resulting from Proposition 13 reassessment. Tenant shall furnish to Landlord, within thirty (30) days after the last day when any Tax must be paid by Tenant as provided in this Section 2.2.2, official receipt of the appropriate taxing authority or other proof satisfactory to Landlord, evidencing the payment thereof. Tenant shall have the right, at Tenant's sole cost and upon reasonable prior notice to Landlord, to initiate and prosecute any proceeding for the purpose of contesting the assessed valuation of the Premises or any personal property for tax purposes in good faith; provided, that this right to contest shall not be deemed or construed to relieve, modify or extend Tenant's obligation to pay any Taxes allocable to the Term in a timely manner and prior to when the same shall become due and payable and that prior to any such contest, Tenant (a) pays the Tax under protest, (b) obtains and maintains a stay of all proceedings for enforcement and collection by posting a bond or other security required by law, or (c) if Tenant lawfully withholds payments of any contested amounts of Taxes during the contest, Tenant has or establishes unrestricted cash reserves to be held by Landlord in an amount equal to 125% of (x) the amount of Tenant's obligations being contested plus (y) any additional interest, charge or penalty arising from such contest; provided, however, that Landlord shall (1) promptly release such reserve upon resolution of such contest, and/or (2) use such reserve to pay Taxes directly to the applicable taxing authority following resolution of such contest. Tenant shall provide Landlord with all notices received or sent to the taxing authorities, as well as regular updates relating to any such contest and afford Landlord an opportunity to participate in all such proceedings. Tenant shall indemnify and defend Landlord and save Landlord harmless from all losses, judgments, costs (including without limitation, attorneys' fees), liabilities and expenses incurred in connection with such proceedings and shall, promptly after the final determination of such contest, fully pay and discharge the amounts which shall be levied, assessed, charged or imposed or be determined to be payable therein or in connection therewith, together with all penalties, fines, costs and expenses thereof or in connection therewith). Landlord shall have the right to (a) contest or dispute any Taxes (or file an appeal related thereto), without Tenant's prior written consent, at Landlord's sole cost and expense, or (b) request that Tenant contest or dispute such Taxes (or file an appeal related thereto), in which event, Tenant, in Tenant's sole discretion, may agree to contest or dispute such Taxes, at Tenant's sole cost and expense. If an Event of Default occurs or if otherwise required by any Mortgagee or lender of Landlord, Landlord, at its option, may require Tenant to make monthly estimated payments to Landlord on account of Taxes. The monthly payments shall be one twelfth (1/12th) of the amount of Taxes due for the applicable year as reasonably estimated by Landlord and shall be payable as Additional Rent on or before the first day of each month during the Term, in advance; provided, that, Landlord shall have the right to revise such estimates from time to time. So long as no Event of Default is then continuing, any amounts received by Landlord pursuant to the immediately preceding sentence shall be disbursed to Tenant by Landlord for payment to the applicable taxing authority (or paid to the applicable taxing authority directly by Landlord) when directed by Tenant, accompanied by evidence of the amount due. Upon Tenant's request, Landlord shall provide Tenant with evidence of any such payments of Taxes made directly by Landlord.

2.2.3 Landlord's Insurance. Tenant shall reimburse or, at Landlord's request, pay directly, all premiums, deductibles, and other costs incurred by Landlord in connection with obtaining and maintaining the insurance coverage described in Section 6.2.1 below (collectively, the "**Insurance Expenses**"). Tenant shall pay the Insurance Expenses no later than fifteen (15) days after demand. If an Event of Default occurs or if otherwise required by any Mortgagee or lender of Landlord, Landlord, at its option, may require Tenant to make monthly estimated payments to Landlord on account of Insurance Expenses. The monthly payments shall be one twelfth (1/12th) of the amount of Insurance Expenses due for the applicable year as reasonably estimated by Landlord and shall be payable as Additional Rent on or before the first day of each month during the Term, in advance; provided, that, Landlord shall have the right to revise such estimates from time to time. If Landlord requires monthly payments of the Insurance Expenses, Landlord will use reasonable efforts to provide a statement reconciling such payments within ninety (90) days after the end of each calendar year, and any underpayments shall paid by Tenant within fifteen (15) days after Tenant's receipt of the statement, and any overpayments shall be credited to the next payment of Rent that becomes due under the Lease.

2.3 Net Lease.

2.3.1 Absolute Triple Net Lease. It is intended by the parties that this Lease be an absolute "triple net lease," imposing upon Tenant the obligation to pay all charges of every kind and nature in connection with the use, operation, management, maintenance, repair, and occupancy of the Premises, whether or not recited herein and whether foreseeable or unforeseeable, including, but not limited to, utilities, fees, costs, real estate taxes, sales and use taxes, all operation, management, maintenance and repair costs associated with the Premises and the improvements located thereon and costs of compliance with Environmental Laws, except as expressly provided in this Lease. Tenant shall pay to Landlord, net throughout the Term, the Rent due hereunder free of any offset, abatement, or other deduction whatsoever, without notice or demand. Except to the extent due to the gross negligence or willful misconduct of, or breach of contract by, Landlord or any of Landlord's assignees, agents, servants, employees, invitees and contractors (or any of Landlord's assignees respective agents, servants, employees, invitees and contractors) (collectively, "**Landlord Parties**"; any of them, a "**Landlord Party**"), Tenant assumes the sole responsibility for the condition, use, operation, maintenance, management and compliance with Environmental Laws of the Premises, and Landlord shall have no responsibility in respect thereof and shall have no liability for damage to Tenant's personalty on any account or for any reason whatsoever. Notwithstanding the foregoing or anything to the contrary in this Lease, Tenant shall not be required to pay, or reimburse Landlord for: (i) depreciation charges, penalties, premiums, interest and principal payments on mortgages and other debt costs, ground rental payments and real estate brokerage and leasing commissions incurred by Landlord; (ii) costs incurred for Landlord's general overhead and any property or asset management fee other than as expressly set forth in this Lease; (iii) costs of selling or financing any of Landlord's interest in the Premises; (iv) costs incurred by Landlord which are reimbursed by property insurance proceeds actually received by Landlord where such proceeds result from a claim subject to the provisions of Section 6.2.3. below; and (v) reserves in excess of commercially reasonable amounts for comparable properties (and such reserves shall only be payable by Tenant if required by Landlord's lender or in accordance with commercially reasonable business practices for comparable properties).

2.3.2 Payments to Third Parties. Subject to Section 2.2.3(c) below, Landlord and Tenant recognize that there may be recurring payments to third parties, including governmental entities, for various items including inspections of storm water retention areas, inspections of pump stations, fees for storm water runoff, and assessments for maintenance and repairs under a Title Instrument (as defined below). Tenant is solely responsible for paying any fees or expenses imposed by governmental regulations or third parties, including those that may be required to obtain, modify and maintain compliance with any permits, licenses and approvals required by Applicable Laws, including for the use of and operation at the Premises by Tenant for the Permitted Use, or allocated to the Premises under any such Title Instrument. Tenant acknowledges that matters of the type contemplated by this Section may not be known to Landlord until after this Lease has been signed by Landlord and Tenant.

2.3.3 Title Instruments. In addition to the foregoing, during the term of this Lease, Tenant shall timely perform all obligations of the owner of the Premises under, and pay all expenses which the owner of the Premises may be required to pay in accordance with any declarations, covenants, conditions and restrictions or reciprocal easement agreements or any other documents or instruments that are of record now and affect the Premises (or of record in the future if created or filed by or with the consent of Tenant), including, without limitation, any documents or instruments recorded in connection with any Future Development (referred to collectively herein as the "**Title Instruments**"); provided, however, Tenant need not pay any debt service on loans that encumber the fee estate and that do not encumber Tenant's leasehold estate and Tenant need not pay any rent on any lease that is senior in priority to this Lease. Tenant promptly shall comply with all of the terms and provisions of all Title Instruments, including all insurance requirements, regardless of whether any such requirements exceed the requirements otherwise set forth in this Lease. Notwithstanding the foregoing, except as provided in Section 10.5, Landlord shall not enter into new Title Instruments or modify existing Title Instruments during the Term without Tenant's prior written consent, which may be withheld in Tenant's reasonable discretion; provided, however, that Tenant's prior written consent shall not be required with respect to (i) any financing obtained by Landlord secured by Landlord's interest in the Premises, (ii) Title Instruments necessary to effectuate transfers to third-party purchasers of the Premises, or (iii) any new Title Instruments or the modification of existing Title Instruments that do not (x) materially and adversely affect Tenant's use or occupancy of the Premises or (y) impose any fees or costs that would be payable by Tenant unless Landlord agrees to pay such fees.

2.4 Interest and Late Charge. If Tenant fails to pay Rent as and when due and such failure continues for three (3) business days following written notice from Landlord, then, together with each payment of Rent that Tenant pays to Landlord after such payment is due, Tenant shall pay to Landlord the Late Charge (as defined below) and interest calculated on the amount of such payment over the period commencing on the day immediately following the day on which such payment was due and ending on the day on which Tenant pays to Landlord such payment at the rate of the lesser of six percent (6%) over the "Prime Rate" announced from time to time by Bank of America or its successor or the maximum lawful rate of interest. Notwithstanding the foregoing, Landlord shall not be required to provide prior notice of Tenant's failure to pay Base Rent or any recurring obligation to pay Rent more than once during any twelve (12) month period, after which Tenant's failure to pay such amount shall be subject to the Late Charge and default interest provided above if Tenant fails to pay the amount when due and such failure continues for three (3) business days after the due date. "**Late Charge**" means, in respect of any such payment, five percent (5%) of such payment. In addition, Tenant shall pay to Landlord a reasonable fee for any checks returned by Tenant's bank for any reason.

2.5 Security Deposit/Letter of Credit.

2.5.1 Concurrently with Tenant's execution of this Lease, and in lieu of a cash security deposit, Tenant shall provide a letter of credit (the "**Letter of Credit**") in the amount set forth as the "Security Deposit/Letter of Credit" in the Basic Lease Information. Any cash security deposit drawn from the Letter of Credit may be mingled with other funds of Landlord and no fiduciary relationship shall be created with respect to such deposit, nor shall Landlord be liable to pay Tenant interest thereon.

2.5.2 The Letter of Credit (i) shall be irrevocable and shall be issued by a commercial bank that has a financial condition reasonably acceptable to Landlord and that is otherwise an Eligible Bank (as defined below) and has an office in San Francisco, California that accepts requests for draws on the Letter of Credit; provided, Silicon Valley Bank shall be deemed an approved issuer of the Letter of Credit so long as Silicon Valley Bank remains an Eligible Bank, (ii) shall require only the presentation to the issuer (which may be in a location other than San Francisco if permitted on the basis of a fax or electronic submittal only) a certificate of the holder of the Letter of Credit stating that Landlord is entitled to draw on the Letter of Credit pursuant to the terms of the Lease, (iii) shall be payable to Landlord or its successors in interest as the Landlord and shall be freely transferable without cost to any such successor or any lender holding a collateral assignment of Landlord's interest in the Lease, (iv) shall be for an initial term of not less than one year and contain a provision that such term shall be automatically renewed for successive one-year periods unless the issuer shall, at least forty five (45) days prior to the scheduled expiration date, give Landlord notice of such nonrenewal, (v) shall be transferrable by Landlord without any cost to Landlord or the transferee (or, if there is a transfer fee, Tenant shall pay such fee and such transfer shall not be conditioned upon payment of such fee), and (vi) shall otherwise be in form and substance reasonably acceptable to Landlord. Notwithstanding the foregoing, the term of the Letter of Credit for the final period shall be for a term ending not earlier than the date forty-five (45) days after the last day of the Term. In the event that the issuer ceases to be reasonably acceptable to Landlord, due to a deterioration in its financial condition or change in status that threatens to compromise Landlord's ability to draw on the Letter of Credit as determined in good faith by Landlord or otherwise by its failure to be an Eligible Bank, then Tenant shall provide a replacement Letter of Credit from an issuer satisfying the terms of this Section 2.5.2 within thirty (30) days after Landlord's notice of such event. "**Eligible Bank**" shall mean shall mean a commercial or savings bank organized under the laws of the United States or any state thereof or the District of Columbia and having total assets in excess of $1,000,000,000.00 that shall be a financial institution having a rating of not less than BBB or its equivalent by Standard and Poors Corporation and subject to a Thompson Watch Rating of C or better.

2.5.3 The Letter of Credit shall be held by, or for the benefit of Landlord, as security for the performance of the provisions hereof by Tenant, and if the Letter of Credit or portion thereof is applied by Landlord for the payment of any Rent or any other sum in default, then Tenant shall, upon demand therefor, restore the Letter of Credit to its original amount as provided in Section 2.5.1 above. Tenant hereby irrevocably waives and relinquishes any and all rights, benefits, or protections, if any, Tenant now has, or in the future may have under any provision of law which (i) establishes the time frame by which a landlord must refund a security deposit under a lease, or (ii) provides that a landlord may claim from a security deposit only those sums reasonably necessary to remedy defaults in the payment of rent, or to repair damage caused by a tenant or to clean the subject premises, as required and subject to the provisions of this Lease. Tenant acknowledges and agrees that (A) any statutory time frames for the return of a security deposit are superseded by the express period identified in this Section 2.5, and (B) rather than be so limited, Landlord may claim from the security deposit (i) any and all sums expressly identified in this Section 2.4, above, and (ii) any additional sums reasonably necessary to compensate Landlord for any and all losses or damages caused by Tenant's default of this Lease, including, but not limited to, all damages or rent due upon termination of this Lease.

2.5.4 Landlord shall be entitled to draw upon the Letter of Credit for its full amount or any portion thereof if (a) Tenant shall fail to perform any of its obligations under the Lease after the expiration of any applicable notice and cure period, or fail to perform any of its obligations under the Lease and transmittal of a default notice or the running of any cure period is barred or tolled by Applicable Law, or fail to perform any of its obligations under the Lease and any applicable notice and cure period would expire after the expiration of the Letter of Credit, or (b) not less than thirty (30) days before the scheduled expiration of the Letter of Credit, Tenant has not delivered to Landlord a new Letter of Credit in accordance with this Section; provided no such delivery shall be required if the Letter of Credit provides for automatic renewals in compliance with Section 2.5.2, and the issuer of the Letter of Credit has not sent a notice of non-renewal. Without limiting the generality of the foregoing, Landlord may, but shall not be obligated to, draw on the Letter of Credit from time to time in the event of a bankruptcy filing by or against Tenant and/or to compensate Landlord, in such order as Landlord may determine, for all or any part of any unpaid rent, any damages arising from any termination of the Lease in accordance with the terms of the Lease, and/or any damages arising from any rejection of the Lease in a bankruptcy proceeding commenced by or against Tenant. Landlord may, but shall not be obligated to, apply the amount so drawn to the extent necessary to cure Tenant's failure.

2.5.5 Any amount of the Letter of Credit drawn in excess of the amount applied by Landlord to cure any such failure shall be held by Landlord as a cash security deposit for the performance by Tenant of its obligations under the Lease. If Tenant shall fail to perform any of its obligations under the Lease, Landlord may, but shall not be obliged to, apply the cash security deposit to the extent necessary to cure Tenant's failure. After any such application by Landlord of the Letter of Credit or cash security deposit, as the case may be, Tenant shall reinstate the Letter of Credit to the amount originally required to be maintained under the Lease, within ten (10) business days of Landlord's demand. Provided that Tenant is not then in default under the Lease, and no condition exists or event has occurred that after the expiration of any applicable notice or cure period would constitute such a default, within forty five (45) days after the later to occur of (i) the payment of the final Rent due from Tenant or (ii) the later to occur of the Term Expiration Date or the date on which Tenant surrenders the Premises to Landlord in compliance with Section 20 of the Lease, the Letter of Credit and any cash security deposit, to the extent not applied, shall be returned to the Tenant, without interest, and Landlord, upon request, shall confirm termination of the Letter of Credit with the issuer thereof.

2.5.6 In the event of a sale of the Buildings or lease, conveyance or transfer of the Buildings, Landlord shall transfer the Letter of Credit or cash security deposit to the transferee. Upon such transfer, the transferring Landlord shall be released by Tenant from all liability for the return of such security, and Tenant agrees to look to the transferee solely for the return of said security. The provisions hereof shall apply to every transfer or assignment made of the security to such a transferee. Tenant further covenants that it will not assign or encumber or attempt to assign or encumber the Letter of Credit or the monies deposited herein as security, and that neither Landlord nor its successors or assigns shall be bound by any assignment, encumbrance, attempted assignment or attempted encumbrance.

2.5.7 Landlord and Tenant acknowledge and agree that in no event or circumstance shall the Letter of Credit, any renewal thereof or substitute therefor or the proceeds thereof be (i) deemed to be or treated as a security deposit within the meaning of California Civil Code Section 1950.7, (ii) subject to the terms of such Section 1950.7, or (iii) intended to serve as a security deposit within the meaning of such Section 1950.7. The parties hereto (A) recite that the Letter of Credit is not intended to serve as a security deposit and such Section 1950.7 and any and all other laws, rules and regulations applicable to security deposits in the commercial context ("**Security Deposit Laws**") shall have no applicability or relevancy thereto, and (B) waive any and all rights, duties and obligations either party may now or, in the future, will have relating to or arising from the Security Deposit Laws. Notwithstanding the foregoing, to the extent California Civil Code 1950.7 in any way: (a) is determined to be applicable to this Lease or the Letter of Credit (or any proceeds thereof); or (b) controls Landlord's rights to draw on the Letter of Credit or apply the proceeds of the Letter of Credit to any amounts due under this Lease or any damages Landlord may suffer following termination of this Lease, then Tenant fully and irrevocably waives the benefits and protections of Section 1950.7 of the California Civil Code, it being agreed that Landlord may recover from the Letter of Credit (or its proceeds) all of Landlord's damages under this Lease and California law including, but not limited to, any damages accruing upon the termination of this Lease in accordance with this Lease and Section 1951.2 of the California Civil Code.

ARTICLE 3
USE, COMPLIANCE WITH LAWS, HAZARDOUS MATERIALS, DOGS

3.1 Use. Tenant shall use the Premises solely for the Permitted Use, in a manner consistent with first-class life science buildings, and shall comply (and ensure that the Premises at all times comply) with all Applicable Laws. Tenant shall be solely responsible for the securing, modifying, maintaining, and compliance with any and all permits, licenses and approvals required or that may be required or otherwise in effect for the Permitted Use and under Environmental Laws in connection with Tenant's use and operation of the Premises. Tenant shall not commit, or allow to commit, any waste of or injury to the Premises or create, maintain or exacerbate any nuisance thereon or therefrom. Landlord agrees to reasonably cooperate with Tenant, at Tenant's sole cost and expense, in obtaining any permits, licenses and approvals required by Applicable Laws for the use of and operation at the Premises by Tenant for the Permitted Use, including, without limitation, by executing or joining in the execution of such applications and other documentation (the form and content of which shall be subject to Landlord's reasonable approval) in Landlord's name, solely as and because Landlord is the fee simple owner of the Premises, as may be necessary for obtaining such permits, licenses and approvals, all without cost or liability to Landlord. Tenant shall operate in a first-class manner and shall not exceed the density limit for the Buildings under Applicable Laws. Tenant shall not commit waste or cause a public nuisance.

3.2 Compliance with Applicable Laws. Tenant shall comply with all Applicable Laws and any agreements between Tenant and third parties with respect to the Premises and Tenant's operation at the Premises. It is intended that the Tenant bear the sole risk of all present or future Applicable Laws, regulations and orders affecting the Premises, and the Landlord shall not be liable for their enforcement. Should there be any material noncompliance or alleged material noncompliance by Tenant with Applicable Laws or agreements between Tenant and third parties with respect to the Premises and Tenant's operation at the Premises, Tenant shall promptly notify Landlord in writing of such actual or alleged noncompliance, which notice shall include (i) documentation that such actual or alleged noncompliance has been fully addressed and eliminated or, (ii) if such actual or alleged noncompliance has not been fully addressed and eliminated, a schedule to fully and expeditiously address and eliminate such actual or alleged noncompliance. The giving of such notice shall not relieve Tenant of any liability to Landlord or others for such actual or alleged noncompliance. To ensure Tenant's compliance with Applicable Laws and Tenant's performance of Tenant's management, repair, maintenance, and compliance obligations hereunder, upon reasonable notice to Tenant and subject to and in accordance with Applicable Laws and reasonable confidentiality requirements pertaining to Tenant's operations (provided such requirements do not impair or delay Landlord's rights under this Section), Landlord may inspect or cause non-invasive independent third party inspections of the facility and Tenant's operation to confirm compliance with Applicable Laws and Tenant's management, repair, maintenance, and compliance obligations hereunder, at Landlord's expense, except as otherwise provided in Section 3.3.7.

3.3 Hazardous Materials.

3.3.1 Tenant, and any of Tenant's assignees, sublessees, licensees, agents, servants, employees, invitees and contractors (or any of Tenant's assignees, sublessees and/or licensees respective agents, servants, employees, invitees and contractors) (collectively, "**Tenant Parties**"; any of them, a "**Tenant Party**") (a) shall not, and shall not permit at any time, the handling, use, manufacture, release, storage, or disposal of Hazardous Materials in or about any portion of the Premises in violation of Applicable Laws, (b) shall always manage, handle, use, store, and dispose of such Hazardous Materials in a safe manner, according to prudent industry practice, and in compliance with Applicable Laws, and (c) shall at all times have any and all required permits, licenses and approvals required for or in connection with, the use and handling of Hazardous Materials at the Premises and at all times be in compliance with such required permits, licenses and approvals. "**Hazardous Materials**" means (a) any and all substances (whether solid, liquid or gas) defined, listed or otherwise classified or regulated as "biological compounds", "bio-hazardous wastes", "radiological elements", "hazardous wastes," "hazardous materials," "hazardous substances," "toxic substances," "pollutants," "contaminants," "radioactive materials", "toxic pollutants", "solid wastes," or other similar designations in, or otherwise subject to regulation under Environmental Laws, and (b) any other substances, constituents or wastes that are deemed to have a negative impact on human health or the environment, whether or not naturally occurring, or that are subject to Environmental Law, now or hereafter in effect, including but not limited to (A) petroleum, (B) refined petroleum products, (C) waste oil, (D) waste aviation or motor vehicle fuel and their byproducts, (E) asbestos, (F) lead in water, paint or elsewhere, (G) radon, (H) Polychlorinated Biphenyls (PCBs), (I) urea formaldehyde, (J) volatile organic compounds (VOC), (K) total petroleum hydrocarbons (TPH), (L) benzene derivative (BTEX), (M) poly- and perfluoroalkyl substances and other emerging contaminants, and (N) petroleum byproducts. Hazardous Materials further includes flammables, explosives, corrosive materials, radioactive materials, materials capable of emitting toxic fumes, hazardous wastes, toxic wastes or materials, and other similar substances, petroleum products and derivatives, and any substance subject to regulation by or under any Environmental Law. As between Landlord and Tenant, Tenant is deemed to be the operator of the Premises, the generator of any Hazardous Materials waste present at or generated at the Premises or as part of Tenant's operations, and the owner of all Hazardous Materials at the Premises at any and all times during the Term. On or before the expiration or earlier termination of this Lease, Tenant shall remove from the Premises all Hazardous Materials introduced to the Premises by Tenant, any other Party or any other party other than Landlord during the Term of the Lease, regardless of whether such Hazardous Materials are included on the Hazardous Materials List or present at the Premises in concentrations which require removal under Applicable Laws. As used herein, the term "**Contamination**" means the presence of Hazardous Materials in the air, soil, surface and/or ground water in, on or under the Premises and/or any adjacent property at levels above those permitted by applicable Environmental Laws.

3.3.2 Landlord acknowledges that it is not the intent of this Section 3.3 to prohibit Tenant from using the Premises for the Permitted Use. Tenant may operate its business according to best industry practices so long as the use or presence of Hazardous Materials is strictly and properly monitored according to all then applicable Environmental Laws, all Hazardous Materials at the Premises are used in the operation of Tenant's business, and such use is consistent with similar first-class facilities engaged in the Permitted Use in the greater San Diego County area. Notwithstanding the foregoing, Tenant shall have no right to install any underground storage tanks at the Premises unless Landlord has given Tenant its written consent to do so, which consent may be withheld in Landlord's sole and absolute discretion. In conducting its research activities using Hazardous Materials, Tenant shall not perform work at or above the risk category Biosafety Level 3 as established by the Department of Health and Human Services publication Biosafety in Microbiological and Biomedical Laboratories (5th Edition) (as it may be or may have been further revised, the "**BMBL**") or such nationally recognized new or replacement standards as Landlord may reasonable designate, without the prior written approval of Landlord, which approval shall not be unreasonably withheld, conditioned, or delayed (and if such change in Tenant's operation requires the approval of Landlord's lender, the lender's denial of approval shall be deemed a reasonable basis for Landlord to deny its approval); provided, however, Landlord's approval of any operation above the risk category Biosafety Level 3 shall be in Landlord's sole discretion. Tenant shall comply with all applicable provisions of the standards of the BMBL to the extent applicable to Tenant's operations in the Premises.

3.3.3 As a material inducement to Landlord to allow Tenant to use Hazardous Materials in connection with its business, Tenant agrees to deliver to Landlord prior to the Commencement Date a list identifying each type of Hazardous Materials (other than ordinary office and cleaning supplies used in cleaning of the office spaces within the Building) to be brought upon, kept, used, stored, handled, treated, generated on, or released or disposed of from, the Premises and setting forth any and all governmental approvals or permits required in connection with the presence, use, storage, handling, treatment, generation, release or disposal of such Hazardous Materials on or from the Premises ("**Hazardous Materials List**"). Upon Landlord's request (not more than once per year, unless Landlord has a reasonable belief that Tenant is not in compliance with this Section 3.3, a release or threatened release of Hazardous Materials has occurred, or in connection with a sale, financing, refinancing, or recapitalization of Landlord's interest in the Premises), or any time that Tenant is required to deliver a Hazardous Materials List to any governmental authority (e.g., the fire department) or an insurer in connection with Tenant's use or occupancy of the Premises, Tenant shall deliver to Landlord a copy of such Hazardous Materials List. Tenant shall deliver to Landlord true and correct copies of the following documents (the "**Haz Mat Documents**") relating to the use, storage, handling, treatment, generation, release or disposal of Hazardous Materials prior to the Commencement Date, or if unavailable at that time, concurrent with the receipt from or submission to a governmental authority: permits; licenses, approvals; reports and correspondence; storage and management plans; notice of violations of any Applicable Laws; fire safety plans; spill response plans; plans relating to the installation of any storage tanks to be installed in or under the Premises (provided, said installation of tanks shall only be permitted after Landlord has given Tenant its written consent to do so, which consent may be withheld in Landlord's sole and absolute discretion with respect to underground storage tanks); all closure plans or any other documents required by any and all governmental authorities for any storage tanks installed in, on or under the Premises for the closure of any such tanks; and a Surrender Plan (to the extent surrender in accordance with Section 3.3.9 cannot be accomplished in three (3) months). Tenant is not required, however, to provide Landlord with any portion(s) of the Haz Mat Documents containing proprietary information of a proprietary nature that, in and of themselves, do not contain a reference to any Hazardous Materials or hazardous activities. It is not the intent of this Section to provide Landlord with information that could be detrimental to Tenant's business should such information become possessed by Tenant's competitors.

3.3.4 Except to the extent caused by the gross negligence or willful misconduct of, or breach of contract by, Landlord or Landlord Parties, Tenant releases Landlord and Landlord Parties from and agrees to indemnify, defend and hold Landlord and Landlord Parties harmless for, from and against any and all actions (including, without limitation, remedial or enforcement actions of any kind, administrative or judicial proceedings, and orders or judgments arising out of or resulting therefrom), costs, claims, damages (including, without limitation, punitive damages and damages based upon diminution in value of the Premises, or the loss of, or restriction on, use of the Premises), expenses (including, without limitation, legal, consultants' and experts' fees, court costs and amounts paid in settlement of any claims or actions), fines, forfeitures or other civil, administrative or criminal penalties, injunctive or other relief (whether or not based upon personal injury, property damage, or Contamination of, or adverse effects upon, the environment, water tables or natural resources), liabilities or losses (i) that arise prior to, during, or after the Term, as a result of the presence, suspected presence, release, or suspected release of any Hazardous Materials in or into the environment, including the air, soil, surface water, or groundwater at, on, about, under, emanating to or from, having emanated to or from, or within the Premises, or any portion thereof caused or exacerbated by, or otherwise attributable to, Tenant or any other party (other than Landlord or Landlord Parties) prior to the date that Tenant vacates the Premises in the condition required following the termination or earlier expiration of the Term, or (ii) that arise prior to, during, or after the Term, as a result of the breach by Tenant of any of its obligations under this Section 3.3, including in each case, without limitation, the cost of assessment, containment and/or removal of any such Hazardous Materials, the reasonable and necessary cost of any actions taken in response to a release of any such Hazardous Materials so that it does not migrate or otherwise cause or threaten danger to present or future public health, safety, welfare or the environment, and costs incurred to comply with Environmental Laws in connection with all or any portion of the Premises or the operation thereof (or any surrounding areas for which Tenant or Landlord has any legal liability or obligation) during the Term.

3.3.5 EXCEPT AS OTHERWISE PROVIDED FOR HEREIN, LANDLORD LEASES AND WILL LEASE, AND TENANT TAKES AND WILL TAKE, THE PREMISES IN AN ENVIRONMENTALLY "AS IS" CONDITION, AND TENANT ACKNOWLEDGES THAT LANDLORD HAS NOT MADE AND WILL NOT MAKE, NOR SHALL LANDLORD BE DEEMED TO HAVE MADE, ANY WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, WITH RESPECT TO THE ENVIRONMENTAL CONDITION OF THE PREMISES, INCLUDING ANY WARRANTY OR REPRESENTATION AS TO FITNESS OF THE PREMISES FOR ANY PARTICULAR USE OR PURPOSE, AS TO THE PRESENCE OR ABSENCE OF ANY HAZARDOUS MATERIALS, LATENT OR PATENT, ANY ENVIRONMENTAL CONDITION, KNOWN OR UNKNOWN, OR ANY AIR, SOIL, SOIL GAS, OR GROUNDWATER CONDITION, IT BEING AGREED THAT ALL RISKS AND LIABILITY INCIDENT TO ANY OF THE FOREGOING ARE TO BE BORNE BY TENANT

3.3.6 Tenant hereby represents and warrants to Landlord that (i) neither Tenant nor any of its legal predecessors has been required by any prior landlord, lender or governmental authority at any time to take remedial action in connection with Hazardous Materials contaminating the natural environment, which contamination was caused or permitted by Tenant or such predecessor or resulted from Tenant's or such predecessor's acts, omissions, or use or occupation of the property in question, and (ii) Tenant is not subject to any enforcement order issued, or regulatory proceedings or prosecution commenced, by any governmental authority in connection with the use, storage, handling, treatment, generation, release or disposal of Hazardous Materials (including, without limitation, any order related to the failure to make a required reporting to any governmental authority).

3.3.7 Upon prior notice and using reasonable efforts to coordinate with Tenant, Landlord shall have the right but not the obligation to conduct annual tests (or at any time Landlord has a reasonable belief that Tenant is not in compliance with this Section 3.3) of the Premises including, without limitation, intrusive tests of the subsurface soil and/or ground water, to determine whether any Contamination of the Premises has occurred as a result of Tenant's use or occupation. Landlord shall pay the cost of such test of the Premises; provided, however, that if such tests show any Contamination of the Premises has occurred as a result of Tenant's use or occupation, Tenant shall pay the cost of such test. In connection with such testing, upon the request of Landlord, Tenant shall deliver to Landlord or its consultant such non-proprietary information concerning the use, storage, handling, treatment, generation, release or disposal of Hazardous Materials in or about the Premises by Tenant or any Tenant Party as Landlord may reasonably request. If Contamination has occurred for which Tenant is liable under this Section 3.3, Tenant shall pay all costs to conduct such tests. Tenant shall, at its sole cost and expense, promptly and satisfactorily remediate any Contamination identified by such testing in accordance with all Environmental Laws. Landlord's receipt of or satisfaction with any environmental assessment in no way waives any rights that Landlord may have against Tenant.

3.3.8 Furthermore, upon the expiration of the Term or earlier termination of Tenant's right of possession, Tenant shall surrender the Premises to Landlord free of Hazardous Materials brought upon, kept, used, stored, handled, treated, generated in, or released or disposed of from, the Premises by any person other than Landlord (collectively, "**Tenant's Hazardous Materials**") and released of any license, clearance or other authorization or requirement of any kind required to enter into and restore the Premises issued by any governmental authority having jurisdiction over the use, storage, handling, treatment, generation, release, disposal, removal or remediation of Hazardous Materials in, on or about the Premises (collectively referred to herein as "**Hazardous Materials Clearances**"). At least three (3) months prior to the surrender of the Premises or such earlier date as Tenant may elect to cease operations at the Premises, Tenant shall deliver to Landlord a narrative description of the actions proposed (or required by any governmental authority) to be taken by Tenant in order to surrender the Premises (including any Alterations permitted by Landlord to remain in the Premises) at the expiration or earlier termination of the Term, free from any residual impact from Tenant's Hazardous Materials and otherwise released for unrestricted use and occupancy (the "**Surrender Plan**"). Such Surrender Plan shall be accompanied by a current listing of (i) all Hazardous Materials licenses and permits held by or on behalf of any Tenant Party with respect to the Premises, and (ii) all Hazardous Materials used, stored, handled, treated, generated, released or disposed of from the Premises, and shall be subject to the review and reasonable approval of Landlord's environmental consultant. In connection with the review and approval of the Surrender Plan, upon the request of Landlord, Tenant shall deliver to Landlord or its consultant such additional non-proprietary information concerning Tenant's Hazardous Materials as Landlord shall reasonably request. On or before such surrender, Tenant shall deliver to Landlord evidence that the approved Surrender Plan shall have been satisfactorily completed and Landlord shall have the right, subject to reimbursement at Tenant's expense as set forth below, to cause Landlord's environmental consultant to inspect the Premises and perform such additional procedures, including without limitation intrusive subsurface testing of soil and/or ground water, as may reasonably be deemed necessary to confirm that the Premises are, as of the effective date of such surrender or early termination of the Lease, free from any Tenant's Hazardous Materials. Tenant shall reimburse Landlord, as Additional Rent, for the actual out-of-pocket expense incurred by Landlord for Landlord's environmental consultant to review the Surrender Plan and to visit the Premises and verify satisfactory completion of the same, which cost shall not exceed $5,000 (which amount shall be increased by the same percentage as the Index as of each Adjustment Date). Landlord shall have the unrestricted right to deliver such Surrender Plan and any report by Landlord's environmental consultant with respect to the surrender of the Premises to third parties on a need-to-know basis.

3.3.9 If Tenant shall fail to prepare or submit a Surrender Plan approved by Landlord, or if Tenant shall fail to complete the approved Surrender Plan, or if such Surrender Plan, whether or not approved by Landlord, shall fail to adequately address any Tenant's Hazardous Materials in, on or about the Premises, Landlord shall have the right to take such actions as Landlord may reasonably deem appropriate to assure that the Premises are surrendered free from any Tenant's Hazardous Materials, the cost of which actions shall be reimbursed by Tenant as Additional Rent.

3.3.10 Tenant's obligations under this Section 3.3 shall survive the expiration or earlier termination of the Lease. During any period of time after the expiration or earlier termination of this Lease required by Tenant or Landlord to complete the removal from the Premises of any Hazardous Materials (including, without limitation, the release and termination of any licenses or permits restricting the use of the Premises and the completion of the approved Surrender Plan), Tenant shall continue to pay the full Rent in accordance with this Lease for any portion of the Premises not relet by Landlord in Landlord's sole discretion, which Rent shall be prorated daily.

3.4 Alterations.

3.4.1 Consent. Tenant may make any alterations, improvements, additions or changes to the Premises (collectively "Alterations") that meet all of the following criteria without first obtaining Landlord's Consent: (a) the Alterations are cosmetic, (b) the Alterations are non-structural and do not affect the mechanical systems of the Building, (c) the Alterations cost less than $1,000,000.00 per project (which amount shall be increased by the same percentage as the Index as of each Adjustment Date); and (d) after the Alterations, the Premises will continue to be used for the Permitted Use (collectively, Alterations meeting the criteria of (a)-(d), "Minor Alterations"). Any Alterations that are not Minor Alterations shall be subject to Landlord's approval, such approval not to be unreasonably withheld, conditioned or delayed. Tenant shall reimburse Landlord for any third-party expenses reasonably incurred by Landlord in connection with the review, inspection, and coordination of Tenant's plans for Alterations and Tenant's performance thereof. Notwithstanding the foregoing, Tenant shall have the right to construct the renovation of the conference center located at 2850 Gazelle Court (the "Conference Center Alterations"), at Tenant's sole cost and expense, in accordance with the plans and specifications identified on Exhibit H attached hereto (the "CCA Plans") and in accordance with all Applicable Laws, provided any modifications to the plans for the Conference Center Alterations that are not Minor Alterations, minor field work changes not requiring Tenant's approval under the applicable construction contract for such Alterations, or changes that are required to comply with applicable law, shall require, in each case, Landlord's approval, not to be unreasonably withheld, conditioned or delayed, and the Conference Center Alterations shall otherwise comply with this Section 3.4. Tenant hereby agrees to provide copies of all plans of such Alterations, regardless of whether Landlord's consent is required. Tenant shall diligently and expeditiously complete any Alterations commenced. All Alterations shall become part of the realty constituting the Premises and shall belong to Landlord and shall not be removed by Tenant. If any Alteration (other than the Conference Center Alterations) is anticipated to cost more than $1,500,000, Landlord shall have the right to require Tenant to post a performance or payment bond in connection with any work or service done or purportedly done by or for the benefit of Tenant. Tenant acknowledges and agrees that all such work or service is being performed for the sole benefit of Tenant and not for the benefit of Landlord. Landlord shall, at the time it provides its approval for a proposed Alteration, advise Tenant whether the Alteration, or any portion thereof, is a Required Removable, as defined in Section 4.2.2.

3.4.2 Liens. With respect to any Alterations, Tenant hereby agrees as follows: (a) Tenant shall not cause or permit any construction, mechanics' or other liens or encumbrances to be placed upon the Premises, or Tenant's leasehold interest hereunder, whether in connection with any work or service done or purportedly done by or for the benefit of Tenant, its subtenants, or any other party acting under or through Tenant, or otherwise, (b) Tenant shall cause all Alterations to be constructed free of all liens, in accordance with all Applicable Laws and shall, upon Landlord's request, deliver lien waivers to Landlord in the form required by Applicable Law, (c) Tenant shall pay the costs of the Alterations and so that Landlord, the Premises will be protected against any loss from any mechanic's, materialmen's, or other liens, and (d) prior to the commencement of the construction of any Alterations, Tenant shall give to Landlord evidence of the insurance required by Section 6.2.4. Notwithstanding the foregoing or anything to the contrary in this Lease, Tenant may contest any lien if (i) such lien is the subject of a bona fide dispute in which Tenant is contesting the amount or validity thereof, (ii) Tenant notifies Landlord of such dispute, and (iii) such lien is fully bonded by Tenant to the reasonable satisfaction of Landlord and any Mortgagee. Tenant shall give Landlord notice at least fifteen (15) days prior to the commencement of any work in the Premises, other than any Alterations that are purely cosmetic.

3.4.3 Requirements. Prior to starting work on any Alterations, Tenant shall furnish Landlord with two (2) complete sets of professionally prepared working drawings (which shall include any architectural, structural, electrical, mechanical, computer system wiring, and telecommunication plans, which shall all be in CAD or other electronic format if requested by Landlord), and will be consistent with the construction methods and procedures manual attached hereto as Exhibit K, as amended from time to time for the Premises (the "**Tenant Construction Manual**"); names of contractors reasonably acceptable to Landlord; required permits and approvals; and evidence of contractor's and subcontractor's insurance in amounts reasonably required by Landlord and naming as additional insureds the Landlord, the managing agent for the Premises, and such other Additional Insured Parties (as defined in Section 13) as Landlord may designate for such purposes. All Cable shall be clearly marked with adhesive plastic labels (or plastic tags attached to such Cable with wire) to show the purpose of such Cable (i) every six (6) feet in locations behind walls, beneath floors, and above ceilings (specifically including, but not limited to, the electrical room risers), and (ii) at the termination point(s) of such Cable. "**Cable**" shall mean and refer to any electronic, fiber, phone and data cabling and related equipment that is installed by or for the exclusive benefit of Tenant or any party acting under or through Tenant. Any changes to the plans and specifications, other than di minimus changes that are purely cosmetic, do not affect the Building structure or mechanical systems, and do not cause the cost of the Alterations to exceed $1,000,000 (which amount shall be increased by the same percentage as the Index as of each Adjustment Date), must also be submitted to Landlord for its approval. Prior to commencing Alterations, Tenant shall provide Landlord with a copy of the contract for the Alterations and evidence satisfactory to Landlord as to the existence of all necessary permits (to the extent not previously provided). Alterations shall be (a) constructed in a good and workmanlike manner, (b) consistent with first class standards, (c) consist of materials of a quality reasonably approved by Landlord, and Tenant shall ensure that no Alteration impairs any Building system, (d) performed by contractors or mechanics whose labor union affiliations are not incompatible with those of any workers, contractors or subcontractors who may be employed, retained or engaged by the Landlord for the development and making of any alterations at the Premises, and who are otherwise reasonably approved by Landlord, (e) in accordance with the Tenant Construction Manual, if any, and (f) designed and performed in accordance with all applicable Laws. It shall be deemed reasonable for Landlord to withhold its consent to any Alteration that adversely affects a Building's roof, structure, or systems, that is inconsistent with a first-class life science building, that results in an increase in gross floor area at the Premises or alteration of any Building footprint, that would violate any certificate of occupancy for the Buildings or any other permits or licenses relating to the Buildings, that would reduce the utility of the Premises for life sciences laboratory, research, and manufacturing purposes, or that is otherwise inconsistent with the requirements of this Section. Tenant shall reimburse Landlord for any third-party expenses incurred by Landlord in connection with the review, inspection, and coordination of Tenant's plans for Alterations and Tenant's performance thereof. Upon completion, Tenant shall furnish "as-built" plans (in CAD or other electronic format, if requested by Landlord) for Alterations, customary American Institute of Architects completion affidavits, full and final waivers of lien, any applicable certificate of occupancy for the space affected by such Alterations and other applicable municipal or local sign-offs and inspection reports, and any other items reasonably required by Landlord for closing out the particular work in question. Landlord's approval of an Alteration shall not be deemed to be a representation by Landlord that the Alteration complies with Law or will not adversely affect any Building system.

3.4.4 Construction Oversight Fee. With respect to any Alterations requiring Landlord's consent under Section 3.4.1, Tenant shall pay Landlord a construction oversight fee ("**Construction Oversight Fee**") equal to the sum of one percent (1%) of total hard and soft project costs, provided that Landlord's obligations in connection with the Alterations are limited to oversight only and not direct management of the project. The Construction Oversight Fee shall be calculated based on hard and soft project costs for the Alterations that were approved by Landlord for the portion of work that has been performed and invoiced and shall be payable monthly in arrears concurrent with the approved hard and soft project costs for the Alterations during the applicable month.

3.4.5 Completion. Upon the completion of any Alterations, Tenant shall, to the extent applicable, promptly give to Landlord (a) a reproducible copy of the "as-built" drawings of such Alterations, (b) a certificate of completion executed on behalf of Tenant's architect and/or engineering certifying completion of such Alterations in accordance with the respective plans and specifications, (c) a copy of the certificate of occupancy issued by the applicable governmental authorities with respect to such Alterations, and (d) copies of any warranties or guarantees with respect to such Alterations (and ensure that such warranties or guarantees are assignable to Landlord and/or run to both Landlord and Tenant's benefit).

3.4.6 Ownership of Alterations. Any Alterations shall belong to Tenant until the Termination Date, at which time the Alterations (other than Tenant's Trade Fixtures (as hereinafter defined)) shall belong to Landlord; provided, however, in no event shall the Alterations be removed by Tenant prior to the Termination Date, except as expressly provided herein. For purposes of this Lease, "**Trade Fixtures**" shall mean a piece of equipment placed on the Premises owned by Tenant and used in Tenant's trade or business. For the avoidance of doubt, Trade Fixtures shall not include, without limitation, Building systems and machinery, built-in cabinet work and/or lab benches, purpose-built mezzanine space, all HVAC, air handling, electrical, mechanical and plumbing equipment and related ducts, shafts, and conduits, all exterior venting fume hoods, walk-in freezers and refrigerators, clean-rooms, climatized rooms, electrical panels and power back-up distribution systems. The parties agree that Landlord will be treated for all purposes, including tax purposes, as the owner of (and will be the party entitled to claim depreciation or other cost recovery deductions for federal tax purposes with respect to) any improvements, equipment, or personal property that were paid for, or reimbursed by, Landlord, including any allowance provided by Landlord, and Tenant will be treated for all purposes, including tax purposes, as the owner of (and will be the party entitled to claim depreciation or other cost recovery deductions for federal tax purposes with respect to) any improvements to the extent that the cost for such improvements were paid for by Tenant and to the extent any such costs exceed any allowance provided by Landlord. Unless required to adopt a contrary position as a result of an administrative or judicial proceeding, the parties shall take no action inconsistent with, the intentions set forth in this paragraph. The parties will provide each other with such cooperation as is reasonably necessary to implement the intentions of this paragraph.

3.5 Jeopardy of Insurance. Tenant shall neither do nor omit to do anything that might result in the actual or threatened reduction or cancellation of or material adverse change in insurance carried by Landlord or Tenant on the Premises. If any such insurance is actually, or threatened to be, cancelled, reduced or materially adversely changed by an insurer as a result of the use or occupancy of the Premises or any article kept in or about the Premises or any act or omission of Tenant or any person for whom Tenant is in law responsible or any occupant of the Premises, and if Tenant fails to remedy the condition or the use or occupancy giving rise to such actual or threatened cancellation, reduction or change within three (3) business days after notice thereof, Landlord may, without limiting its other remedies for the default, enter upon the Premises and remedy the condition, use or occupancy giving rise to such actual or threatened cancellation, reduction or change, and Tenant shall pay to Landlord its cost of doing so within ten (10) days following invoice, plus an administrative fee equal to ten percent (10%) of such cost. Landlord shall not be liable for any damage to either the Premises or any property located on the Premises as a result of such entry.

3.6 Dogs. Tenant shall be permitted to bring a reasonable number of non-aggressive, fully domesticated, properly licensed, fully vaccinated, and well behaved dogs, kept by Tenant's employees as pets, into the Premises, provided and upon condition that: (a) all dogs shall be strictly controlled at all times, (b) dogs shall not be permitted to foul, damage or otherwise mar any part of the Buildings or Premises; and (c) while entering and exiting the Premises, all dogs shall be kept on leashes. Landlord may limit the number, weight, and breed of dogs that may be permitted in the Premises, and Landlord may implement other rules and regulations not inconsistent with this Section 3.6 that Landlord, in its sole discretion, deems reasonable or prudent. Tenant shall be responsible for any damage and additional cleaning costs and all other costs which may arise from the dogs' presence in the Buildings and on the Premises. Tenant shall be liable for, and hereby agrees to indemnify, defend and hold Landlord harmless from any and all claims arising from any and all acts (including but not limited to biting and causing bodily injury to, or damage to the property of, another lessee, sublessee, occupant, licensee, invitee, Landlord or an employee of Landlord) of, or the presence of, any dog in or about the Premises or the Buildings. Tenant shall promptly remove any dog waste and excrement from the Premises and Buildings. Dogs shall be strictly controlled and supervised at all times (including, without limitation, by being on leashes) by Tenant's employees, with no less than one (1) such employee responsible for so controlling and supervising no more than two (2) dogs apiece. Within three (3) business days following Landlord's request therefor, Tenant shall provide Landlord with reasonably satisfactory evidence showing that all current vaccinations have been received by any dogs permitted on the Premises. No dog shall be brought to the Premises if such dog is ill or contracts a disease that could potentially threaten the health or wellbeing of any person on the Premises (which diseases may include, without limitation, rabies, leptospirosis and lyme disease). Tenant shall not permit any objectionable dog related noises or odors to emanate from the Premises (as determined by Landlord in its sole discretion), and in no event shall any dog be at the Premises overnight or for any extended period of time. Tenant shall install and maintain dog waste bag dispensers in outdoor areas of the Premises, and all waste generated by any dogs in or about the Premises shall be promptly removed and disposed of (on no less than a daily basis) in trash receptacles. Any areas of the Premises affected by such waste shall be immediately cleaned and otherwise sanitized. Landlord may require Tenant to permanently ban any dog from the Premises if (i) any such dog exhibits aggressive behavior, damages or destroys property in the Premises, violates specific provisions of this Section, defecates or urinates in any non-outdoor area of the Project, or defecates in any outdoor area of the Project and Tenant fails to remove such waste in accordance with the terms of this Section, and (ii) any such dog is found by Landlord in its sole but good faith discretion to be a substantial, repeated nuisance to the Premises, and, in any such event, such substantial, repeated nuisance persists after at least two (2) written notices to Tenant from Landlord in any twelve (12) month period), then Landlord may terminate Tenant's rights under this Section. Tenant shall promptly pay to Landlord, within thirty (30) days after demand, all costs incurred by Landlord that directly result from the presence of any of dogs in the Premises. Tenant's right provided in this Section is personal only to the original named Tenant and/or any Permitted Transferee, shall not be exercisable by any other assignee, subtenant or other transferee of or successor to any portion of Tenant's interest under the Lease or to the Premises.

3.7 LEED Standards. Tenant shall ensure that the Buildings meet at least the standard for a "Gold" rating under the U.S. Green Building Council's Leadership in Energy and Environmental Design ("**LEED**") rating system for a campus consisting of multiple buildings. In connection with the foregoing, Tenant shall reasonably cooperate with Landlord in its submission of all filings to obtain and maintain Gold or better LEED rating for the Buildings as a campus. Tenant shall reimburse Landlord for the costs to obtain and maintain such Gold or better LEED rating for the Buildings as a campus in an amount not to exceed in the aggregate more than $40,000.00 annually, including any discounts and credit that may be applied to reduce such costs. Tenant shall not be responsible for any costs to obtain LEED Gold or better certification for the Conference Center, individually, in connection with the campus designation of the Buildings (it being acknowledged that Tenant's sole obligation with respect to the Conference Center Alterations, as shown in the CCA Plans, will be to meet the applicable California State and local standards for energy efficiency and environmental design). All Alterations, and any lighting installed by Tenant in the Premises, shall be designed, maintained, and installed in accordance with the requirements for LEED Gold or better campus certification, as the same may change from time to time If necessary to ensure compliance with the applicable LEED standards, Tenant further agrees to engage a qualified third party LEED or Green Globe Accredited Professional or similarly qualified professional during the design phase of any Alterations, in order to review all plans, material procurement, demolition, construction and waste management procedures to ensure they are in full conformance with the requirements to maintain the applicable LEED rating.

ARTICLE 4
REPAIR AND MAINTENANCE; SERVICES

4.1 Tenant Repair and Maintenance Obligations. The parties intend for this Lease to be absolutely triple net. Tenant shall be responsible for all repairs, replacements and maintenance of the Premises. Landlord shall have no obligation whatsoever to repair or maintain the Premises. Tenant shall repair and maintain the Premises in substantially the condition as exists as of the Effective Date of this Lease (and as it may be improved or altered thereafter), keep same in good order, condition and repair, and in compliance with Applicable Laws, ordinary wear and tear and casualty excepted, to the extent Tenant is not otherwise obligated to restore the same.

4.2 Condition of Premises on Surrender

4.2.1 Except as otherwise provided in this Section 4.2, upon the Termination Date, all Alterations (other than Tenant's Trade Fixtures) shall belong to Landlord without compensation, and title shall pass to Landlord under this Lease. On the Termination Date, Tenant shall give Landlord possession of the Premises, together with all such Alterations (other than Tenant's Trade Fixtures), in the good, broom clean condition, free of all debris, excepting only ordinary wear and tear and damage that Tenant is not required to repair or restore under this Lease. On or prior to the Termination Date, Tenant shall also (a) remove all of Tenant's furniture, Trade Fixtures, furnishings, equipment belonging to the Tenant, and other personal property (collectively, the "**Personalty**"), and (b) repair any damage caused by the removal of such Personalty. All of Tenant's Personalty not so removed by Tenant, may be removed from the Premises by Landlord and stored, at Tenant's sole risk and expense, and in any event, Landlord shall not be responsible for the value, preservation, or safekeeping thereof. Tenant shall pay to Landlord, upon demand, all reasonable expenses so incurred by Landlord, including the cost of repairing any damage caused by removal and storing such Personalty (collectively, "**Tenant's Property**"). Any such Tenant's Property not claimed by Tenant within sixty (60) days after Tenant's surrender of the Premises shall, at Landlord's option, be deemed either abandoned or conveyed by Tenant to Landlord under this Lease without further payment or credit by Landlord to Tenant. On the Termination Date, Tenant shall assign to Landlord all manufacturers' and contractors' warranties with respect to the Premises and the Alterations (including all fixtures therein or thereon but excluding Tenant's Trade Fixtures) and Tenant shall use commercially reasonable efforts obtain the consent of the issuers of such warranties (which may include, without limitation, the payment of an assignment fee), to the extent that such consent is required for the assignment to Landlord.

4.2.2 Landlord, at the time required by Section 3.4.1, by written notice to Tenant may require Tenant, at Tenant's expense, to remove any Alterations or other affixed installations that, in Landlord's reasonable judgment, are of a nature that are not customary office or life science improvements and would require removal and repair costs that are materially in excess of the removal and repair costs associated with standard improvements for the Permitted Use ("**Required Removables**"). Required Removables shall include, without limitation, internal stairways, raised floors, vaults, rolling file systems, structural alterations and modifications (including any slab penetrations) other than de minimis alterations and modifications associated with connection of other improvements to the structure of the Building or relocation of demising walls provided that the same are otherwise consistent with first class life science buildings, Tenant's signage, supplemental systems (including HVAC), vivariums, and any Cable installed by or on behalf of Tenant that is not necessary for the proper functioning of any Alterations remaining in the Premises in accordance with this Lease. Notwithstanding the foregoing, any fixtures or improvements existing within the Premises on the Effective Date, or as shown on the CCA Plans, shall not be deemed Required Removables. The Required Removables shall be removed by Tenant before the expiration or earlier termination of this Lease in accordance with Section this Section 4.2, unless otherwise directed by Landlord. Landlord shall be treated as the owner of all Alterations (but, subject to Section 4.2.1, not any of Tenant's Property, including any trade fixtures and equipment that are installed in a manner that will not damage the Premises when removed) during the term of the Lease, including for tax and depreciation purposes, but Tenant shall have the exclusive right to use the same subject to the terms of this Lease.

4.3 Services and Utilities. Landlord shall not be obligated to furnish to the Premises any services or utilities (including, without limitation, janitorial services), and Tenant shall contract directly with the providers of all services and utilities Tenant desires to receive at the Premises, at Tenant's sole cost and expense. Tenant shall have the right to add alternative electricity sources such as additional solar panels, the installation of which shall be subject to Section 3.4. Landlord is not responsible for the furnishing of, or any interruption, diminishment or termination of, services or utilities, whether due to the application of Laws, the failure of any equipment, the performance of maintenance, repairs, improvements or alterations, or utility interruptions, and no such interruption, diminishment, or termination shall render Landlord liable to Tenant, give rise to an abatement of Rent, or relieve Tenant from the obligation to fulfill any covenant or agreement. Except as expressly set forth in Article 9, below, Landlord shall in no event be required under any provision of this Lease or applicable Law to maintain or repair or to make any alterations, rebuildings, replacements, changes, additions or improvements on or off the Premises during the Term of this Lease. Tenant acknowledges that it shall be responsible for providing and procuring all other services necessary to its operations in and on the Premises. If Tenant (or any party claiming by, through or under Tenant) pays directly to the provider for any energy consumed at the Buildings, Tenant, promptly upon request, shall deliver to Landlord (or, at Landlord's option, execute and deliver to Landlord an instrument enabling Landlord to obtain from such provider) any data about consumption that Landlord, in its reasonable judgment, is required to disclose to a prospective buyer, tenant or mortgage lender under California Public Resources Code §25402.10 or any similar law. Further, Tenant hereby waives and releases its right to make repairs at Landlord's expense under Sections 1932(1), 1933(4), 1941 and 1942 of the California Civil Code or any similar or successor laws now or hereinafter in effect. At Landlord's request, Tenant shall provide Landlord information regarding Tenant's energy usage at the Premises from time to time (provided that Landlord shall hold such information confidential to the extent Landlord is not required to disclose such information pursuant to Applicable Law, nothing in this sentence being deemed to prohibit Landlord from utilizing such information to make public statements about the sustainability profile or "green" nature of Landlord, or Landlord's affiliates, properties).

ARTICLE 5
ASSIGNMENT AND SUBLETTING

5.1 General Prohibition on Transfers.

5.1.1 Transfers Generally. Tenant shall not, directly or indirectly, make a Transfer (as defined below), without Landlord's consent, except as expressly set forth in this Article 5, and any purported Transfer that does not comply with the provisions of this Article 5 shall, at Landlord's option, be deemed an Event of Default by Tenant and shall be voidable by Landlord. Tenant hereby waives the provisions of Section 1995.310 of the California Civil Code, or any similar or successor laws, now or hereinafter in effect, and all other remedies, including any right at law or equity to terminate this Lease in connection with Landlord's withholding its consent to any Transfer, on its own behalf and on behalf of the proposed transferee. Landlord shall not unreasonably withhold, condition, or delay its consent to an assignment of this Lease or any sublet of the Premises, subject to the terms and conditions of this Article 5. Without limitation, it is agreed that Landlord's consent shall not be considered unreasonably withheld if the proposed Transferee (defined below) (a) is a governmental entity, (b) is incompatible with the character of occupancy of a first class life sciences buildings, (c) is an entity with which the payment for the sublease or assignment is determined in whole or in part based upon its net income or profits, (d) would subject the Premises to a use that would: (i) involve increased personnel or wear upon the Buildings in a manner inconsistent with first-class life science buildings; (ii) require any addition to or material modification of the Premises or the Buildings in order to comply with building code or other governmental requirements; or (iii) involve a violation of the Permitted Use clauses of this Lease, or (e) if there is any other reasonable ground not stated above for withholding consent.

(a) "**Clients and Business Partners**" means persons or entities who are not employees or agents of Tenant or its Affiliates but are occupying or using portions of the Premises and are either (i) performing services for Tenant as subcontractors under Tenant's contracts, (ii) personnel employed by persons or entities for whom Tenant is performing services on a contractual basis, or (iii) personnel employed by persons or entities with whom Tenant is engaged in a joint venture or joint teaming effort.

(b) "**Office Sharing**" means the use of portions of the Premises by Clients and Business Partners, if, with respect to such Clients and Business Partners, such use is in connection with the services being provided to Tenant by the applicable Clients and Business Partners, the services being provided to the applicable Clients and Business Partners by Tenant, or the services being jointly provided by Tenant and the applicable Clients and Business Partners.

(c) "**Transfer**" means any assignment, pledge, mortgage, charge, debenture (floating or otherwise), hypothecation, encumbrance, lien attaching to, collateral assignment, or other transfer of this Lease or the leasehold created hereby, or any sublet or other transfer of any portion of the Premises, or any Interest Transfer (as defined below), in any case whether voluntarily, by operation of law, or otherwise, or permitting the Premises to be used or occupied by anyone other than Tenant.

(d) "**Transferee**" means the party to which a Transfer is made.

(e) "**Interest Transfer**" means if Tenant is a corporation, trust, partnership, limited liability company or other entity, (i) the transfer of a Controlling Interest or a majority of the voting stock, beneficial interest, partnership interests, membership interests or other ownership interests therein (whether at one time or in the aggregate) or (ii) the sale, mortgage, hypothecation, or pledge of more than 50% of Tenant's net assets. A "**Controlling Interest**" means the effective control over the management of such entity.

5.1.2 Consent Requests. If Tenant desires to effect a Transfer and such Transfer requires Landlord's consent, then Tenant shall give to Landlord Notice thereof at least thirty (30) days, but not more than sixty (60) days, prior to the proposed effective date of the Transfer, which Notice shall include (a) the name and address of the proposed Transferee, (b) the relevant terms of the Transfer, (c) copies of financial reports and other relevant financial information for the proposed Transferee, (d) information regarding the nature of the business the proposed Transferee intends to operate in the Premises and how long the proposed Transferee has operated such business, (e) a fully executed copy of the proposed assignment, sublease, or other document to be used to effect the Transfer (the "**Transfer Document**"), and (f) payment to Landlord of One Thousand and No/100 Dollars ($1,000.00) as a transfer review fee. In addition, Tenant shall reimburse Landlord for any third-party expenses reasonably incurred by Landlord in connection with the review, inspection, and coordination of Tenant's request for Landlord's consent to a Transfer, not to exceed $5,000 per request (which amount shall be increased by the same percentage as the Index as of each Adjustment Date). Landlord shall not unreasonably withhold, condition or delay its consent to a Transfer. If Landlord's consent is required with respect to a Transfer, and Landlord fails to respond to Tenant's request for consent within thirty (30) days of Tenant's request and submission of the documents required by this Section 5.1.2, Tenant may send a second written request, which request shall contain, in bold, capital letters, the following: "THIS NOTICE CONSTITUTES TENANT'S SECOND NOTICE OF ITS REQUEST FOR CONSENT TO A TRANSFER PURSUANT TO SECTION 5.1.2 OF THE LEASE; LANDLORD'S FAILURE TO RESPOND TO THIS NOTICE WITHIN FIVE (5) BUSINESS DAYS SHALL BE DEEMED LANDLORD'S CONSENT TO THE REQUESTED TRANSFER." If Landlord fails to respond to such second notice within five (5) business days of receipt, Tenant's request for the applicable Transfer shall be deemed approved. Tenant hereby waives the provisions of Section 1995.310 of the California Civil Code, or any similar or successor laws, now or hereinafter in effect, and all other remedies, including, without limitation, any right at law or in equity to terminate this Lease, on its own behalf and, to the extent permitted under all Applicable Laws, on behalf of the proposed transferee.

5.1.3 Permitted Transfer. Notwithstanding anything in this Article 5 to the contrary, Tenant may assign its interest in this Lease or sublease all or any part of the Premises (each a "**Permitted Transfer**") to a Permitted Transferee (defined below) with notice to Landlord (delivered prior to the Transfer, or in the event Tenant is prohibited from doing so by Applicable Laws or contractual obligations, then as soon as reasonably practical) but without Landlord's prior written consent; provided, that (i) with respect to a Permitted Transfer involving an assignment of this Lease, the Permitted Transferee assumes this Lease by a written assumption agreement delivered to Landlord prior to the effective date of such Permitted Transfer (unless such prior delivery is prohibited by Applicable Laws, in which event Tenant shall deliver such assumption agreement as soon as allowed), (ii) the Permitted Transferee shall use the Premises only for the Permitted Use, (iii) the use of the Premises by the Permitted Transferee shall not violate any other agreements or leases affecting the Property, (iv) the occurrence of a Permitted Transfer shall not waive Landlord's rights as to any subsequent Transfer, (v) the Permitted Transferee shall satisfy the Credit Requirement (defined below), and (vi) Tenant shall have given Landlord written notice at least thirty (30) day before such Transfer (unless such notice is prohibited by applicable Law, in which event Tenant shall give such notice within ten days following such Transfer). As used herein, (A) "**Affiliate**" means any person or entity who or which controls, is controlled by, or is under common control with Tenant, (ii) a corporation or other entity which shall be a wholly owned subsidiary of the Tenant, (iii) the parent corporation or other entity that wholly owns Tenant, or (iv) a subsidiary of such parent corporation or other entity that wholly owns Tenant, or a corporation or other entity having a majority of its ownership in common with the ownership of Tenant, or (v) a Successor corporation, limited liability company or other entity; (B) "**Successor**" means any (i) business entity in which or with which Tenant is merged or consolidated in accordance with applicable statutory provisions governing merger and consolidation of business entities, so long as Tenant's obligations under this Lease are assumed by the Successor, or (ii) the successor or surviving corporation or other entity in the event of a merger or consolidation of the Tenant with another corporation, so long as Tenant's obligations under this Lease are assumed by the Successor; (C) "**Purchaser**" means any person or entity who or which acquires all or substantially all of the assets or equity interests of Tenant; (D) "**Permitted Transferee**" means an Affiliate, Successor or Purchaser. The "**Credit Requirement**" shall be deemed satisfied if, as of the effective date of the Permitted Transfer, the resulting tenant under this Lease meets or exceeds all of following minimum criteria immediately following the Transfer: (i) cash on hand equal to at least Two Billion Dollars ($2,000,000,000) according to the Permitted Transferee's most recent financial statement, determined in accordance with generally accepted accounting principles ("**GAAP**"), (ii) outstanding debt of not more than sixty (60%) of the Permitted Transferee's available cash on hand (as determined pursuant to the foregoing subsection (i) according to the Permitted Transferee's most recent financial statement, determined in accordance with GAAP, and (iii) a market capitalization equal to at least Five Billion Three Hundred Million Dollars ($5,300,000,000).

5.2 Other Permitted Transfers.

5.2.1 Office Sharing. Notwithstanding anything in this Article 5 to the contrary, provided no Event of Default has occurred and is continuing, Tenant may, without Landlord's consent but upon at least ten (10) days' prior notice to Landlord, permit up to ten percent (10%) of the total leasable area of the Premises to be used for Office Sharing by Clients and Business Partners, without the same constituting a Transfer. Tenant agrees to notify Landlord, promptly upon Landlord's written request therefor, as to the approximate amount of Office Sharing by Clients and Business Partners and to certify to Landlord that such use or occupancy constitutes Office Sharing by Clients and Business Partners and does not constitute a sublease, assignment or other leasehold interest. Notwithstanding the foregoing, Tenant shall not have the right to engage in Office Sharing with respect to any particular Clients and Business Partners as aforesaid if such Clients and Business Partners are engaged in a business, or the Premises will be used in a manner, that is inconsistent with the Permitted Use. For purposes of this Lease, the acts or omissions of the employees or other personnel of Clients and Business Partners shall be deemed to be the acts or omissions (as applicable) of Tenant. Upon Landlord's request, Clients and Business Partners who are Office Sharing shall provide to Landlord satisfactory evidence of insurance covering their activities within the Premises.

5.3 Non-Transfers. For so long as Tenant is a corporation whose ownership equity is available through the free trade of shares of stock on nationally recognized stock exchanges or over-the-counter (OTC) markets that are subject to the oversight of the United States Securities and Exchange Commission (a "**Public Company**"), any transfer of Tenant's equity interests (or those of its Affiliates) whatsoever shall not be deemed a Transfer under this Lease and, for the avoidance of doubt, shall not require Landlord's consent.

5.4 Conditions to Effectiveness. As conditions precedent to any Transfer becoming effective and binding on Landlord:

5.4.1 except as otherwise specified herein, prior to the proposed effective date of the Transfer, Tenant shall give to Landlord a copy of the fully executed Transfer Document, which shall (i) be in form and substance reasonably acceptable to Landlord, and (ii) for an assignment of this Lease, contain Transferee's express assumption of Tenant's obligations under this Lease and waivers by Tenant, for the benefit of Landlord, of all applicable suretyship defenses (unless such prior delivery is prohibited by Applicable Laws, in which event Tenant shall deliver such documents as soon as allowed); and

5.4.2 as of the proposed effective date of the Transfer, there shall exist no Event of Default.

5.5 Miscellaneous.

5.5.1 Notwithstanding any Transfer, permitted or otherwise, including without limitation a Permitted Transfer, (a) Tenant shall not be released and shall at all times remain directly, primarily, and fully responsible and liable for the payment of Rent and for compliance with all of the other obligations to be performed by Tenant under the terms, provisions and covenants of this Lease, and (b) if any Transferee defaults under this Lease, then Landlord may proceed directly against Tenant without the necessity of exhausting remedies against such Transferee. Notwithstanding the foregoing, Tenant shall be automatically released from all liability under the Lease accruing from and after the date of a Transfer if the Transfer is a Permitted Transfer that is a merger or consolidation whereby the named Tenant herein is not the surviving entity; provided, however, as conditions of the foregoing release: (i) the surviving entity shall assume, either expressly or by operation of law, all of the obligations of the preceding entity for liabilities accruing before and after the Transfer, and (ii) the surviving entity must retain ownership of substantially all of the assets of the preceding entity.

5.5.2 Upon the occurrence of an Event of Default, if all or any portion of the Premises is then subject to one or more subleases, then Landlord, in addition to any other remedies provided in this Lease or at law or in equity, may collect directly from the subtenants under such subleases all rents due and becoming due to Tenant or a Transferee under such subleases and apply such rent against any sums due to Landlord from Tenant under this Lease, and no such collection shall be construed to constitute a novation or release of Tenant from the further performance of Tenant's obligations under this Lease.

5.5.3 Except for any Permitted Transfer, if the proposed Transfer is an assignment or a sublease of more than seventy five percent (75%) of the Premises for a term longer than seventy five percent (75%) of the then remaining Term, then Landlord shall have the right in its sole and absolute discretion to terminate this Lease by sending Tenant written notice of such termination within thirty (30) days after Landlord's receipt of Tenant's notice requesting consent to the Transfer. If Landlord elects to terminate this Lease, Tenant may withdraw its notice requesting consent to the Transfer by providing written notice within five (5) business days after Landlord's termination (with time being of the essence), in which case Landlord's termination shall be negated, and the Lease shall continue pursuant to its terms. If Landlord elects to terminate this Lease, then Tenant shall tender the Premises to Landlord in the condition required by this Lease at the end of the Term, and this Lease shall terminate, on the proposed effective date of the requested Transfer, and Tenant shall have no further obligations under this Lease except for those accruing prior to the termination date and those that, pursuant to the terms of the Lease, survive the expiration or early termination of the Lease.

5.5.4 Except for a Permitted Transfer, in the event, if any, that (i) all rent and other consideration that Tenant receives as a result of a Transfer exceeds (ii) the Rent payable to Landlord for the portion of the Premises and Term covered by the Transfer (allocated on a per square foot basis), then Tenant shall, at Landlord's election, pay to Landlord an amount equal to fifty percent (50%) of such excess, from time to time on a monthly basis upon Tenant's receipt of such excess; provided that in determining any such excess, Tenant may deduct from the excess all reasonable and customary expenses directly incurred by Tenant in connection with such Transfer, except that any construction costs incurred by Tenant in connection with such Transfer shall be deducted on a straight-line basis over the term of the applicable Transfer. If Tenant is in Default, Landlord may require that all sublease payments be made directly to Landlord, in which case Tenant shall receive a credit against Rent in the amount of Tenant's share of payments received by Landlord.

5.5.5 Without limiting Landlord's right to withhold its consent to any transfer by Tenant, and regardless of whether Landlord shall have consented to any such transfer, neither Tenant nor any other person having an interest in the possession, use or occupancy of the Premises or any part thereof shall enter into any lease, sublease, license, concession, assignment or other transfer or agreement for possession, use or occupancy of all or any portion of the Premises that provides for rent or other payment for such use, occupancy or utilization based, in whole or in part, on the net income or profits derived by any person or entity from the space so leased, used or occupied, and any such purported lease, sublease, license, concession, assignment or other transfer or agreement shall be absolutely void and ineffective as a conveyance of any right or interest in the possession, use or occupancy of all or any part of the Premises..

5.5.6 This Section 5.5 shall survive the expiration or earlier termination of this Lease.

ARTICLE 6
INDEMNIFICATION; RELEASE; INSURANCE

6.1 Indemnification and Release.

6.1.1 To the extent permitted by Applicable Law, Tenant shall protect, indemnify, release, defend and hold Landlord (and the Landlord Parties) harmless from and against any and all Claims to the extent caused by or incurred by reason of: (a) any damage to any property (including the property of Landlord), or any injury (including death) to any person, occurring in, on, or about any portion of the Premises, except to the extent caused by or arising from the gross negligence or willful misconduct of Landlord or the Landlord Parties; (b) any Alterations, work, or other thing done by Tenant or any Tenant Parties in or about any portion of the Premises, or from transactions of Tenant concerning any portion of the Premises; (c) Tenant's failure to comply with any Applicable Laws; (d) any breach or default by Tenant of any representation, covenant or other term of this Lease; provided that Tenant shall not be obligated to so indemnify Landlord to the extent any such matter arises from, or is caused by, the willful misconduct or gross negligence of Landlord or the Landlord Parties; or (e) Tenant's use and occupancy of the Premises. Tenant's agreement to indemnify, defend and hold the Landlord and the Landlord Parties (the "**Indemnitees**") harmless is conditioned upon the Indemnitees (i) providing written notice to Tenant of any claim, demand or action arising out of the indemnified activities within thirty (30) days after Landlord has actual knowledge of such claim, demand or action, provided that the failure to so notify Tenant will not relieve Tenant of its obligations hereunder except to the extent such failure has actually materially prejudiced Tenant; (ii) permitting Tenant to assume full responsibility to investigate, prepare for and defend against any such claim or demand, subject to Landlord's reasonable approval of any counsel used in the defense of such claim or demand; (iii) assisting Tenant, at Tenant's expense, in the reasonable investigation of, preparation of and defense of any such claim or demand; and (iv) not settling such claim or demand that would result in a payment in excess of $100,000 (individually or in the aggregate) without Tenants' prior written consent, which shall not be unreasonably withheld, conditioned, or delayed. "**Claims**" mean claims, demands, losses, penalties, fines, liabilities, actions (including informal proceedings), settlements, judgments, damages, reasonable costs, and reasonable expenses (including reasonable attorneys' fees and consultants' fees, court costs, and other litigation expenses) of whatever kind or nature, known or unknown, contingent or otherwise, incurred or suffered by, or asserted against, the party in question.

6.1.2 Tenant hereby releases Landlord and the Landlord Parties from any and all liability for any loss or claim, including all economic losses and all consequential and indirect losses, as a result of loss, damage or injury to the property and persons of Tenant and its employees, as a result of any occurrence in, upon or at the Premises or the occupancy or use by the Tenant of the Premises, including damage to the Building or loss of access to the Premises, whether or not such loss or claim may have arisen out of the acts, omissions or negligence of Landlord, the Landlord Parties or those for whom Landlord or the Landlord Parties are in law responsible. Except with respect to Sections 1.3 and 3.3.4, Landlord hereby releases Tenant from any and all liability for consequential or special damages, including lost profits (which shall not limit the rights and remedies of Landlord expressly provided in this Lease).

6.2 Insurance.

6.2.1 Landlord's Insurance. Landlord shall obtain and keep in force throughout the Term the following coverages in the following amounts: (a) commercial general liability insurance on an "occurrence" basis on the current ISO CG 00 01 occurrence form or its equivalent with a deductible reasonably acceptable to Landlord with a limit of not less than $5,000,000 per occurrence, (b) property damage insurance covering the core and shell of the Buildings and structural elements of other improvements situated upon the Premises on a replacement cost basis against loss or damage as provided by the standard fire and extended coverage policy, including, without limitation, earthquake and terrorism, and all other risks of direct physical loss as insured against under a special extended coverage endorsement in amounts and with a deductible determined by Landlord in its commercially reasonable discretion, (c) boiler and machinery insurance on a repair or replace basis, (d) business interruption insurance with respect to insurance required under (b) and (c) above with an indemnity period determined by Landlord, and (e) any such other insurance as Landlord's lender may require. Tenant shall provide Landlord with such information from time to time as Landlord may reasonably require in connection with Landlord's determination of the insurance required pursuant to clause (b), above.

6.2.2 Tenant's Insurance. Tenant shall procure and maintain during the Lease Term, at its sole cost and expense, a policy or policies of insurance protecting Landlord and Tenant against each of the following:

(a) Commercial general liability insurance with respect to the operations of Tenant insuring against bodily injury or death and property damage in amounts (i) not less than $10,000,000 in the aggregate,(ii) not less than $2,000,000 per occurrence and (iii) not less than $10,000,000 of excess umbrella liability insurance. Such insurance shall contain separation of insured clauses and separation of insureds, with Landlord and any third party now or hereafter providing financing to Landlord where such third party has a security interest in the Premises under such financing shall be included as additional insureds. Tenant may satisfy the foregoing limits through any combination of primary and umbrella/excess policies, provided the combined total coverage is not less than $20,000,000 in the aggregate. The amount of such commercial general liability insurance shall be increased from time to time as Landlord may reasonably determine. All such bodily injury and property damage insurance shall insure Tenant's exposure with respect to the indemnity agreement as to personal injury or property damage contained in Section 6.1 herein.

(b) Insurance covering Tenant's construction, alterations, additions or improvements permitted herein (other than the core and shell of the Buildings and structural elements of other improvements), existing tenant improvements, trade fixtures and personal property, in an amount not less than 100% of their full replacement cost from time to time during the Lease Term, providing protection on an all risk basis, including, without limitation, coverage for earthquakes, for the repair or replacement of the property damaged or destroyed.

(c) Pollution Legal Liability that provides first party coverage for clean-up costs and third party coverage for bodily injury and property damage resulting from pre-existing and future contamination conditions, of at least Five Million Dollars ($5,000,000.00) per pollution event; such coverage shall specifically include this lease as an insured contract.

(d) The minimum limits of insurance required to be carried by Tenant shall not limit Tenant's liability. All policies of insurance to be provided by Tenant shall be issued by insurance companies, with general policy holder's rating of not less than A and a financial rating of not less than Class VIII as rated in the most current available "Best's" Insurance Reports, and admitted to do business in the State of California. Such policies shall be issued in the name of Tenant, with Landlord, Landlord's managing agent, lenders, and any other party designated by Landlord ("**Additional Insured Parties**") included as an additional insured. Tenant's property insurance and any builder's risk policy carried by Tenant or its contractors shall identify Landlord or, at Landlord's direction, Landlord's lender, as a loss payee. The full replacement cost of improvements under Tenant's property insurance may be designated by Landlord in the good faith exercise of Landlord's judgment. In the event that Tenant does not agree with Landlord's designation, Tenant shall have the right to submit the matter to an insurance appraiser reasonably selected by Landlord and paid for by Tenant. The insurance appraiser shall submit a written report of his appraisal, and if said report discloses that the improvements are not insured as therein required, Tenant shall promptly obtain the insurance required. The policies provided by Tenant shall be for the mutual and joint benefit and protection of Landlord and Tenant, and certificates of insurance shall be delivered to the Landlord within ten (10) days after the Lease Commencement Date and, thereafter, within thirty (30) days after to the expiration of the term of each such policy. Upon Landlord's request, Tenant shall deliver to Landlord, in lieu of such certificates, copies of the policies of insurance required to be carried under Section 6.2.2 showing that the Additional Insured Parties are named as additional insureds (with respect to the applicable policies). Upon the expiration or termination of any such policy, renewal or additional policies shall be procured and maintained by the Tenant to provide the required coverage. All policies of insurance delivered to Landlord must contain a provision that the company writing said policy will provide Landlord with thirty (30) days' notice in writing in advance of any cancellation or lapse or the effective date of any reduction in the amounts of insurance (except in the event of non-payment of premium, in which case ten (10) days' written notice shall be given). Notwithstanding the foregoing, if the foregoing requirement that the insurance company provide prior notice to Landlord of cancellation or material change of the applicable policy cannot reasonably be obtained based on then-prevailing insurance industry practices, Tenant shall so advise Landlord of such unavailability and shall instead shall use reasonable efforts to cause its insurer to provide Landlord, and in any event Tenant shall provide Landlord with, notice of any such cancellation of any of Tenant's insurance policies. All of Tenant's commercial general liability, property damage and other casualty policies shall be written as primary policies, not contributing with and not in excess of coverage which Landlord may carry. Tenant agrees that if, after the Commencement Date, Tenant does not take out and maintain the insurance required under this Section 6.2, Landlord may (but shall not be required to) procure, and thereafter maintain, said insurance on Tenant's behalf, and any costs or expenses incurred by Landlord in connection therewith, plus an administration fee of ten percent (10%) of the cost, shall promptly be paid by Tenant to Landlord as Additional Rent.

(e) Notwithstanding anything to the contrary, Tenant's obligation to carry the insurance described in this Section 6.2.2 may be brought within the coverage of a so-called blanket policy or policies of insurance carried and maintained by the Tenant, provided that (i) Landlord will be an additional insured thereunder as its interests may appear; (ii) the coverage afforded Landlord will not be reduced or diminished by reason of the use of such blanket policy of insurance; and (iii) the requirements set forth herein are otherwise satisfied. In the event of any Claims covered by Tenant's insurance, Tenant shall, within 10 days following Landlord's written request, provide Tenant with copies of the applicable insurance policies carried by Tenant pursuant to this Lease.

6.2.3 Release of Subrogation Rights. Tenant and Landlord each hereby releases the other from liability and waives all right to recover against the other for any loss from perils insured against under their property insurance policies, including any extended coverage and special form endorsements to said policies; provided, however, this Section 6.2.3 shall be inapplicable if it would have the effect, but only to the extent that it would have the effect of invalidating any insurance coverage of Landlord or Tenant. Tenant and Landlord's property damage policies shall contain, if available, a waiver of subrogation clause.

6.2.4 Insurance for Alterations. During the performance of any Alterations by Tenant, (a) the insurance required under this Section 6.2 shall extend to all of Tenant's consultants and contractors (and subcontractors of any tier) and shall include injuries to persons and damage to property arising in connection with such Alterations and (b) Tenant shall also maintain such other insurance as Landlord may reasonably require, including all-risk builder's insurance, each of which policies shall name Landlord and Landlord's lender as additional insureds and loss payees. Tenant shall give to Landlord copies of the policies of such insurance prior to commencing construction of such Alterations.

ARTICLE 7
THIRD PARTIES

7.1 Subordination, Attornment and Non-Disturbance. This Lease shall be automatically subject and subordinate at all times to the lien of any first priority mortgages or deeds of trust on, against, or affecting any portion of the Premises, or Landlord's interest or estate in any portion of the Premises, and to all renewals, modifications, consolidations, replacements, and extensions thereof (each, a "**Mortgage**"); provided that, as a condition precedent to such subordination, Tenant must receive a fully executed subordination, non-disturbance and attornment agreement substantially in the form attached as Exhibit E hereto, or in such other commercially reasonable form as required by Landlord's Mortgagee (as hereinafter defined) (a "**SNDA**") from any current and future encumbrance holder (each, a "**Mortgagee**") with such changes as reasonably requested by Tenant. Landlord shall request a SNDA from each present and any future Mortgagee seeking to subordinate this Lease to the lien of its Mortgage and deliver the same to Tenant. In the event Mortgagee enforces it rights under the Mortgage, Tenant, at Mortgagee's option, will attorn to Mortgagee or its successor; provided, however, that, subject to the terms of any SNDA between Tenant and such Mortgagee (which shall govern in the event of any conflicts with the provisions of this Section 7.1), Mortgagee or its successor shall not be liable for or bound by (i) any payment of any Rent installment that may have been made more than thirty (30) days before the due date of such installment, (ii) any act or omission of or default by Landlord under this Lease (but Mortgagee, or such successor, shall be subject to the continuing obligations of landlord under the Lease arising from and after such succession, but only to the extent of Mortgagee's, or such successor's, interest in the Premises as provided in Article 12), (iii) any then-exercisable credits, claims, setoffs or defenses that Tenant may have against Landlord, or (iv) any obligation to provide tenant improvements allowances or perform tenant improvements to be provided by Landlord hereunder.

7.2 Mortgagee's Right to Cure. Notwithstanding anything to the contrary in this Lease, before exercising any right (a) of offset, counterclaim, reduction, deduction, or abatement against Tenant's payment of Rent under this Lease or (b) to terminate the Lease or to claim a partial or total eviction, in each case arising from Landlord's default under this Lease, (i) Tenant shall provide to each Mortgagee whose name and address has been furnished in writing to Tenant with written notice of the default by Landlord giving rise to same, and (ii) Mortgagee shall have a period of thirty (30) days after the last date on which Landlord could have cured such default within which such Mortgagee will be permitted, but not be obligated, to cure such default. If such default cannot be cured within such thirty-(30)-day period, then such Mortgagee shall have such additional time as may be necessary to cure such default, if prior to the end of such thirty-(30)-day period such Mortgagee has commenced and is diligently pursuing such cure or the remedies under the Mortgage necessary for Mortgagee to be able to effect such cure, in which event Tenant shall have no right with respect to such default while such cure and remedies are being diligently pursued by such Mortgagee. Notwithstanding the foregoing, such Mortgagee shall have no obligation to cure (and shall have no liability or obligation for not curing) any default by Landlord. In addition, as to any default by Landlord the cure of which requires possession and control of the Premises, provided that such Mortgagee undertakes by written notice to Tenant to exercise reasonable efforts to cure or cause to be cured by a receiver such default within the period permitted by this Section 7.2, such Mortgagee's cure period shall continue for such additional time as such Mortgagee may reasonably require to either: (A) obtain possession and control of the Premises with due diligence and thereafter cure the default with reasonable diligence and continuity; or (B) obtain the appointment of a receiver and give such receiver a reasonable period of time in which to cure the default.

7.3 Sale of the Premises. Subject to the provisions of Article 11, if Landlord sells or conveys the Premises, such sale or conveyance shall release Landlord from any liability from and after such sale or conveyance upon any of the covenants or conditions, expressed or implied, contained in this Lease in favor of Tenant (to the extent such liability is expressly assumed by such transferee), and in such event, Tenant agrees to look solely to the successor-in-interest of Landlord in and to this Lease with respect to such liabilities that are incurred from and after such sale or conveyance. In the event Landlord enters into a purchase and sale agreement for the sale or conveyance of the Premises, in the event such purchaser is an entity engaged primarily in the business of research, development, manufacturing, sale, or marketing of a biopharmaceutical product (a "**Pharma Competitor**"), then the Pharma Competitor shall execute a non-disclosure and confidentiality agreement substantially in the form attached hereto as Exhibit F; provided, however, that Tenant shall negotiate in good faith in the event the Pharma Competitor wishes to deviate from the form attached as Exhibit F. Except as set forth in this Section 7.3, this Lease shall not be affected by any such sale or conveyance and Tenant agrees to attorn to the purchaser or assignee. Landlord shall transfer or deliver the Security Deposit to Landlord's successor-in-interest and thereupon Landlord shall be discharged from any further liability with regard thereto.

7.4 Estoppel Certificates. Within ten (10) business days after Landlord's written request, Tenant shall execute and deliver to Landlord and any of Landlord's then existing or prospective lenders, investors, or purchasers of any portion of the Premises, a certificate substantially in the form attached as Exhibit C, or in such other commercially reasonable form and containing such other information as Landlord or any such lenders, investors, or purchasers, may reasonably require. Any certificate delivered in accordance with this Section 7.4 may be relied upon by any such lender, investor, or purchaser. Within ten (10) business days after Tenant's request, Landlord shall execute and deliver to Tenant and any of Tenant's then existing or prospective lenders, investors, or purchasers, a statement in writing certifying that Tenant is in possession of the Premises under the terms of this Lease, that this Lease is unmodified and in full force and effect (or, if there have been modifications, that this Lease is in full force and effect, as modified, and setting forth such modifications), stating the dates to which rent has been paid, and either stating that no defaults exist hereunder, or specifying each such default of which Landlord may have knowledge, and such other matters as may be reasonably requested by Tenant.

7.5 Liens. Tenant shall, within fifteen (15) business days of written notice of filing, discharge (either by payment or by filing of the necessary bond, insure over, or otherwise) any mechanic's, materialman's or other lien or encumbrance against any portion of the Premises that arises out of any payment due for, or purported to be due for, any labor, services, materials, supplies or equipment alleged to have been furnished to or for Tenant. If Tenant shall fail to so discharge such lien or encumbrance (either by payment or by filing of the necessary bond, insure over or otherwise) then, such failure shall be an Event of Default under this Lease and, in addition to any other right or remedy of Landlord, Landlord may discharge the same (either by payment or by filing of the necessary bond or otherwise), and any payment, costs and expenses incurred by Landlord in connection therewith, including reasonable attorneys' fees, shall be repaid together with interest thereon at the rate set forth in Section 2.3 from the date of payment. Notwithstanding the foregoing or anything to the contrary in this Lease, Tenant may contest any lien (and Landlord shall not discharge such lien at Tenant's expense for so long as Tenant is diligently pursuing such contest) if (i) such lien is the subject of a bona fide dispute in which Tenant is contesting the amount or validity thereof, (ii) Tenant notifies Landlord in writing of such dispute, (iii) Tenant has or establishes unrestricted cash reserves to in an amount equal to 125% of (x) the amount of Tenant's obligations being contested plus (y) any additional interest, charge or penalty arising from such contested lien and (iv) such lien is fully bonded by Tenant to the reasonable satisfaction of Landlord and any Mortgagee.

ARTICLE 8
EVENTS OF DEFAULT & REMEDIES

8.1 Events of Default. "**Event of Default**" means any of the following:

(a) Tenant fails to pay when due any Rent, and such failure continues for five (5) business days after Landlord delivers to Tenant notice thereof; provided, however, Landlord shall not be required to provide prior notice of Tenant's failure to pay any recurring obligation to pay any Base Rent or any monthly payment of estimated Taxes or Insurance Expenses more than twice during any twelve (12) month period, after which Tenant's failure to pay such amount shall be an Event of Default if Tenant fails to pay the amount when due and such failure continues for five (5) business days after the due date;

(b) except as otherwise provided in this Lease, Tenant fails to comply with any term, provision, or covenant of this Lease and such failure continues for thirty (30) days after Landlord gives to Tenant Notice thereof (but if such failure is curable but cannot reasonably be cured during such 30-day period, and if Tenant has commenced such cure promptly and in any case within such 30-day period and thereafter has diligently pursued such cure to completion, then such 30-day period shall be extended to ninety (90) days);

(c) Tenant fails to obtain and keep in force at all times any insurance required under this Lease, and such failure continues for five (5) days after Landlord gives to Tenant Notice thereof;

(d) Tenant fails to deliver to Landlord, within fifteen (15) business days after Landlord gives Tenant Notice thereof, any instrument or assurance required under this Lease;

(e) The filing by Tenant in any court pursuant to any statute or petition in bankruptcy or insolvency or for reorganization or arrangement for the appointment of a receiver or all of a portion of Tenant's property the filing against Tenant of any such petition, or the commencement of a proceeding for the appointment of a trustee, receiver or liquidator for Tenant, or of any property of Tenant, or a proceeding by any governmental authority for the dissolution or liquidation of Tenant, if such proceeding shall not be dismissed or trusteeship discontinued within sixty (60) days of commencement of such proceeding or the appointment of such trustee or receiver; or the making by Tenant of an assignment for the benefit of creditors. Tenant hereby stipulates to the lifting of the automatic stay in effect and relief from such stay for Landlord in the event Tenant files a petition under the United States Bankruptcy Laws, for the purpose of landlord pursuing its rights and remedies against Tenant;

(f) Tenant's failure to cause to be released any mechanics liens filed against the Premises within twenty (20) days after the date Tenant is notified that the same shall have been filed or recorded, subject to Tenant's right to dispute liens as set forth in Section 7.5;

(g) Abandonment of the Premises pursuant to California Civil Code Section 1951.3, or failure by Tenant or a transferee permitted pursuant to Article 5 to occupy at least sixty percent (60%) of the Premises for a period of ninety (90) consecutive days or more for any reason other than restoration following a casualty or condemnation, Force Majeure affecting Tenant's ability to operate within the Premises, and temporary cessations in order to complete Alterations in accordance with this Lease, provided that it shall not be deemed to be a failure to occupy for purposes of this clause (ii) if the applicable portion of the Premises remains fully furnished with the necessary equipment to conduct business operations consistent with the Permitted Use as it was undertaken prior to such failure to occupy, with regular repair, maintenance, and cleaning occurring in accordance with the terms of this Lease, no other Event of Default has occurred, and Tenant is actively marketing the applicable portion of the Premises for sublease (or marketing this Lease for assignment);

(h) Tenant's failure to provide a SNDA within the period required by Section 7.1 or Tenant's failure to provide a certificate within the time period required by Section 7.4 and such failure continues for five (5) business days after Landlord delivers to Tenant notice thereof;

(i) Tenant performs a Transfer in violation of Article 5, or

(j) If Landlord elects, in its sole discretion, the occurrence of any "Event of Default" under the Companion Lease.

8.2 Remedies.

8.2.1 Upon Event of Default. Upon the occurrence of any Event of Default, Landlord shall have the option to pursue any one or more of the following remedies without any Notice or demand whatsoever (except as expressly provided herein), concurrently or consecutively and not alternatively (in addition to any other remedies available to Landlord at law or in equity), all of which remedies shall be distinct, separate and cumulative:

(a) Termination. Landlord may terminate this Lease upon notice to Tenant, in which event Tenant shall vacate the Premises immediately and deliver possession of the Premises to Landlord in the condition which Tenant is required to surrender the Premises at the expiration of the Term (Tenant hereby waives, relinquishes and releases for itself and for all those claiming under Tenant any right of occupancy of the Premises following termination of this Lease, and any right to redeem or reinstate this Lease by order or judgment of any court or by any legal process or writ under Applicable Laws, including, without limitation, California Code of Civil Procedure Sections 473 and 1179, and California Civil Code Section 3275), and if Tenant fails to do so, then Landlord may, after due process of law, enter upon and take possession of the Premises, and expel or remove Tenant and any other person who may be occupying the Premises or any portion thereof, without being liable for prosecution or any claim or damages therefor. Upon termination of the Lease as provided in this Section, Landlord may recover from Tenant the following: (i) the worth at the time of award of any unpaid rent which has been earned at the time of such termination; plus (ii) the worth at the time of award of the amount by which the unpaid rent which would have been earned after termination until the time of award exceeds the amount of such rental loss that Tenant proves could have been reasonably avoided; plus (iii) the worth at the time of award of the amount by which the unpaid rent for the balance of the Term after the time of award exceeds the amount of such rental loss that Tenant proves could have been reasonably avoided; plus (iv) any other amount necessary to compensate Landlord for all the detriment proximately caused by Tenant's failure to perform its obligations under this Lease or which in the ordinary course of things would be likely to result therefrom, specifically including but not limited to, attorneys' fees, brokerage commissions and advertising expenses incurred, expenses of remodeling the Premises or any portion thereof for a new tenant, whether for the same or a different use, and any special concessions made to obtain a new tenant; plus (v) at Landlord's election, such other amounts in addition to or in lieu of the foregoing as may be permitted from time to time by Applicable Law. The term "rent" as used in this Section 8.2.1(a) shall be deemed to be and to mean all sums of every nature required to be paid by Tenant pursuant to the terms of this Lease, whether to Landlord or to others, including, without limitation, late charges and interest. As used in Sections 8.2.1(a)(i) and (ii), the "worth at the time of award" shall be computed by allowing interest at the rate set forth in Section 2.4 above, but in no case greater than the maximum amount of such interest permitted by Applicable Law. As used in Section 8.2.1(a)(iii), the "worth at the time of award" shall be computed by discounting such amount at the discount rate of the Federal Reserve Bank of San Francisco at the time of award plus one percent (1%). Landlord shall have no obligation to relet the Premises or any part thereof and shall in no event be liable for failure to relet the Premises or any part thereof, or, in the event of any such reletting, for refusal or failure to collect any rent due upon such reletting. No such refusal or failure shall operate to relieve Tenant of any liability under this Lease. Tenant shall instead remain liable for all unpaid Rent and for all such expenses. This paragraph is expressly intended to afford Landlord the remedies provided for in California Civil Code § 1951.2.

(c) Possession. Landlord may re-enter the Premises without terminating this Lease by Notice to Tenant and sublet the whole or any part thereof for the account of Tenant upon as favorable terms and conditions as the market will allow; provided, however, that Tenant shall have not less than thirty (30) days following such re-entry to remove Tenant's Personalty from the Premises. In the latter event (a) Landlord shall have the right to collect any Rent which may thereafter become due and payable under such sublease and to apply the same first, to the payment of any expenses incurred by Landlord in dispossessing Tenant and in subletting the Premises, and second, to the payment of the Rent herein reserved and to the fulfillment of Tenant's other covenants hereunder, and (b) Tenant shall be liable for amounts equal to the Rent as the same would under the terms of this Lease become due, less any amounts actually received by Landlord and applied on account of Rent as aforesaid. Landlord shall have the remedy described in California Civil Code Section 1951.4 (lessor may continue lease in effect after lessee's breach and abandonment and recover rent as it becomes due, if lessee has the right to sublet or assign, subject only to reasonable limitations). Accordingly, if Landlord does not elect to terminate this Lease due to any Event of Default, Landlord may, from time to time, without terminating this Lease, enforce all of its rights and remedies under this Lease, including, without limitation, the right to recover all Rent as it becomes due.

(d) Subleases of Tenant. Whether or not Landlord elects to terminate this Lease, Landlord may terminate any and all subleases or other consensual arrangements for possession or occupancy of the Premises entered into by Tenant or any subtenant of Tenant, or may succeed to Tenant's or Tenant's subtenant's interest in such subleases or other arrangements. If Landlord elects to succeed to Tenant's or Tenant's subtenant's interest in any such subleases or other arrangements, then as of the date of Notice by Landlord of such election (i) Tenant shall have no further right to, or interest in, the rent or other consideration receivable thereunder, and (ii) any sublessee or other occupant of the Premises shall attorn to and recognize Landlord as its landlord.

(e) Right to Perform Tenant's Covenants. If Tenant shall at any time fail to pay any Taxes or to take out, pay for, maintain or deliver any of the insurance provided for in this Lease, or shall fail to make any other payment or perform any obligation under this Lease, and such failure continues beyond applicable notice and cure periods (or without any notice and right to cure where required to protect life or property), then Landlord may, without waiving or releasing Tenant from any obligations of Tenant in this Lease contained, pay any such Tax, effect any such insurance coverage and pay premiums therefor, and make any other payment or perform any other act which Tenant is obligated to perform under this Lease, in such manner and to such extent as Landlord shall, in its sole discretion, deem necessary. In exercising any such rights, Landlord may pay necessary and incidental costs and expenses including reasonable attorneys' fees. All sums so paid by Landlord and all necessary and incidental costs and expenses in connection with the performance of any such act by Landlord, together with interest thereon at the Interest Rate, shall be payable to Landlord on demand. If Landlord incurs any third-party expenses to cure a breach of any non-monetary obligation of Tenant, Tenant shall also pay an administrative charge equal to ten percent (10%) of the cost of the work performed by Landlord. Landlord shall have no obligation to perform on Tenant's behalf and if Landlord does so, Landlord shall not be liable to Tenant for any damage resulting from its actions.

(f) Other Remedies. In addition to the remedies set forth in this Lease, Landlord shall have all other remedies provided by law or statute to the same extent as if fully set forth herein word for word (including, without limitation, the right to enforce Tenant's specific performance of each and every covenant, condition and other provisions of this Lease). No remedy herein conferred upon, or reserved to Landlord shall exclude any other remedy herein or by law provided, but each shall be cumulative.

8.2.2 Form of Payment Following Event of Default. Following the occurrence of a monetary Event of Default, Landlord shall have the right to require that any or all subsequent amounts paid by Tenant to Landlord under this Lease, whether relating to the Event of Default in question or otherwise, be paid in the form of wire transfer or immediately available funds, or by other means approved by Landlord, notwithstanding any prior acceptance by Landlord of payments from Tenant in any different form.

8.2.3 Mitigation of Damages. Except as required by law, Landlord shall have no obligation to mitigate its damages. If Landlord is required by law to mitigate its damages under this Lease, then (a) Landlord shall be required only to use reasonable efforts to so mitigate, which shall not exceed such efforts as commercial landlords generally use to lease similar premises in the vicinity of the tri-city area (Oceanside, Carlsbad and Vista) of the State of California; (b) Landlord shall not be deemed to have failed to so mitigate if Landlord leases less than all of the Premises; and (c) Landlord's failure to so mitigate shall only reduce the Rent to which Landlord is entitled. Tenant acknowledges that Landlord's rejection of a prospective replacement tenant based on an offer of rentals below published rates for new leases of similar premises in the vicinity of the tri-city area (Oceanside, Carlsbad and Vista) of the State of California at the time in question, or containing terms less favorable than those contained herein, shall not give rise to a claim by Tenant that Landlord failed to so mitigate.

8.2.4 Waiver of Right of Redemption. Tenant (for itself and all others claiming through Tenant) irrevocably waives and releases any rights under any law now or hereafter existing to redeem or reinstate this Lease or Tenant's right of occupancy of the Premises after termination of this Lease, including, without limitation, any and all rights conferred by Section 3275 of the Civil Code of California and by Sections 1174(c) and 1179 of the Code of Civil Procedure of California..

8.2.5 Reimbursement of Expenses. In the case of termination of this Lease pursuant to this Section 8.2, Tenant shall reimburse Landlord for all expenses arising out of such termination, including without limitation, all costs incurred in collecting amounts due from Tenant under this Lease (including legal fees, costs of litigation and the like); all expenses incurred by Landlord in attempting to relet the Premises or parts thereof (including advertisements, brokerage commissions, Tenant's allowances, costs of preparing space, and the like); all of Landlord's then unamortized costs of any work allowances provided to Tenant for the Premises; and all Landlord's other reasonable expenditures necessitated by the termination. The reimbursement from Tenant shall be due and payable immediately from time to time upon notice from Landlord that an expense has been incurred, without regard to whether the expense was incurred before or after the termination.

8.2.6 Claims in Bankruptcy. Nothing herein shall limit or prejudice the right of Landlord to prove and obtain in a proceeding for bankruptcy, insolvency, arrangement or reorganization, by reason of the termination, an amount equal to the maximum allowed by a statute or Applicable Law in effect at the time when, and governing the proceedings in which, the damages are to be proved, whether or not the amount is greater to, equal to, or less than the amount of the loss or damage that Landlord has suffered.

8.3 Landlord Default. If Landlord shall fail to perform any material obligation under this Lease required to be performed by Landlord, Landlord shall not be deemed to be in default hereunder nor subject to claims for damages of any kind, unless such failure shall have continued for a period of thirty (30) days after written notice thereof by Tenant or, if such failure is curable but cannot reasonably be cured during such 30-day period, such additional time as it would reasonably take to cure. If Landlord shall fail to cure within the time permitted for cure herein, Landlord shall be liable to Tenant for those actual damages sustained by Tenant as a result of Landlord's default and Tenant shall also have the right to pursue injunctive relief against Landlord, to the extent available under Applicable Laws. Except as may be expressly provided in this Lease, in no event shall Tenant have the right to terminate the Lease nor shall Tenant's obligation to pay Base Rent or other charges under this Lease abate based upon any default by Landlord of its obligations under the Lease. In no event shall Landlord or any Landlord Related Party ever be liable to Tenant for loss of profits, loss of business, or indirect or consequential damages suffered by Tenant from whatever cause.

8.4 Non-Waiver. The failure of Landlord to insist upon strict performance of any of the terms, covenants, conditions or agreements contained herein shall not be deemed a waiver of any rights or remedies that Landlord may have, and shall not be deemed a waiver of any subsequent breach or default in the performance of any of the terms, covenants, conditions or agreements contained herein. The performance of each and every term, covenant, condition and agreement to be performed by Landlord pursuant to this Lease shall not be a condition precedent to Landlord's right to collect Rent or to enforce this Lease. Further, pursuant to the requirements of California Code of Civil Procedure Section 1161.1(c), Tenant is hereby placed on actual notice that Landlord's acceptance of Rent shall not constitute a waiver by Landlord of (a) any preceding breach by Tenant of any provision of this Lease, other than the failure of Tenant to pay the particular Rent so accepted; or (b) any of Landlord's rights, including, without limitation, any rights Landlord may have to recover possession of the Premises or to sue for any remaining Rent owed by Tenant.

ARTICLE 9
CASUALTY & CONDEMNATION

9.1 Casualty.

9.1.1 Generally. Subject to Section 9.1.2 below, if the Premises are damaged by fire, the elements or other casualty (collectively a "**Casualty**"), Tenant shall promptly notify Landlord of the same. Except as expressly set forth below, this Lease shall not terminate in the event of damage to the Premises by other casualty, nor any other obligation of Tenant hereunder be abated or affected in any way. If all or any portion of the Premises becomes untenantable or inaccessible by a Casualty, Landlord shall cause a general contractor selected by Landlord to provide Landlord and Tenant with a written estimate of the amount of time required, using standard working methods, to substantially complete the repair and restoration of the affected portion of the Premises ("**Completion Estimate**"). Landlord shall promptly forward a copy of the Completion Estimate to Tenant. Notwithstanding anything to the contrary contained in this Lease, Landlord and Tenant hereby waive the provisions of any Law relating to the matters addressed in this Section, and agree that their respective rights for damage to or destruction of the Premises shall be those specifically provided in this Lease, which shall constitute an express agreement between the parties with respect thereto, and Landlord and Tenant hereby agree that any Applicable Law, including Sections 1932(2) and 1933(4) of the California Civil Code, with respect to any rights or obligations concerning damage or destruction of leased or hired property, shall have no application to this Lease or to any damage or destruction to all or any part of the Premises.

9.1.2 Termination. Notwithstanding Section 9.1.1, if the Completion Estimate indicates that the Premises cannot be made tenantable within twenty-four (24) months from the date the repair is started, then either party shall have the right to terminate this Lease upon written notice to the other within ten (10) days after Tenant's receipt of the Completion Estimate, which notice, if sent by Tenant, shall be accompanied by a sum equal to all Rent due from Tenant to Landlord to the date of termination. Tenant, however, shall not have the right to terminate this Lease if the Casualty was caused by the negligence or intentional misconduct of Tenant or any Tenant Parties. If (i) the Completion Estimate indicates that the Premises can be made tenantable within thirty-six (36) months from the date the repair is started, and (ii) Tenant terminates this Lease pursuant to the first sentence of this Section 9.1.2., then, within thirty (30) days after receipt of Tenant's termination notice, Landlord may, in its sole and absolute discretion, negate Tenant's termination by providing notice to Tenant that Landlord agrees to an abatement of Base Rent beginning immediately following the twenty-fourth (24th) month after the date the repair is started and ending on the date when Landlord has substantially completed the repair and restoration of the affected portion of the Premises. In addition, if the Premises are damaged by fire, the elements or other casualty during the last twelve (12) months of the Term, and the Completion Estimate shows that the restoration cannot be completed within one hundred twenty (120) days after the Casualty, then either party shall have the right, in lieu of Tenant fulfilling its obligations under Section 9.1.1 above, to terminate this Lease as of the date of the Casualty by notice to the other party within ten (10) business days after the delivery of the Completion Estimate, which notice, if sent by Tenant, shall be accompanied by a sum equal to all Rent due from Tenant to Landlord to the date of termination. If Tenant elects to terminate the Lease pursuant to this Section 9.1.2, Tenant shall (1) assign to Landlord all of Tenant's right, title and interest in and to any property insurance proceeds received in connection with such casualty for the Tenant Improvements (defined below) and (2) pay to Landlord an amount equal to Tenant's deductible under any insurance and/or any applicable self-insured retention amount covering the Tenant Improvements. In addition, Landlord, by notice to Tenant within ninety (90) days after the date of the Casualty, shall have the right to terminate this Lease if (1) any Mortgagee requires that the insurance proceeds be applied to the payment of the mortgage debt; or (2) a material uninsured loss to the Buildings or Premises occurs, and, in either case, Tenant does not provide Landlord with sufficient funds (or evidence of the same satisfactory to Landlord) to complete such restoration within thirty (30) days after Landlord's termination notice.

9.1.3 Restoration. If this Lease is not terminated, Landlord shall promptly and diligently, subject to reasonable delays for insurance adjustment or other matters beyond Landlord's reasonable control, restore the core and shell of the Buildings and structural elements of other improvements situated upon the Premises, subject to the following provisions. Such restoration shall be to substantially the same condition that existed prior to the Casualty, except for modifications required by Applicable Law or any other modifications deemed desirable by Landlord ("**Landlord's Restoration**"). Landlord shall be paid a construction management fee equal to three percent (3%) of the hard and soft costs of construction in connection with Landlord's Restoration. In no event shall Landlord be required to spend more for the Landlord's Restoration than the proceeds received by Landlord, whether from Landlord's insurance proceeds or proceeds from Tenant. Landlord shall not be liable for any inconvenience to Tenant, or injury to Tenant's business resulting in any way from the Casualty or the repair thereof. Landlord shall not be responsible for restoration of any portion of the non-structural tenant improvements, any improvements or fixtures installed for Tenant's specific business operations, or any Alterations, including, without limitation, the Conference Center Alterations (collectively, the "**Tenant Improvements**"). If this Lease is not terminated, upon the substantial completion of Landlord's Restoration, Tenant shall diligently and promptly repair all such damage and restore the Tenant's Improvements (the "**Tenant's Restoration**") to substantially the same quality, use and usability to the Buildings and related improvements that existed immediately prior to the Casualty.

9.1.4 No abatement of Rent. If the Premises are damaged or destroyed by casualty, then the Rent shall not be abated and Tenant shall not be entitled to any compensation or damages from Landlord for loss of the use of the Premises, damage to Tenant's Personalty or to any Alterations, or any inconvenience occasioned by any damage, repair, or restoration.

9.1.5 Insurance Proceeds. Tenant shall be entitled to any and all of the insurance proceeds payable for the damage to the Tenant Improvements, provided, however, that if Tenant elects to terminate this Lease pursuant to Section 9.1.2, then Tenant shall assign and pay over to Landlord all insurance proceeds received by or payable to Tenant with respect to damage to the core and shell of the Buildings and structural elements of other improvements situated upon the Premises (but not Tenant Improvements and Tenant's Personalty). Whether or not Tenant so elects to terminate this Lease, Tenant shall be entitled to any and all of the insurance proceeds payable for the damage to Tenant's Personalty.

9.2 Waiver. Tenant (for itself and all others claiming through Tenant) irrevocably waives and releases its rights to make repairs at Landlord's expense. The provisions of this Lease, including this Section 9.2, constitute an express agreement between Landlord and Tenant with respect to any damage to, or destruction of, any portion of the Premises. Any law in respect of any rights or obligations concerning any such damage or destruction in the absence of an express agreement between the parties, and any other law relating to damage or destruction of leased premises, whether in effect on the date of this Lease or thereafter, shall have no application to this Lease or any damage or destruction of any part of the Premises.

9.3 Total Condemnation. If after the execution of this Lease and prior to the expiration of the Term, all or a significant portion of the Premises shall be permanently taken under power of eminent domain by any public or private authority, or conveyed by Landlord to said authority in lieu of such taking (collectively, a "**Taking**"), and if as a result of such Taking: (a) access to the Premises to and from the publicly dedicated roads adjacent to the Premises as of the Effective Date is permanently and materially impaired such that Tenant no longer has access to such dedicated road; (b) there is insufficient parking to operate the Premises under Applicable Laws and replacement parking cannot be constructed or provided elsewhere on the Premises; or (c) the taking includes a portion of the Buildings such that the remaining portions are unsuitable for the Permitted Use and the remaining portions of the Premises cannot, in the reasonable opinion of a contractor mutually agreed upon by Landlord and Tenant, be restored to useful condition within eighteen (18) months after the Taking (such event, a "**Total Condemnation**"), then, in such event:

9.3.1 Termination. On the date of the Total Condemnation, this Lease shall automatically terminate; provided, however, that Tenant's obligations under any indemnification provisions of this Lease and Tenant's obligation to pay Rent and all other monetary obligations (whether payable to Landlord or a third party) accruing under this Lease prior to the date of termination shall survive such termination. If the date of such Total Condemnation is other than the first day of a month, the Base Rent for the month in which such Total Condemnation occurs shall be apportioned based on the date of the Total Condemnation

9.3.2 Award. Landlord shall be entitled to receive the entire award payable in connection with a Total Condemnation without deduction for any estate vested in Tenant by this Lease, and Tenant hereby expressly assigns to Landlord all of its right, title and interest in and to every such award and agrees that Tenant shall not be entitled to any such award or other payment for the value of Tenant's leasehold interest in this Lease; provided, however, that Tenant shall have the right to file any separate claim available to Tenant for any taking of Tenant's Personalty, loss of goodwill, and for moving and relocation expenses (but only if such payment to Tenant does not reduce any award available to Landlord).

9.4 Partial Condemnation. In the event of a Taking which is not a Total Condemnation, neither party shall have the right to terminate this Lease and Landlord shall, using proceeds therefor from the condemning authority, restore the core and shell of the Buildings and structural elements of other improvements situated upon the Premises reasonably sufficient to make a functional unit of the remaining portion of the Premises, and Tenant shall proceed with restoration of the Tenant Improvements to the extent possible to make a functional unit of the remaining portion of the Premises. In the event any partial taking materially affects Tenant's operations in the Buildings for the Permitted Use, such that the Premises no longer provides sufficient space for Tenant to carry out its business without material interference with the Permitted Use, then, commencing on the date on which Tenant's operations are materially affected, the Base Rent shall be abated in proportion to the square footage of the portion of the Buildings taken.

ARTICLE 10
MISCELLANEOUS

10.1 Notices. Any notice, consent, demand, or other communication or document required or permitted to be given under this Lease or pursuant to any law ("**Notice(s)**"), shall be (a) in writing (except as otherwise provided in this Lease), (b) addressed to the intended recipient at its address set forth in the Basic Lease Information (provided that each of Landlord and Tenant may change its addresses for the giving of notices by giving written notice thereof to the other party), (c) sent by fully prepaid registered or certified United States Mail return receipt requested, or by any nationally recognized overnight courier service furnishing a written record of attempted or actual delivery, and (d) deemed to have been delivered upon actually delivery or rejection of delivery. Any Notice may be given by an attorney on behalf of Landlord or Tenant.

10.2 Certain Representations

10.2.1 Neither of Tenant nor any wholly-owned subsidiary of Tenant is (i) in violation of any OFAC Law or Regulation, the U.S. Patriot Act or Anti-Corruption Legislation, (ii) is named by any Executive Order (including the September 23, 2001, Executive Order Blocking Property and Prohibiting Transactions With Persons Who Commit, Threaten to Commit, or Support Terrorism) or the United States Treasury Department as a terrorist, "Specially Designated National and Blocked Person," or (iii) (to the Tenant's knowledge) acting, directly or indirectly, on behalf of any such person. To Tenant's actual knowledge, no such person, group, entity or nation owns 20% or more Tenant's voting securities. To the Tenant's knowledge, the monies used in connection with this Agreement and amounts committed with respect thereto, were not and are not derived from any activities that contravene any applicable OFAC Laws and Regulations, the U.S. Patriot Act, AML Legislation or Anti-Corruption Legislation, each as defined below.

10.2.2 As used herein, the term "**AML Legislation**" means United States anti-money laundering-related and anti-terrorism financing laws, regulations, and codes of practice applicable to the Tenant, its affiliates, and their operations from time to time, including, any regulations, guidelines or orders thereunder. As used herein, the term "**Anti-Corruption Legislation**" means U.S. Foreign Corrupt Practices Act and similar anticorruption and anti-bribery laws of the United States. As used herein, the term "**OFAC Laws and Regulations**" means (i) any lists, laws, rules, sanctions and regulations maintained by OFAC pursuant to any authorizing statute, Executive Order or regulation, including the Trading with the Enemy Act, 50 U.S.C. App. § 1 et seq., the International Emergency Economic Powers Act, 50 U.S.C. § 1701 et seq., the Iraq Sanctions Act, Pub. L. 101-513, Title V, §§ 586 to 586J, 104 Stat. 2047, the National Emergencies Act, 50 U.S.C. §§ 1601 et seq., the Antiterrorism and Effective Death Penalty Act of 1996, Pub. L. 104- 132, 110 Stat. 1214-1319, the United Nations Participation Act, 22 U.S.C. § 287c, the International Security and Development Cooperation Act, 22 U.S.C. § 2349aa-9, the Nuclear Proliferation Prevention Act of 1994, Pub. L. 103-236, 108 Stat. 507, the Foreign Narcotics Kingpin Designation Act, 21 U.S.C. §§ 1901 et seq., the Iran and Libya Sanctions Act of 1996, Pub. L. 104-172, 110 Stat. 1541, the Cuban Democracy Act, 22 U.S.C. §§ 6001 et seq., the Cuban Liberty and Democratic Solidarity Act, 22 U.S.C. §§ 6021-91, and the Foreign Operations, Export Financing and Related Programs Appropriations Act, 1997, Pub. L. 104-208, 110 Stat. 3009-172; (ii) all regulations, executive orders, or administrative orders of any kind issued under these statutes, including 31 C.F.R., Subtitle B, Chapter V; and (iii) any other applicable United States civil or criminal federal or state laws, regulations, or orders that (1) limit the use of and/or seek the forfeiture of proceeds from illegal transactions; (2) limit commercial transactions with designated countries or individuals believed to be terrorists, narcotics dealers or otherwise engaged in activities contrary to the interests of the United States; or (3) are designed to disrupt the flow of funds to terrorist organizations, as all of the foregoing laws may be amended from time to time.

10.3 Brokers. Each of Landlord and Tenant represents and warrants to the other that such party has not dealt with any broker or finder in connection with this Lease. Each party shall indemnify the other and hold it harmless from any cost, expense, or liability (including costs of suit and reasonable attorneys' fees) for any compensation, commission or fees claimed by any other real estate broker or agent in connection with this Lease or its negotiation by reason of any act or statement of the indemnifying party.

10.4 No Waivers. No provision of this Lease shall be deemed waived by either party unless expressly waived in a writing signed by the waiving party (and then only to the extent so expressly waived). No waiver shall be implied by delay or any other act or omission of either party. No waiver by either party of any provision of this Lease shall be deemed a waiver of such provision with respect to any subsequent matter relating to such provision, and Landlord's consent or approval respecting any action by Tenant shall not constitute a waiver of the requirement for obtaining Landlord's consent or approval respecting any subsequent action. No act or thing done by Landlord or its agents during the Term shall be deemed a termination of this Lease, an acceleration of the Termination Date, or an acceptance of the surrender of the Premises, and no agreement to terminate this Lease, accelerate the Termination Date, or accept a surrender of the Premises shall be valid, unless expressly provided in a writing signed by Landlord. Acceptance of the full or any partial payment of Rent shall not be deemed Landlord's waiver of any breach by Tenant of any provision of this Lease and Landlord's acceptance of a lesser amount than the Rent due under this Lease shall not be deemed Landlord's waiver of Landlord's right to receive the full amount of Rent due, nor shall any endorsement or statement on any check or payment or any letter accompanying such check or payment be deemed an accord and satisfaction, and Landlord may accept such partial payment without prejudice to Landlord's right to recover the full amount of Rent due. Tenant acknowledges that this Section 10.4 imparts actual notice to Tenant that Landlord's acceptance of partial payment of Rent does not constitute a waiver of any of Landlord's rights, including any right Landlord may have to recover possession of the Premises. Forbearance by Landlord in enforcing one or more of the remedies provided in this Lease upon an Event of Default shall not be deemed a waiver of such Event of Default or of Landlord's right to enforce any such remedies with respect to such Event of Default or any subsequent Event of Default. Landlord's acceptance of any Rent or of the performance of any other provision of this Lease from any person other than Tenant, including any Transferee, shall not be deemed a waiver of Landlord's right to approve any Transfer in accordance with Article 5.

10.5 Future Development. Provided the Tenant is Ionis Pharmaceuticals, Inc., or an affiliate, and Tenant is operating for the Permitted Use, in no event shall Landlord take any action or permit any actions to be taken that may or will increase or decrease, modify, change or alter the zoning or entitlements of the Premises, alter the Buildings, change the site amenities, or add additional improvements without the express written consent of Tenant. Notwithstanding the foregoing, subject to the terms of this Section 10.5, Landlord reserves all rights as may be necessary or desirable to construct additional improvements serving the Premises, the Companion Premises, or both, in connection with the construction of the improvements under the Companion Lease, including, without limitation, pedestrian walkways, installation of utilities and utility connections, structured parking, a pedestrian bridge, and site improvements at the Premises, and to modify the Buildings in connection with any such additional development, all as required by the Companion Lease and consistent with the plans and specifications for the construction of the Companion Premises ("**Future Development**"). In connection with any such Future Development, facilities at the Premises may be eliminated, altered, or relocated and may also be utilized to serve the Companion Premises. The rights set forth above shall include rights to use portions of the Premises for the purpose of temporary construction staging and related activities and to implement valet parking for reserved and unreserved parking spaces for the purpose of facilitating construction during such activities.

10.5.1 Landlord and its representatives, contractors, agents, employees and licensees shall have the right during any construction period to enter the Premises to undertake such work; to shore up the foundations, walls, and other improvements at the Premises; to erect scaffolding and protective barricades around the Premises; and to do any other act necessary for the safety of the improvements at the Premises or the expeditious completion of such construction. Landlord shall use reasonable efforts not to interfere with the conduct of Tenant's business and to minimize the extent and duration of any inconvenience, annoyance or disturbance to Tenant resulting from any work pursuant to this Section in or about the Premises, consistent with accepted construction practice, and so long as Landlord uses such reasonable efforts Landlord shall not be liable to Tenant for any compensation or reduction of Rent by reason of inconvenience or annoyance or for loss of business resulting from any act by Landlord pursuant to this Section.

10.5.2 Tenant agrees to enter into any instruments reasonably requested by Landlord in connection with the Future Improvements, and for the continued maintenance of such Future Improvements, so long as the same do not materially decrease the rights or materially and adversely increase the obligations of Tenant under this Lease, including reciprocal easement agreements, declarations of covenants, and other agreements to facilitate use of the improvements between the Premises and Companion Premises. Tenant agrees not to take any action to oppose any application by Landlord for any permits, consents or approvals from any governmental authorities for any redevelopment or additional development of all or any part of the Companion Premises, and will use all commercially reasonable efforts to prevent any of Tenant's subtenants or assigns, and Tenant's and their respective officers, directors, employees, agents, contractors and consultants from doing so. For purposes hereof, action to oppose any such application shall include, without limitation, communications with any governmental authorities requesting that any such application be limited or altered. Also for purposes hereof, commercially reasonable efforts shall include, without limitation, commercially reasonable efforts, upon receiving notice of any such action to oppose any application on the part of any Tenant Parties, to obtain injunctive relief, and, in the case of a subtenant, exercising remedies against the subtenant under its sublease.

10.6 Other Provisions.

10.6.1 Covenant of Quiet Enjoyment. Landlord covenants that Tenant, while no Event of Default has occurred and be continuing, shall peaceably and quietly have, hold, and enjoy the Premises for the Term without hindrance from Landlord, but not otherwise, subject to all matters of record and to the terms and provisions of this Lease.

10.6.2 Survival. All obligations of Tenant under this Lease not fully performed as of the Termination Date shall survive the Termination Date.

10.6.3 Entire Agreement. This Lease, together with the Exhibits, contains all of the agreements of Landlord and Tenant in respect of this Lease and supersedes any previous negotiations. There have been no representations made by Landlord or any of Landlord's representatives, or understandings made between Landlord and Tenant, other than those set forth in this Lease and the Exhibits. This Lease may not be modified except by a written instrument duly executed by the party to be bound. Landlord and Tenant each represent to the other, that is has the individuals executing this Lease have been properly authorized by proper action of the Landlord and Tenant, as the case may be.

10.6.4 Execution in Counterparts. This Lease may be executed in counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same instrument.

10.6.5 Recording. Tenant shall not record this Lease, but may record a short form memorandum of this Lease in the form attached hereto as Exhibit D.

10.6.6 Non-Discrimination. Tenant shall not (and Tenant shall not permit any person claiming through or under Tenant to) discriminate against or segregate any person or group of persons on account of race, color, creed, sex, religion, marital status, ancestry, or national origin, whether in the use, occupancy, subleasing, transferring, or enjoyment of the Premises, or otherwise.

10.6.7 Attorneys' Fees. In any action or proceeding that Landlord or Tenant initiates against the other party declaratory or otherwise, arising out of this Lease, the unsuccessful party in such action or proceeding shall reimburse the prevailing party for its costs, including reasonable attorneys' fees (at trial and appellate levels).

10.6.8 Waiver of Consequential Damages. Except as set forth in Section 1.3 and Section 3.3, neither Landlord nor Tenant shall be liable to the other for any form of special, indirect, consequential, or punitive damages.

10.6.9 Tenant Information. Upon Landlord's request from time to time, Tenant shall provide to Landlord the financial statements for Tenant for its most recent fiscal year and fiscal quarter. Financial statements for each fiscal year shall be prepared and certified by a certified public accountant; financial statements for each quarter shall be prepared and certified by Tenant's chief financial officer. In addition, if so requested, and provided that Landlord may not require such information more than once in any calendar year except where Landlord has reasonable grounds for concern, details of the financial and credit standing and details of the corporate organization of Tenant and any Indemnitor, including copies of financial statements for the last three (3) fiscal years of Tenant. If requested by Tenant, such financial statements shall be furnished pursuant to a confidentiality agreement in a form reasonably provided by Landlord for such purpose. The provisions of this Section 10.6.9 shall not apply to Tenant if it is a Public Company and its financial statements are publicly available.

10.6.10 REIT Provisions. Tenant and Landlord intend that all amounts payable by Tenant to Landlord shall qualify as "rents from real property," and will otherwise not constitute "unrelated business taxable income" or "impermissible tenant services income," all within the meaning of Section 856(d) of the Internal Revenue Code of 1986, as amended (the "**Code**") and the U.S. Department of Treasury Regulations promulgated thereunder (the "**Regulations**"). In the event that Landlord determines that there is any risk that any amount payable under this Lease may not qualify as "rents from real property" or will otherwise constitute impermissible tenant services income within the meaning of Section 856(d) of the Code and the Regulations, Tenant agrees to (a) cooperate with Landlord by entering into such amendment or amendments as Landlord deems necessary to qualify all amounts payable under this Lease as "rents from real property" and (b) permit (and, upon request, to acknowledge in writing) an assignment of the obligation to provide certain services under the Lease, and, upon request, to enter into direct agreements with the parties furnishing such services (which shall include but not be limited to a taxable REIT subsidiary of Landlord). Notwithstanding the foregoing, Tenant shall not be required to take any action pursuant to the preceding sentence (including acknowledging in writing an assignment of services pursuant thereto) if such action would result in (A) Tenant's incurring more than de minimis additional liability under this Lease or (B) more than a de minimis negative change in the quality or level of Buildings operations or services rendered to Tenant under this Lease. For the avoidance of doubt, (i) if Tenant does not acknowledge in writing an assignment as described in clause (b) above (it being agreed that Tenant shall not unreasonably withhold, condition or delay such acknowledgment so long as the criteria in clauses (A) and (B), above, are satisfied), then Landlord shall not be released from liability under this Lease with respect to the services so assigned; and (ii) nothing in this Section 10.6.10 shall limit or otherwise affect Landlord's ability to assign its entire interest in this Lease to any party as part of a conveyance of Landlord's ownership interest in the Buildings.

10.7 Interpretation.

10.7.1 Captions. The captions in this Lease are for convenience of reference and shall not define, increase, limit, or describe the scope or intent of any provision of this Lease.

10.7.2 Landlord and Tenant. The terms “Tenant” and “Landlord”, and any pronoun used in place thereof, shall indicate and include each of the parties’ and respective successors, executors, administrators, and permitted assigns, according to the context, provided that, for the purposes of any provisions indemnifying or waiving claims against, Landlord, the term “Landlord” shall also include Landlord’s present and future investment manager, and property management company, and all of their trustees, directors, officers, partners, beneficiaries, principals, members, managers, investors, stockholders, employees, Affiliates, agents, representatives, contractors (and subcontractors of any tier), successors and assigns.

10.7.3 Non-Exclusivity. Whenever the words “including”, “include”, or “includes” are used in this Lease, they shall be interpreted in a non-exclusive manner as though the words “without limitation” immediately followed the same. Any reference to “any part” or “any portion of” the Premises or any other property shall be construed to refer to all or any part of the same.

10.7.4 Covenants Independent. This Lease shall be construed as though the covenants herein between Landlord and Tenant are independent.

10.7.5 Joint and Several Liability. In any case where either Landlord or Tenant consists of more than one person, the obligations of such party under this Lease shall be joint and several.

10.7.6 Time of the Essence. Time is of the essence of this Lease and all of its provisions.

10.7.7 Governing Law. This Lease shall in all respects be governed by the laws of the State of California without giving effect to the principles of conflicts of law thereof or of any other jurisdiction that would result in the application of the Applicable Laws of any other jurisdiction. Tenant's obligation to pay Rent shall not be discharged or otherwise affected by any Applicable Law or regulation now or hereafter applicable to the Premises, or any other restriction on Tenant's use, or (except as expressly provided in this Lease) any Casualty or Taking, or any failure by Landlord to perform any covenant contained herein, or any other occurrence; and no termination or abatement remedy that is not expressly provided for in this Lease for any breach or failure by Landlord to perform any obligation under this Lease shall be implied or applicable as a matter of Applicable Law.

10.7.8 Successors and Assigns. Subject to the provisions of Article 5, the provisions of this Lease shall be binding upon and inure to the benefit of the heirs, successors, executors, administrators, and assigns of Landlord and Tenant.

10.7.9 Submission. The submission of this Lease to Tenant or a summary of some or all of its provisions for examination does not constitute a reservation of or option for the Premises or an offer to lease, and no legal obligations shall arise with respect to the Premises or other matters herein unless and until such time as this Lease is executed and delivered by Landlord and Tenant and approved by the holder of any mortgage on the Buildings having the right to approve this Lease.

10.8 Tenant's Signage. Tenant shall have the right to install such signage at or upon the Premises as permitted by Applicable Laws. Tenant, at its sole expense, shall maintain Tenant's Signage in good condition and repair during the Term. Should Tenant's Signage require maintenance or repairs as determined in Landlord's reasonable judgment, Landlord shall have the right to provide notice thereof to Tenant and Tenant shall cause such repairs and/or maintenance to be performed within thirty (30) days after receipt of such notice from Landlord at Tenant's sole cost and expense. Should Tenant fail to perform such maintenance and repairs within the period described in the immediately preceding sentence, then, in addition to all of Landlord's other rights and remedies, Landlord may, but need not, perform the required maintenance and repairs, and Tenant shall pay Landlord the cost thereof, plus a fee for Landlord's oversight and coordination of such work equal to five percent (5%) of its cost, within thirty (30) days after receipt of Landlord's request for payment, together with reasonable, supporting backup documentation. Landlord shall have the right to maintain one or more signs at the Premises in a prominent location near the entrance to the Building identifying the property manager and the identity of Landlord or its direct or indirect ownership group in a manner similar to that shown on Exhibit G attached, subject to Tenant's approval of the size and location of such signage, such approval not to be unreasonably withheld, conditioned or delayed.

10.9 Choice of Law. This Lease shall be governed by the Applicable Laws of the State of California.

10.10 CASp Inspection. For purposes of Section 1938(a) of the California Civil Code, Landlord hereby discloses to Tenant, and Tenant hereby acknowledges, that neither the Buildings nor any portion of the Premises has undergone inspection by a Certified Access Specialist (CASp) (defined by California Civil Code Section 55.52). Pursuant to California Civil Code Section 1938, Tenant is hereby notified as follows: "A Certified Access Specialist (CASp) can inspect the subject premises and determine whether the subject premises comply with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the subject premises, the commercial property owner or lessor may not prohibit the lessee or tenant from obtaining a CASp inspection of the subject premises for the occupancy of the lessee or tenant, if requested by lessee or tenant. The parties shall mutually agree on the arrangements for the time and manner of any CASp inspection, the payment of the fee for the CASp inspection and the cost of making any repairs necessary to correct violations of construction-related accessibility standards within the premises." If Tenant requests to perform a CASp inspection of the Premises, Tenant shall, at its cost, retain a CASp approved by Landlord to perform the inspection of the Premises at a time agreed upon by the parties. Tenant shall provide Landlord with a copy of any report or certificate issued by the CASp (the "**CASp Report**"). Landlord and Tenant agree that any modifications necessary to correct violations of construction related accessibility standards identified in the CASp Report shall be the responsibility of Tenant. Tenant agrees to keep the information in the CASp Report confidential except as necessary for the Tenant to complete such modifications.

10.11 Landlord Access. Landlord, its affiliates, and their respective contractors and agents, subject to the terms of this Section 10.11, may, (a) at any and all reasonable times during normal business hours (or during non-business hours, if Landlord so requests and Tenant consents), and upon at least two (2) business days' prior notice (which may be oral or by email to the office manager or other Tenant-designated individual at the Premises; but provided that no time restrictions shall apply or advance notice be required if a bona fide emergency with an immediate threat to property damage or personal injury necessitates immediate entry and any oral notice will be followed immediately by email notice as provided above prior to entry), enter the Premises to (i) inspect the same and to determine whether Tenant is in compliance with its obligations hereunder, (ii) supply any service Landlord is required to provide hereunder, (iii) alter, improve or repair any portion of the premises under the Companion Lease for which access to or through the Premises is reasonably necessary, (iv) post notices of non-responsibility, (v) show the Premises to current and prospective investors, lenders and purchasers, and (vii) show the Premises, other than the Secure Access Areas, during the final eighteen (18) months of the Term (provided that Tenant has not timely exercised an Extension Option to extend the Term pursuant to Section 1.4) to prospective tenants, and (b) notwithstanding the foregoing, at any and all reasonable times during business and non-business hours and upon at least two (2) business days' prior notice enter the Premises for the purposes of performing any repairs or maintenance that Landlord is obligated or entitled to perform pursuant to this Lease (provided that no time restrictions shall apply if a bona fide emergency with an immediate threat to property damage or personal injury necessitates immediate entry); provided, however, that Landlord shall comply with Tenant's reasonable safety procedures and protocols with respect to the Premises, and with respect to portions of the Premises (if any) that are reasonably designated in writing by Tenant to Landlord as controlled or having restricted access (the "**Secure Access Areas**"), shall comply with Tenant's reasonable additional security and safety procedures and protocols related to such portions of the Premises including only entering such designated Secure Access Areas when accompanied by a Tenant representative (provided further, that Tenant shall provide a Tenant representative to accompany Landlord upon written request from Landlord at least two (2) business days' in advance). In no event shall Tenant's Base Rent abate as a result of Landlord's activities pursuant to this Section; provided, however, that all such activities shall be conducted in such a manner so as to cause as little interference to Tenant as is reasonably possible. Landlord shall at all times retain keys, key cards and access codes with which to unlock all of the doors in the Premises. Landlord acknowledges that the standard operating procedures set forth on Exhibit L shall apply to the issuance to Landlord of any key cards, electronic keypad codes, or door keys to any Secure Access Areas for any unaccompanied access too the Premises by Landlord, provided, however, that Tenant shall identify a single designee to act as Landlord's point of contact to administer the requirements of Tenant's standard operating procedures on behalf of Landlord and that in no event shall any such requirements prohibit Landlord's entry into Secure Access Areas (i) in the event of a bona fide emergency with an immediate threat to property damage or personal injury that necessitates immediate entry or (ii) when accompanied by a representative of Tenant. If an emergency necessitates immediate access to the Premises, Landlord may use whatever force is necessary to enter the Premises, and any such entry to the Premises shall not constitute a forcible or unlawful entry to the Premises, a detainer of the Premises, an eviction of Tenant from the Premises or any portion thereof, or a violation of the provisions of this Section 10.11. Notwithstanding anything herein to the contrary, in the event Tenant notifies Landlord within one (1) business day (which may be oral or by email to the Landlord-designated individual) following Landlord's request for access that the proposed day and/or time for entry will cause a disruption to a planned event, meeting or other programming for Tenant, Landlord and Tenant shall cooperate with one another to identify a better date and/or time Landlord's entry of the Premises.

ARTICLE 11
TENANT'S RIGHT OF FIRST OFFER

11.1 Right of First Offer.

11.1.1 Notwithstanding anything contained in this Lease to the contrary, provided that (i) no Event of Default by Tenant has occurred under this Lease, and (ii) the Tenant is Ionis Pharmaceuticals, Inc., or its affiliate, if Landlord intends to offer the Premises (or any portion thereof) for sale to an unaffiliated third party, Landlord shall promptly notify Tenant of the same in writing (the "**Offer Notice**") and indicate the terms and conditions upon which Landlord is willing to accept for the sale of the Premises to a third party. Tenant may elect to purchase the Premises (or portion thereof) on the terms and conditions set forth in the Offer Notice by notifying Landlord in writing (the "**Election Notice**") of its election no later than fifteen (15) days after the Offer Notice, which notice shall be accompanied by the Option Deposit (defined herein), and the sale of the Premises shall be consummated pursuant to the terms hereof on a date (the "**Closing Date**") within sixty (60) days after the Election Notice, such date to be mutually agreed upon by Landlord or Tenant. In the event of any of the following: (x) Tenant fails to deliver the Election Notice or the Option Deposit to Landlord on or before the expiration of the 15-day period set forth above, (y) Tenant fails to close on its acquisition of the Premises on or before the Closing Date, or (z) Landlord provides an Offer Notice to Tenant and Tenant does not exercise its right to purchase the Premises, then in each case Tenant shall be deemed to have waived its right to purchase the Premises and thereafter Tenant's rights under this Article 11 shall be null and void and of no further force or effect. The term "**Option Deposit**" shall mean the amount of cash deposit required in the Offer Notice or, if no cash deposit is specified in the Offer Notice, a sum equal to five percent (5%) of the purchase price for the Premises set forth in the Offer Notice.

11.1.2 If the Premises is not sold to Tenant pursuant to Section 11.1.1 above, Landlord shall have the right to direct the marketing of the Premises (including the unilateral right to select any broker to be utilized), and to take all actions in furtherance thereof, including, without limitation, the right and authority to execute, such agreements, documents, instruments and applications, including a purchase and sale agreement and a deed, assignment of leases, bills of sale and other conveyance documents conveying the Premises (collectively, "**Sale Documents**") as Landlord, may reasonably deem necessary or desirable in order consummate such sale, and, subject to Section 11.1.1 above and Section 11.2 below, Landlord shall be authorized to accept an offer for the sale of the Premises. If Landlord modifies the terms of its offer such that the purchase price is less than ninety-five percent (95%) of the consideration provided in the Offer Notice, then the proposed transaction shall again be subject to Tenant's rights under this Article 11, and Landlord shall deliver an amended Offer Notice to Tenant.

11.1.3 Tenant shall, at no material out-of-pocket cost to Tenant, reasonably cooperate with Landlord's efforts to sell the Premises, including by providing information with respect to the Premises, and by allowing and facilitating physical access to the Premises to prospective purchasers and their lenders and consultants, but such cooperation and execution by the Tenant shall not be a condition to the effectiveness of any actions taken by Landlord with respect to such sale or to the effectiveness of Sale Documents.

11.2 Tenant's Competitors. Provided that (i) no Event of Default by Tenant has occurred under this Lease, and (ii) the Tenant is Ionis Pharmaceuticals, Inc., or an affiliate, and such Tenant remains in possession of the Premises and operating for the Permitted Use, Landlord shall not sell the Premises (or any portion thereof, or all or substantially all of Landlord's interest therein) or enter into an agreement to that would transfer Landlord's interest in the Premises to a Competitor during the Term; provided, however, this Section 11.2 shall not prohibit Landlord from entering into an agreement to sell or transfer the Premises to a Competitor if the effective date of the transfer would occur after the expiration of the Term. As used herein, "**Competitor**" or "**Competitors**" means the companies expressly listed as competitors in Tenant's most recent publicly filed Annual Report (10-K); provided, however, (1) such companies shall be directly engaged in the development, manufacturing, or commercializing a medicine or other life sciences product, and "Competitor" shall not mean any affiliates, investors, parents, or other stake-holders of such companies, and (2) there shall not be more than twenty (20) Competitors at any one time. If Tenant's most recent publicly filed Annual Report (10-K) includes more than twenty (20) companies that would otherwise be deemed Competitors, only those companies that were previously listed in Tenant's Annual Report (10-K) shall be deemed a Competitor unless Tenant provides a written notice to Landlord specifying which companies listed in Tenant's most recent Annual Report (10-K) shall be included in the list of twenty (20) Competitors for the purposes of this Lease.

11.3 Excluded Transfers. Notwithstanding anything to the contrary herein, Tenant's rights under this Article 11 shall not apply to any transaction that meets at least one of the following criteria:

11.3.1 any sale/leaseback transaction made in connection with a bona fide financing, provided that the seller/lessee under any such transaction shall be bound by the provisions of this Article 11 at such time, if any, as such seller/lessee reacquires title to the Premises;

11.3.2 any sale or transfer of the Premises to a partnership, corporation, limited liability company, trust or other entity that is under control by, common control with, or controls Landlord or any direct or indirect owner of Landlord, but any such transferee shall hold title subject to Tenant's rights under this Article 11;

11.3.3 any transfer in the nature of a financing transaction with a financial institution that is made for a bona fide business purpose (i.e., other than in order to allow a transfer of the Premises in avoidance of Tenant's rights under this Article 11), including without limitation the granting of, foreclosure under, or giving of a deed-in-lieu of foreclosure under, a mortgage or the granting or exercise of any pledge of ownership interests; provided that, following any foreclosure of the Premises, deed in lieu thereof, or similar acquisition of title by a mortgagee, lender, or their affiliates, following the first sale of the Premises by such mortgagee, lender or their affiliates, the subsequent Landlord shall be bound by Tenant's rights under this Article 11;

11.3.4 any issuance or transfer of a direct or indirect interest in Landlord that represents a transfer of less than 80% of such interests (so long as such transfer does not also include the ability to control the day-to-day operations of Landlord); provided that any transferee of direct interests in Landlord otherwise described in this Section 11.3.4 is not a Competitor;

11.3.5 any issuance or transfer of a direct or indirect interest in Landlord on a nationally recognized stock exchange; and

11.3.6 any bona fide portfolio transaction that includes at least two other real estate assets (excluding the Premises and, if the Companion Lease is in effect, the Companion Premises) that in the aggregate have rentable space at least equal to 416,000 square feet.

11.4 Termination. Upon (x) any sale of the Premises, (y) any portfolio transaction sale that includes the Premises, or (z) any foreclosure of a Mortgage on the Premises or conveyance by deed-in-lieu of foreclosure, in each case to a third-party person or entity in accordance with the terms of this Article 11, Tenant's right of first offer to purchase the Premises under this Article 11 shall forever terminate.

11.5 Confidentiality. Any Offer Notice and information in connection therewith, and any information regarding a sale of the Premises, provided to Tenant by Landlord pursuant to this Article 11 shall be held confidential by Tenant and not disclosed to any third party except as required by law or in connection with any dispute between Landlord and Tenant regarding this Article 11 and for disclosures to Tenant's legal advisors and third-party consultants to the extent such legal advisors and consultants are reasonably required for Tenant to evaluate such information and, in each case, provided that such legal advisors and consultants are made subject to the provisions of this paragraph or are otherwise bound by provisional obligations of confidentiality. Any such information shall be returned by Tenant to Landlord if Tenant's rights under this Article 11 terminate in accordance with the terms hereof. Nothing in this Section 11.5 shall prevent Tenant from making disclosures required by applicable public company disclosure laws, provided, however, such disclosures shall include no more information than what is minimally necessary to satisfy the legal requirement, and provided further that Landlord shall have the right to reasonably approve any disclosure that exceeds what is minimally necessary to satisfy the legal requirement, and provided further that Landlord shall have the right to review any disclosure prior to the filing of the same for purposes of confirming compliance with the terms of this sentence, to the extent that such review is permitted pursuant to Applicable Law.

ARTICLE 12
LIMITATION OF LIABILITY

12.1 Landlord's Liability. Tenant agrees from time to time to look only to Landlord's interest in the Premises for satisfaction of any claim against Landlord hereunder or under any other instrument related to the Lease (including any separate agreements among the parties and any notices or certificates delivered by Landlord) and not to any other property or assets of Landlord. If Landlord from time to time transfers its interest in the Premises, then from and after each such transfer Tenant shall look solely to the interests in the Premises of Landlord's transferees for the performance of all of the obligations of Landlord hereunder (or under any related instrument). The obligations of Landlord shall not be binding on any direct or indirect partners (or members, trustees, or beneficiaries) of Landlord or of any successor, individually, but only upon Landlord's or such successor's interest described above. Further, if Landlord is, or one of the parties comprising Landlord is, or the Lease is assigned to, a real estate investment trust ("**REIT**"), the parties acknowledge and agree that the obligations of the REIT hereunder and under all documents delivered pursuant hereto (and all documents to which the Lease may be pursuant) or which give effect to, or amend or supplement, the terms of the Lease are not personally binding upon any trustee thereof, any registered or beneficial holder of units (a "**Unitholder**") or any annuitant under a plan of which a Unitholder acts as a trustee or carrier, or any officers, employees or agents of the REIT and resort shall not be had to, nor shall recourse or satisfaction be sought from, any of the foregoing or the private property of any of the foregoing.

12.2 Assignment of Rents.

12.2.1 With reference to any assignment by Landlord of Landlord's interest in this Lease, or the rents payable hereunder, conditional in nature or otherwise, which assignment is made to the holder of a mortgage on property that includes the Premises, Tenant agrees that the execution thereof by Landlord, and the acceptance thereof by the holder of such mortgage shall never be treated as an assumption by such holder of any of the obligations of Landlord hereunder unless such holder shall, by notice sent to Tenant, specifically otherwise elect and, except as aforesaid, such holder shall be treated as having assumed Landlord's obligations hereunder only upon foreclosure of such holder's mortgage and the taking of possession of the Premises.

12.2.2 In no event shall the acquisition of Landlord's interest in the Premises by a purchaser that, simultaneously therewith, leases Landlord's entire interest in the Premises back to the seller thereof be treated as an assumption by operation of Law or otherwise, of Landlord's obligations hereunder, but Tenant shall look solely to such seller-lessee, and its successors from time to time in title, for performance of Landlord's obligations hereunder. In any such event, this Lease shall be subject and subordinate to the lease to such purchaser. For all purposes, such seller-lessee, and its successors in title, shall be the Landlord hereunder unless and until Landlord's position shall have been assumed by such purchaser-lessor.

12.2.3 Except as provided in Section 12.2.2, in the event of any transfer of title to the Premises by Landlord, the transferring Landlord shall thereafter be entirely freed and relieved from the performance and observance of all covenants and obligations hereunder, and Tenant shall only look to any subsequent party becoming Landlord hereunder the same. Tenant hereby agrees to enter into such agreements or instruments as may, from time to time, be requested in confirmation of the foregoing.

(SIGNATURES APPEAR ON NEXT PAGE)

IN WITNESS WHEREOF, the parties hereto have duly executed this Lease on the day and year first above written.

LANDLORD:

2850 2855 & 2859 GAZELLE OWNER (DE) LLC, a Delaware limited liability company

By: /s/Brian Barriero
Name: Brian Barriero
Title: Vice President, Operations

By: /s/Kristen E. Binck
Name: Kristen E. Binck
Title: Vice President

TENANT:

IONIS PHARMACEUTICALS, INC., a Delaware corporation

By: /s/Elizabeth L. Hougen
Name: Elizabeth L. Hougen
Title: EVP & CFO

EXHIBIT A

LEGAL DESCRIPTION OF THE PREMISES

Real property in the City of Carlsbad, County of San Diego, State of California, described as follows:

TRACT ONE:

PARCEL 1 OF MINOR SUBDIVISION NO. 2018-0009 IONIS CARLSBAD CAMPUS, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA ACCORDING TO PARCEL MAP NO. 21705 FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY ON AUGUST 1, 2019 AS DOCUMENT NO. 2019-7000286 OF OFFICIAL RECORDS.

TRACT TWO:

INTENTIONALLY DELETED.

TRACT THREE:

INTENTIONALLY DELETED.

TRACT THREE-A:

INTENTIONALLY DELETED.

APN: 209-120-20-00 (Affects Portion of said land) and
APN : 209-120-27-00 (Affects Portion of said land)

EXHIBIT B

[RESERVED]

EXHIBIT C

FORM OF TENANT ESTOPPEL CERTIFICATE

The undersigned as Tenant under that certain Lease Agreement (the "**Lease**") made and entered into as of _____,with 2850 2855 & 2859 GAZELLE OWNER (DE) LLC, a Delaware limited liability company, as Landlord, for the Buildings, land, and parking facilities located at 2850, 2855 & 2859 Gazelle Court, Carlsbad, California (the "**Premises**"), certifies as follows:

1. Attached hereto as Exhibit A is a true and correct copy of the Lease and all amendments and modifications thereto. The documents contained in Exhibit A represent the entire agreement between the parties as to the leasing of the Premises. Capitalized terms used but not defined herein have the meanings ascribed to them in the Lease.

2. The undersigned has commenced occupancy of the Premises described in the Lease, currently occupies the Premises, and the Term commenced on _____, 20___.

3. The Lease is in full force and effect and has not been modified, supplemented or amended in any way except as provided in Exhibit A. Tenant is not entitled to receive any concession or benefit (rental or otherwise) or other similar compensation in connection with leasing the Premises other than as set forth in the Lease.

4. Tenant has not transferred, assigned, or sublet any portion of the Premises nor entered into any license or concession agreements with respect thereto except as follows _____.

5. Rent became payable on _____, 20___.

6. The current Term expires on _____, 20___.

7. The Lease is enforceable and neither Tenant nor, to Tenant's actual knowledge, Landlord is in default thereunder except as follows: _____. Without limiting the foregoing, (i) all construction and installation of tenant improvements required to be performed by or paid by Landlord under the Lease have been completed and paid and (ii) there are no unpaid allowances or rental concessions payable or creditable to Tenant which have not been paid or credited in full, except as follows: _____.

8. No rental has been paid in advance.

9. As of the date hereof, Tenant has no presently exercisable defenses or offsets which preclude enforcement of the Lease by Landlord except as follows: _____.

10. All monthly installments of Base Rent, Additional Rent, and Taxes have been paid when due through _____. The current monthly installment of Base Rent is $_____.

11. Except for the Right of First Negotiation granted to Tenant pursuant to Article 11, Tenant does not have any option to purchase or right of first refusal or first offer to purchase the Premises, or any portion thereof, or any interest therein and the only interest of Tenant in such property is as the Tenant under the Lease.

12. The amount of the Security Deposit held by Landlord, to secure Tenant's performance under the Lease is _____ Dollars ($_____). No portion of the Security Deposit has been utilized or applied by Landlord.

13. Tenant is not the subject of any bankruptcy, insolvency, debtor's relief, reorganization, receivership or other similar proceeding.

The undersigned acknowledges that this Estoppel Certificate may be delivered to Landlord's prospective mortgagee, trust deed holder or a prospective purchaser or investor, and acknowledges that it recognizes that if same is done, in addition to Landlord, said mortgagee, prospective mortgagee, trust deed holder or prospective purchaser or investor will be relying upon the statements contained herein in making the loan or acquiring the Premises, and in accepting an assignment of the Lease as collateral security, and that receipt by it of this Estoppel Certificate is a condition of making the loan or acquisition of the Premises.

If Tenant is a corporation, limited liability company or partnership, each individual executing this Estoppel Certificate on behalf of Tenant hereby represents and warrants that Tenant is a duly formed and existing entity qualified to do business in the State of California, if required by law, and that Tenant has full right and authority to execute and deliver this Estoppel Certificate and that each person signing on behalf of Tenant is authorized to do so.

Tenant, by providing this Estoppel Certificate, does not waive (i) any of its claims, defenses, offsets, or rights against Landlord discovered after the date hereof, or (ii) any of Tenant's rights first arising after the date hereof provided by any federal, state or local laws, ordinances, rules and regulations, court orders, governmental directives and governmental orders and all interpretations of the foregoing.

Nothing in this Estoppel Certificate shall be deemed to amend, modify or alter the Lease and in the event of any conflict between the Lease and this Estoppel Certificate, the Lease shall prevail. This Estoppel Certificate is delivered in good faith and shall not subject Tenant or the individual signatory to any liability (other than estoppel effect) for any purpose, including, without limitation, damages for inaccuracies, errors or omissions, except to the extent resulting from fraud or an intentional and material misstatement of fact.

[Remainder of page intentionally left blank]

Executed at _____ on the _____ day of _____, 20____.

"Tenant"

IONIS PHARMACEUTICALS, INC., a
Delaware corporation

By: _____
Name: _____
Title: _____
Date Signed: _____

EXHIBIT D

FORM OF MEMORANDUM OF LEASE

This Memorandum of Lease (this "**Memorandum of Lease**") is made as of this [ ]day ____ of [_____] , 20__, by and between 2850 2855 & 2859 GAZELLE OWNER (DE) LLC, a Delaware limited liability company with its principal mailing address of [___] ("**Landlord**"), and IONIS PHARMACEUTICALS, INC., a Delaware corporation, with its principal mailing address of [_____] ("**Tenant**"). All capitalized terms not otherwise defined herein shall have the meaning ascribed to such term in the Lease (as defined below).

1. Premises. Landlord owns and leases, demises and grants to Tenant, and Tenant leases from Landlord, that certain real property located at 2850, 2855 & 2859 Gazelle Court, Carlsbad, California, 92010, as more particularly described on Schedule A attached hereto and made a part hereof (the "**Leased Premises**") pursuant to the terms, covenants and conditions of that certain Lease Agreement dated as of _____, 20__ (the "**Lease**"). Capitalized terms used herein shall have the same meaning as set forth in the Lease, except to the extent such terms are specifically defined in this Memorandum of Lease.

2. Term. The initial Term of the Lease shall be for a period of fifteen (15) years commencing on [_____], [20___] and expiring on the last day of the one hundred eightieth (180th) full calendar month next following such date.

3. Option to Extend. Landlord grants to Tenant the option to extend the term of the Lease at the expiration of the Initial Term for two (2) successive periods of five (5) years each, aggregating twenty (10) years. Each such renewal option must be exercised no later than twelve (12) months prior to the expiration of the initial Term or the then-current Renewal Term.

4. Successors and Assigns. The conditions and provisions hereof shall inure to the benefit of and shall be binding upon Landlord, Tenant, and their respective successors and assigns, and shall run with the land.

5. Memorandum. The rentals to be paid by Tenant and all of the obligations and rights of Landlord and Tenant are set forth in the Lease. This Memorandum of Lease is merely a memorandum of the Lease and is subject to all of its terms, conditions and provisions. In the event of any inconsistency between the terms of the Lease and this Memorandum of Lease, the terms, covenants and conditions of the Lease shall prevail.

6. Counterparts. This Memorandum of Lease may be executed in any number of counterparts, each of which shall be an original, but all of which shall together constitute one and the same document.

[No further text on this page. Signature page to follow.]

IN WITNESS WHEREOF, Landlord has caused its duly authorized officer to execute this Memorandum of Lease as of the date first noted above.

LANDLORD:
2850 2855 & 2859 GAZELLE OWNER (DE)
LLC, a Delaware limited liability company

By: _____ [SEAL]
Name: _____
Title:_____

STATE/COMMONWEALTH OF _____)
CITY/COUNTY OF _____)

On the ____ day of _____ in the year 20__, before me, the undersigned, a Notary Public in and for said state, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument, and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed this instrument.

_____
Notary Public

My Commission Expires:_____

IN WITNESS WHEREOF, Tenant has caused its duly authorized officer to execute this Memorandum of Lease as of the date first noted above.

TENANT:

IONIS PHARMACEUTICALS, INC., a
Delaware corporation

By: _____
Name: _____
Title:_____

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
) §
County of _____)

On _____, before me, _____ a Notary Public, personally appeared _____ who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct

WITNESS my hand and official seal.

_____
Signature of Notary

(Affix seal here)

Schedule A to
Memorandum of Lease

[to be attached]

EXHIBIT E

FORM OF SNDA

SUBORDINATION, NON-DISTURBANCE AND ATTORNMENT AGREEMENT

WHEN RECORDED MAIL TO

Morrison & Foerster LLP
250 West 55th Street
New York, New York 10019
Attention: Chris Delson

SPACE ABOVE THIS LINE FOR RECORDER'S USE

SUBORDINATION, NON-DISTURBANCE AND ATTORNMENT AGREEMENT

This SUBORDINATION, NON-DISTURBANCE AND ATTORNMENT AGREEMENT (hereafter referred to as "Agreement") made as of October _____, 2022, by and between CRÉDIT AGRICOLE CORPORATE AND INVESTMENT BANK, having an address at 1301 Avenue of the Americas, New York, New York 10019, as administrative agent (with its successors and assigns, "Agent") for itself and certain lenders now or hereafter party to the Loan Agreement (as hereinafter defined) (the "Lenders"), IONIS PHARMACEUTICALS, INC., a Delaware corporation, having an address of 2855 Gazelle Ct., Carlsbad, CA 92008 ("Tenant") and 2850 2855 & 2859 GAZELLE OWNER (DE) LLC, a Delaware limited liability company, having an address at c/o Oxford Properties Group, 450 Park Avenue, 9th Floor, New York, New York 10022 ("Landlord").

The Lenders have made a loan to Landlord in the maximum principal amount of $170,000,000.00 in accordance with the terms of that certain Loan Agreement dated as of October _____, 2022 (the "Loan"), by and among Landlord, Agent and Lenders (as the same may hereafter be amended, reinstated, extended, supplemented or otherwise modified from time to time, the "Loan Agreement"),

Pursuant to the Loan Agreement, the Agent, for the benefit of the Lenders, is the holder of a certain Deed of Trust, Security Agreement, Assignment of Leases and Rents and Fixture Filing (as the same may be amended, extended, supplemented or otherwise modified or restated from time to time, the "Security Instrument") granted by Landlord to Agent, for the benefit of the Lenders, and recorded in the official records of San Diego County, California, which constitutes a first lien against the real property described on Schedule A attached hereto and the improvements thereon or to be constructed thereon (the "Property").

Tenant has entered into a lease with Landlord dated as of October _____, 2022 (the "Lease") covering all of the Property (the "Premises"). All capitalized terms used but not defined in this Agreement shall have the meanings set forth in the Lease.

For mutual consideration, including relying on the mutual covenants and agreements contained in this Agreement, the receipt and sufficiency of which are hereby acknowledged, Agent, Landlord and Tenant agree as follows:

1. **Subordination of Lease**. Subject to the terms of this Agreement, the Lease and all of Tenant's right, title, and interest in and to the Property thereunder (including, but not limited to, any option to purchase, right of first refusal to purchase, or right of first offer to purchase the Property or any portion thereof) is and shall be subject and subordinate to the Security Instrument and to all present and future advances under the obligations secured thereby and all renewals, amendments, modifications, consolidations, replacements and extensions thereof, to the full extent of the principal amount and other sums secured thereby and interest thereon, so that at all times the Security Instrument shall be and remain a lien on the Property prior to and superior to the Lease for all purposes, subject to the provisions set forth in this Agreement. Such subordination shall have the same force and effect as if the Security Instrument and such renewals, modifications, consolidations, replacements and extensions of the Security Instrument had been executed, acknowledged, delivered and recorded prior to the Lease, all amendments or modifications of the Lease, and any notice of the Lease.

2. **Attornment**. Tenant will attorn to and recognize: (i) Agent (including for this purpose any transferee or nominee of Agent), whether as mortgagee in possession or otherwise; or (ii) any purchaser at a foreclosure sale under the Security Instrument; or (iii) any transferee that acquires possession of or title to the Property (whether by acceptance of a deed in lieu of foreclosure or otherwise); or (iv) any successors and assigns of such purchasers and/or transferees (each of the foregoing persons or entities described in clauses (i) through (iv) above, a "Successor"), as its landlord for the unexpired balance (and any extensions, if exercised) of the term of the Lease upon the terms and conditions set forth in the Lease (as affected by this Agreement), and Tenant shall pay and perform in favor of Successor all of the obligations of Tenant under the Lease as if Successor were the original lessor under the Lease. Such attornment shall be effective and self-operative without the execution of any further instruments by any party hereto; provided, however, that Tenant will, upon request by Agent or any Successor, execute a reasonable written agreement attorning to Agent or such Successor, which agreement shall, in any event, be subject to the terms and provisions of this Agreement.

3. **Non-Disturbance**. So long as the Lease is in effect and Tenant complies with Tenant's obligations under this Agreement and is not in default (beyond the expiration of any applicable cure period) under the Lease, Agent and any Successor (i) will recognize the Lease and Tenant's rights and options under the Lease as the tenant of the Premises for the remainder of the term of the Lease (as affected by this Agreement), including any extension options, if exercised, and (ii) will not disturb Tenant's use, possession and quiet enjoyment of the Premises, nor will Tenant's rights under this Lease be impaired (except as provided in this Agreement), and (iii) shall not name or join Tenant as a defendant in any foreclosure action, sale under a power of sale or transfer in lieu of the foregoing (collectively, a "Foreclosure") unless a joinder is required by law to perfect a Foreclosure or other remedy, but then only for such purpose and not for the purpose of terminating the Lease.

4. **Assignment of Leases**. Tenant acknowledges that it has been advised that Landlord has assigned the Lease and the rents thereunder to Agent, for the benefit of the Lenders, pursuant to the Security Instrument. Tenant acknowledges that the interest of the Landlord under the Lease is to be assigned to Agent solely as security for the purposes specified in the Security Instrument, and, on account of the Security Instrument, Agent shall have no duty, liability or obligation whatsoever under the Lease or any extension or renewal thereof, either by virtue of the Security Instrument or by any subsequent receipt or collection of rents thereunder, unless Agent shall specifically undertake such liability in writing. The foregoing agreement by Tenant shall not adversely affect any rights of Tenant under the Lease with respect to the Landlord in the event of nonperformance by Landlord, subject to the terms of this Agreement. Tenant agrees that if Agent, pursuant to the Security Instrument, and whether or not it becomes a mortgagee in possession, shall give written notice to Tenant that Agent has elected to require Tenant to pay to Agent the rent and other charges payable by Tenant under the Lease, Tenant shall (without any duty to inquire as to the enforceability or validity of Agent's notice) until Agent shall have canceled such election in writing, thereafter pay to Agent all rent and other sums payable under the Lease and such payments to Agent shall be treated as payments made under the Lease. Any such payment shall be made notwithstanding any right of setoff, defense or counterclaim which Tenant may have against Landlord, or any right to terminate the Lease. Landlord authorizes and directs Tenant to immediately and continuously make all such payments at the direction of Agent, releases Tenant of any and all liability to Landlord for any and all payments so made, and agrees that payments actually made by Tenant to Agent shall be credited towards the amounts due under the Lease.

5. **Limitation of Liability**. In the event that Agent (including for this purpose any transferee or nominee of Agent) or any other Successor succeeds to the interest of Landlord under the Lease, or title to the Property, then none of Agent, any Lender or any Successor shall be: (i) liable in any way to Tenant for any act or omission, neglect or default on the part of any prior landlord under the Lease; provided, that, nothing in this clause being deemed to relieve Agent or any Successor of an ongoing default on the part of Landlord with respect to repair and maintenance of the Premises that first arose prior to such succession, provided that Tenant notified Agent of such default in accordance with Section 7 of this Agreement and Agent failed to cure same, and Agent or any Successor shall have the obligation to cure such ongoing repair and maintenance defaults on the part of Landlord that continue from and after Successor succeeds to the rights of Landlord under the Lease, regardless of when such default or obligation from arose, provided that Tenant notified Agent of such default in accordance with Section 7 of this Agreement and Agent failed to cure same; (ii) responsible for any monies (including security deposits) owing by or on deposit with (or any letter of credit on deposit with) Landlord to the credit of Tenant (except to the extent any such deposit or letter of credit is actually received by Agent or such Successor, as applicable); (iii) subject to any defense, counterclaim or setoff which theretofore accrued to Tenant against any prior landlord; provided, however, that the foregoing shall not limit Tenant's right to exercise against Agent or such Successor any offset right otherwise available to Tenant because of events occurring after the date of succession and attornment; (iv) bound by any termination, amendment or modification, or assignment/subletting of the Lease after the date hereof (unless Agent expressly approved in writing such termination, amendment or modification, or assignment or subletting or the same does not require the Agent's approval pursuant to the terms of the Loan Agreement) of the Lease (provided that, (A) as it relates to any assignments/subletting of Lease undertaken in connection with the terms and provisions set forth in the Lease, Agent shall have the same approval rights as the Landlord has with respect to same and (B) no such approval shall be required with respect to amendments solely evidencing the exercise of Tenant's option to extend the Lease and assignments or sublets that do not require the consent of the Landlord pursuant to the terms of the Lease); (v) bound by any previous prepayment of rent for more than one (1) month of the date due, which was not approved in writing by Agent; (vi) required after a fire, casualty or condemnation of the Property or Premises to repair or rebuild the same to the extent that such repair or rebuilding requires funds in excess of the insurance or condemnation proceeds specifically allocable to the Premises and arising out of such fire, casualty or condemnation which have actually been received by Agent, and then only to the extent required by the terms of the Lease (Agent acknowledging that the exercise by Tenant of its remedies pursuant to Article 9 of the Lease are unaffected by the provisions of this clause (vi)), (vii) be liable for or incur any obligation with respect to any representations or warranties made by Landlord under the Lease; (viii) liable beyond Agent's, such Lender's, or such Successor's, as applicable, interest in the Property and in the rents, proceeds and profits therefrom; or (ix) responsible for any obligation of Landlord to undertake or complete any work or fund any allowance for tenant improvements.

6. **Purchase Rights**. Each of the parties hereto acknowledges that pursuant to the Lease, Tenant holds a right of first offer to purchase the property pursuant to Article 11 of the Lease (the "Purchase Rights"). The parties hereto agree that the Purchase Rights shall remain valid and in full force and effect, but subject and subordinate to the lien(s) of the Security Instrument. In the event that Agent or a Successor succeeds to the interest of Landlord under the Lease, such Purchase Rights shall not be extinguished by a Foreclosure; provided, however, that Agent or Successor shall not be bound to the Purchase Rights, and such Purchase Rights shall not apply, with respect to (i) a Foreclosure, including, without limitation, the granting of, foreclosure under, or giving of a deed-in-lieu of foreclosure under, a mortgage or the granting or exercise of any pledge of ownership interests, or (ii) the first subsequent sale of the Property following Agent's or Successor's acquisition of title to the Property, but thereafter any, successor landlord to Agent or such Successor shall be bound by such Purchase Rights in accordance with the terms of the Lease.

7. **Right to Cure Defaults**. Tenant agrees to give to Agent, either by certified U.S. mail (return receipt requested) or overnight courier service (i.e., FedEx), a duplicate of each notice of any default by Landlord under the Lease at the time Tenant gives such notice to Landlord, specifying the nature of such default, and thereupon Agent shall have the right (but not the obligation) to cure such default, and Tenant shall not exercise its remedies under the Lease unless the Tenant first gives such notice to Agent and provides Agent with notice of such default, and an opportunity to cure the same within a period of time that shall be not less than the period of thirty (30) days beyond any period afforded to the Landlord to cure the default under the provisions of the Lease, and a reasonable period of time in addition thereto (i) if the circumstances are such that said default cannot reasonably be cured within such period and Agent has commenced and is diligently pursuing such cure, plus (ii) a reasonable period (not to exceed 270 days unless the cure cannot be effected without Agent taking possession of the Property) during any litigation or enforcement action or proceeding, including a foreclosure, bankruptcy, reorganization, possessory action or a combination thereof provided that Agent or any Successor provides Tenant with written notice of its intent to cure such default and then proceeds diligently to cure Landlord's default upon acquiring possession of the Premises. It is specifically agreed that Tenant shall not exercise its remedies under the Lease against Agent or any Successor for failure to cure any bankruptcy, insolvency or reorganization default on the part of Landlord, any breach by Landlord of any representation or warranty, or any other breach or default under the Lease that is personal to Landlord or otherwise not reasonably susceptible of cure by Agent or such Successor. Tenant shall accept performance by Agent of any term, covenant, condition or agreement to be performed by Landlord under the Lease with the same force and effect as though performed by Landlord. Without limitation on the foregoing, if the Lease is terminated for any reason other than (a) a termination which is effected unilaterally by Tenant in accordance with the express terms of the Lease, (b) the expiration of the term of the Lease, or (c) a termination that occurs in compliance with this Agreement, then upon Agent's written request given within thirty (30) days after Agent receives written notice of such termination, Tenant shall, within fifteen (15) days after such request, execute and deliver to Agent a new lease of the Premises for the remainder of the term of the Lease, such new lease to be upon all of the same terms, covenants and conditions of the Lease applicable to the remainder of the term of the Lease (as affected by this Agreement).

8. **Tenant's Agreements**. Tenant hereby represents, warrants, covenants and agrees that: (i) Tenant shall not pay any rent under the Lease more than one month in advance of the date due except as expressly required in the Lease with respect to security deposits, operating expenses, taxes and the like; (ii) Tenant shall have no right to appear in any Foreclosure action under the Security Instrument (unless named by Agent in such action, Agent agreeing however not to name Tenant unless required pursuant to applicable laws, and then only for such purposes); (iii) Tenant shall not amend or modify, or assign or sublet, the Lease and Tenant shall have no right to cancel or terminate the Lease, without Agent's prior written consent (provided that, (x) as it relates to any assignments/subletting of Lease undertaken in connection with the terms and provisions set forth in the Lease, Agent shall have the same approval rights as the Landlord has with respect to same and (y) no such approval shall be required with respect to amendments solely evidencing the exercise of Tenant's option to extend the Lease and assignments or sublets that do not require the consent of the Landlord pursuant to the terms of the Lease), and any attempted amendment or modification, assignment or subletting, cancellation or termination of the Lease in violation of the foregoing shall be of no force or effect as to Agent; (iv) Tenant shall not subordinate the Lease to any lien or encumbrance (other than the Security Instrument) without Agent's prior written consent; (v) except as expressly set forth in Section 6, above, Tenant has no right or option of any nature whatsoever, whether pursuant to the Lease or otherwise, to purchase the Property, or any portion thereof or any interest therein, and to the extent that Tenant hereafter acquires any such additional rights or options, the same is hereby acknowledged to be subject and subordinate to the Security Instrument and is hereby waived and released as against Agent and any Successor, (vi) Tenant shall promptly, to the same extent and within the same time period required by the Lease, deliver to Agent, from time to time, a written estoppel statement in the form, and with the certifications, required by the Lease; (vii) this Agreement supersedes and satisfies any requirement in the Lease relating to the granting of a non-disturbance agreement or providing for subordination of the Lease; (viii) Tenant is the sole owner of the leasehold estate created by the Lease; (ix) the interest of Landlord under the Lease is assigned to Agent solely as security for the obligations secured by the Security Instrument, and neither Agent nor the Lenders shall have any duty, liability or obligation under the Lease or any extension or renewal thereof, unless Agent either (a) specifically undertakes such liability in writing, or (b) subject to the express terms of this Agreement, Agent becomes a Successor; (x) if this Agreement conflicts with the Lease, then this Agreement shall govern as between the parties and any Successor, including upon any attornment pursuant to this Agreement; and (xi) upon Agent's transfer or assignment of Agent's interests in the Loan, the Lease (or any new lease executed pursuant to this Agreement), or the Property, Agent shall be deemed released and relieved of any obligations under this Agreement, the Lease (or any new lease executed pursuant to this Agreement), and with respect to the Property.

9. **Authority**. Each of Landlord, Agent, and Tenant warrants and represents to the other parties hereto that it has duly executed and delivered this Agreement and that the execution, delivery and performance by it of this Agreement (i) are within the its powers, (ii) have been duly authorized by all requisite action, and (iii) do not violate any provision of law or any order of any court or agency of government, or any agreement or other instrument to which it is a party or by which it or any of its property is bound.

10. **Miscellaneous**.

Section 10.1 The provisions hereof shall be binding upon and inure to the benefit of Tenant and Agent and their respective successors and assigns, the term "Agent" as used herein includes any successor or assign of the named Agent herein, and the terms "Tenant" and "Landlord" as used herein include any successor and assign of the named Tenant and Landlord herein, respectively; provided, however, that such reference to Tenant's or Landlord's successors and assigns shall not be construed as Agent's consent to any assignment or other transfer by Landlord in any instance where Agent's consent to such assignment or transfer is required hereunder, under the Security Instrument or under any other document executed in connection therewith.

Section 10.2 Any notices, demands or requests to be given under this Agreement shall be in writing and shall be deemed sufficiently given if served personally or upon the first to occur of receipt or the refusal of delivery if mailed by United States certified mail, return receipt requested, postage prepaid, or if sent by prepaid Federal Express or other similar overnight delivery service which provides a receipt, addressed to the Primary Address of Landlord, Tenant or Agent set forth below, along with copies to the applicable Supplemental Addresses set forth below, or such other address as such party may specify in writing from time to time;

If to Tenant:1

Primary Address:

_____
_____
_____

Supplement Addresses:

_____
_____
_____

1 NTD: Tenant contact info to be provided

If to Landlord:

Primary Address:

c/o Oxford Properties Group
450 Park Avenue, 9th Floor
New York, New York 10022
Attention: Legal Department

Supplement Addresses:

DLA Piper LLP (US)
33 Arch Street, 26th Floor
Boston, Massachusetts 02110
Attention: John L. Sullivan

If to Agent:

Primary Address:

Crédit Agricole Corporate and Investment Bank
1301 Avenue of the Americas
New York, New York 10019
Attention: Hayden Arnoux, Jason Chrein, Parag Nagda

Supplement Addresses:

Morrison & Foerster LLP
250 West 55th Street
New York, New York 10019
Attention: Chris Delson

Section 10.3 This Agreement may not be changed, terminated, amended, supplemented, waived or modified orally or in any manner other than by an instrument in writing signed by the party against which enforcement of the change, termination, amendment, supplement, waiver or modification is sought.

Section 10.4 The captions or headings at the beginning of each paragraph hereof are for the convenience of the parties and are not part of this Agreement;

Section 10.5 This Agreement shall be governed by and construed under the laws of the State New York (excluding the choice of law rules thereof);

Section 10.6 This Agreement represents the final agreement between the parties hereto with respect to the subject matter hereof and may not be contradicted by evidence of prior, contemporaneous or subsequent oral agreements of the parties. There are no unwritten oral agreements between the parties with respect to the subject matter hereof.

Section 10.7 If any provision of this Agreement is held to be invalid or unenforceable by a court of competent jurisdiction, such provision shall be deemed modified to the extent necessary to be enforceable, or if such modification is not practicable, such provision shall be deemed deleted from this Agreement, and the other provisions of this Agreement shall remain in full force and effect.

Section 10.8 This Agreement may be executed in one or more counterparts, each of which when so executed and delivered shall be deemed an original, but all of which taken together shall constitute but one and the same instrument.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties hereto have signed and sealed this instrument as of the day and year first above written.

TENANT:

IONIS PHARMACEUTICALS, INC.,
a Delaware corporation

By: _____
Name (Print)_____,
Title:

STATE OF _____)
) ss.:
COUNTY OF _____)

On the ____ day of _____ in the year 202_, before me, the undersigned, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he or she executed the same in his or her capacity, and that by his or her signature on the instrument, the person, or the entity upon behalf of which the person acted, executed the instrument.

_____
Notary Public

AGENT:

CRÉDIT AGRICOLE CORPORATE AND INVESTMENT BANK

By: _____
Name (Print) _____,
Title: _____

By: _____
Name (Print) _____,
Title: _____

STATE OF _____)
) ss.:
COUNTY OF _____)

On the ____ day of _____ in the year 202_, before me, the undersigned, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he or she executed the same in his or her capacity, and that by his or her signature on the instrument, the person, or the entity upon behalf of which the person acted, executed the instrument.

_____
Notary Public

STATE OF _____)
) ss.:
COUNTY OF _____)

On the ____ day of _____ in the year 202_, before me, the undersigned, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he or she executed the same in his or her capacity, and that by his or her signature on the instrument, the person, or the entity upon behalf of which the person acted, executed the instrument.

_____
Notary Public

LANDLORD

2850 2855 & 2859 GAZELLE OWNER (DE) LLC, a Delaware limited liability company

By: _____
Name (Print) _____,
Title: _____

By: _____
Name (Print) _____,
Title: _____

STATE OF _____)
) ss.:
COUNTY OF _____)

On the ____ day of _____ in the year 202_, before me, the undersigned, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he or she executed the same in his or her capacity, and that by his or her signature on the instrument, the person, or the entity upon behalf of which the person acted, executed the instrument.

_____
Notary Public

STATE OF _____)
) ss.:
COUNTY OF _____)

On the ____ day of _____ in the year 202_, before me, the undersigned, personally appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he or she executed the same in his or her capacity, and that by his or her signature on the instrument, the person, or the entity upon behalf of which the person acted, executed the instrument.

_____
Notary Public

Schedule A (to Exhibit E)

PROPERTY DESCRIPTION

Real property in the City of Carlsbad, County of San Diego, State of California, described as follows:

PARCEL 1 OF MINOR SUBDIVISION NO. 2018-0009 IONIS CARLSBAD CAMPUS, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA ACCORDING TO PARCEL MAP NO. 21705 FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY ON AUGUST 1, 2019 AS DOCUMENT NO. 2019-7000286 OF OFFICIAL RECORDS.
APN: 209-120-20-00 (Affects Portion of said land) and
APN: 209-120-27-00 (Affects Portion of said land)

EXHIBIT F

FORM OF NON-DISCLOSURE AND CONFIDENTIALITY AGREEMENT

NON-DISCLOSURE AND CONFIDENTIALITY AGREEMENT

This Non-Disclosure and Confidentiality Agreement (this "***Agreement***") is entered into_____, 20__ (the "***Effective Date***"), by and between [_____], a [_____], whose address is [_____] ("***Prospective Purchaser***"), and **Ionis Gazelle, LLC**, a Delaware limited liability company, whose address is [_____] ("***Ionis***"). Prospective Purchaser and Ionis are sometimes referred to individually as a "***Party***" and collectively as the "***Parties***".

RECITALS

WHEREAS, Ionis currently leases and occupies that certain real property located at 2850, 2855 & 2859 Gazelle Court, Carlsbad, California, 92010 (the "***Property***") pursuant to that certain Lease Agreement dated as of [_____], 2022 (the "***Lease***"), by and between Ionis and 2850 2855 & 2859 Gazelle Owner (DE) LLC, a Delaware limited liability company ("***Landlord***");

WHEREAS, Prospective Purchaser has a bona fide interest in purchasing the Property from Landlord, and may thereby become Ionis' landlord under the Lease;

WHEREAS, in connection with (i) Prospective Purchaser's evaluation of a purchase of the Property, and (ii) Prospective Purchaser's actions as landlord under the Lease, if Ionis shall continue to lease and occupy the Property and in the event Prospective Purchaser purchases the Property (collectively, the "***Purpose***"), Prospective Purchaser may enter the Property and may gain access to materials and information and observe processes which are non-public, confidential or proprietary in nature; and

WHEREAS, the Parties recognize the critical importance of preserving the non-public, confidential or proprietary nature of any disclosed, observed or exchanged materials and information provided in the course of discussions regarding the Purpose and the Property, and Prospective Purchaser potentially becoming Ionis' landlord under the Lease.

NOW THEREFORE, the Parties agree, each with the other, as follows:

1. Confidential Information. Except as set forth in Section 2 below, "***Confidential Information***" means all non-public, confidential or proprietary information (i) disclosed by or on behalf of Ionis, its Affiliates, or their respective agents, or employees (collectively, the "***Ionis Parties***") to Prospective Purchaser, its Affiliates and subcontractors, or their respective agents, employees, or advisors, or any other person or entity providing the services by and through Prospective Purchaser (collectively, the "***PTP Parties***"), whether disclosed orally or in written, electronic or other form or media, and whether or not marked, designated or otherwise identified as "confidential," (ii) observed by any of the PTP Parties in entering on to the Property and (iii) as may be observed or obtained by Prospective Purchaser in the course of acting as landlord under the Lease (should Prospective Purchaser purchase the Property and Ionis shall continue to lease and occupy the Property pursuant to the Lease), including, without limitation, Trade Secret Information, any information that would reasonably be considered non-public, confidential or proprietary given the nature of the information and the Ionis Parties' businesses and all notes, analyses and other materials prepared by or for the Purpose that contain any of the foregoing. As used in this Agreement, "***Trade Secret Information***" means all information that is unique to Ionis' business and that is not commonly known by or available to the public or otherwise known through Prospective Purchaser's business and that: (i) derives or creates economic value for Ionis' business, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy. The Ionis Parties' Trade Secret Information may include, but is not limited to, all confidential information relating to Ionis' business and operations and in the form of the Ionis Parties' research and development plans and activities; design plans; compilations of data; product plans; inventions; engineering processes and activity; manufacturing plans, processes and activity; proprietary computer software and programs (including object code and source code); and proprietary computer and database technologies, systems, structures, and architectures.

2. Exclusions from Confidential Information. The term "Confidential Information" as used in this Agreement shall not include information that:

(a) at the time of disclosure is, or thereafter becomes, generally available to and known by the public other than as a result of any breach of this Agreement by Prospective Purchaser;

(b) at the time of disclosure is, or thereafter becomes, available to Prospective Purchaser on a non-confidential basis from a third-party source, provided that such third-party is not and was not, to Prospective Purchaser's knowledge, prohibited from disclosing the information to Prospective Purchaser by any legal, fiduciary or contractual obligation;

(c) was known by or in the possession of Prospective Purchaser prior to being disclosed by or on behalf of the Ionis Parties pursuant to this Agreement;

(d) was independently developed by Prospective Purchaser without reference to or use of, in whole or in part, any Confidential Information; or

(e) Ionis has agreed in writing is free of such obligations.

3. Confidential Information and Other Property of the Ionis Parties. All Confidential Information shall be deemed the property of the Ionis Parties. All information, documents, and electronic media (including, but not limited to Confidential Information) furnished by or on behalf of the Ionis Parties to the Prospective Purchaser shall be the property of the Ionis Parties.

4. Prospective Purchaser Obligations. Prospective Purchaser shall:

(a) protect the Confidential Information from unauthorized disclosure and use, with at least the same degree of care as the Prospective Purchaser would use in protecting its own confidential information, but no less than a commercially reasonable degree of care;

(b) not use the Confidential Information, or permit it to be accessed or used, for any purpose other than the Purpose;

(c) not disclose the Confidential Information to any person or entity, including, without limitation, to any of the PTP Parties, except to PTP Parties who: (i) need to know the Confidential Information to assist Prospective Purchaser, or act on its behalf, in relation to the Purpose; (ii) are informed by Prospective Purchaser of the confidential nature of the Confidential Information (each an "***Authorized Party***") (Prospective Purchaser acknowledging that a breach of this Agreement by a PTP Party shall be treated as a breach of this Agreement by Prospective Purchaser);

(d) not use any of the Ionis Parties' computers, computer systems, equipment, tools, or other property of the Ionis Parties without Ionis Parties' consent;

(e) not use any Confidential Information to compete or prepare to compete against the Ionis Parties, or for or on behalf of any competitor of the Ionis Parties;

(f) upon Ionis' written request, destroy or deliver promptly to Ionis, or Ionis' designee, all Confidential Information (including all copies thereof, regardless of the medium in which such information may be stored) and all computers, equipment, tools, and other property of the Ionis Parties that happen to be in Prospective Purchaser's possession;

(g) promptly notify Ionis upon discovery of any unauthorized disclosure of Confidential Information caused by Prospective Purchaser and reasonably cooperate with Ionis in any effort undertaken by Ionis to enforce its rights related to any such unauthorized disclosure;

(h) not record in any form, including by hand, video or audio, any Trade Secret Information observed on the Property, without Ionis' written consent;

(i) be responsible if any provisions of this Agreement are violated by any Authorized Party;

(j) at all times while on the Property be accompanied by an authorized representative of Ionis and not attempt to access areas of the Property without being accompanied by such authorized representative unless Ionis provides its express written consent to access without being accompanied; and

(k) at all times while on the Property follow all safety protocols as instructed by an authorized representative of Ionis.

5. Prospective Purchaser Representations and Warranties. Prospective Purchaser represents and warrants that:

(a) the performance of its obligations herein does not and will not violate any other contract or obligation to which Prospective Purchaser is a party, including covenants not to compete and confidentiality agreements; and

(b) unless and until becoming landlord under the Lease (as and to the extent Ionis continues to lease and occupy the Property pursuant to the Lease), it is entering upon the Property for the sole purpose of evaluating a potential purchase of the Property.

6. No Ionis Representations or Warranties; Disclaimer of Liability. The Ionis Parties make no representation or warranty, express or implied, as to the accuracy or completeness of the Confidential Information disclosed to Prospective Purchaser hereunder. The Ionis Parties shall not be liable to Prospective Purchaser for any losses relating to or resulting from the Prospective Purchaser's use of any of the Confidential Information or any errors therein or omissions therefrom.

7. Court Ordered Disclosure. Notwithstanding anything to the contrary herein, Prospective Purchaser may disclose certain Confidential Information, without violating the obligations of this Agreement, to the extent such disclosure is required by law or regulation or by a subpoena or other validly issued administrative or judicial process, provided that, Prospective Purchaser shall (a) provide Ionis with reasonable prompt notice of the disclosure(s) (to the extent legally permissible), (b) limit disclosure to only that portion of the Confidential Information which Prospective Purchaser is legally compelled to disclose and (c) reasonably cooperate in assisting Ionis (at Ionis' expense) in its efforts to ensure confidential treatment will be accorded any Confidential Information so furnished (to the extent legally permissible).

8. Survival of Obligations; Return or Destruction of Confidential Information. Prospective Purchaser's obligations to protect any Confidential Information received from the Ionis Parties shall continue for a period of three (3) years from the date of disclosure, notwithstanding whether or not Prospective Purchaser purchases the Property. At Ionis' written request, so long as the same is no longer necessary for Prospective Purchaser's use in connection with the Purpose, Prospective Purchaser shall promptly destroy all copies, whether in written, electronic or other form or media, of the Ionis Parties' Confidential Information and certify in writing to Ionis that such Confidential Information has been destroyed; provided that Prospective Purchaser shall not be required to destroy electronic copies of any portions of the Confidential Information created pursuant to standard archival or back-up procedures and not available to end users, and provided that Prospective Purchaser may retain one (1) copy of the Confidential Information for its legal archives for the sole purpose of documenting its receipt thereof.

9. No Proprietary Interest. Prospective Purchaser understands and agrees that Prospective Purchaser shall not obtain any proprietary interest in any Confidential Information. This Agreement shall not operate in a way to grant or confer any right or license in any of the Confidential Information, nor as a consent by the Ionis Parties to Prospective Purchaser for Prospective Purchaser's use of any Confidential Information which may become public knowledge through any breach of this Agreement by or on behalf of Prospective Purchaser.

10. Agreement Confidential. The existence of this Agreement shall be considered to be of a confidential nature and shall be accorded the same protections as the Confidential Information.

11. No Further Agreement. Nothing in this Agreement shall be construed as representing any commitment by either Party to enter into any other agreement, whether relating to the Purpose or otherwise. Neither the execution and delivery of this Agreement nor the delivery of any Confidential Information hereunder shall be construed as granting to Prospective Purchaser by implication, estoppel or otherwise, any right in or license under any present or future invention, trade secret, trademark, copyright, or patent, now or hereafter owned or controlled by the Ionis Parties.

12. Remedies. Prospective Purchaser acknowledges and agrees that the Confidential Information is a valuable, special and unique asset of the Ionis Parties' business which gives the Ionis Parties an advantage over the Ionis Parties' actual and potential competitors and any unauthorized disclosure or unauthorized use of the Confidential Information may irreparably injure the Ionis Parties. If any action should have to be brought by Ionis against Prospective Purchaser to enforce the provisions of this Agreement, Prospective Purchaser recognizes, acknowledges and agrees that Ionis shall be entitled to seek all of the civil remedies provided by federal, state and local law, including without limitation, preliminary and permanent injunctive relief restraining Prospective Purchaser from any actual or threatened unauthorized use or disclosure of any Confidential Information, in whole or in part. Nothing in this Agreement shall be construed as prohibiting Ionis from pursuing any other legal or equitable remedies available for breach or threatened breach of this Agreement.

13. Notice. Any and all notices or other communications or deliveries required or permitted to be given or made pursuant to any of the provisions of this Agreement shall be in writing and: (i) hand delivered; (ii) sent by a nationally recognized overnight courier, costs prepaid, or (iii) sent by email, provided that the sender promptly delivers a hard copy to the recipient by the method set forth in (i) or (ii), in each case to the applicable addresses set forth below or to such other address as such Party has designated by notice so given to the other Party:

If to Ionis:	Ionis Gazelle, LLC Attention: Email:
with a copy to:	Cooley LLP 4401 Eastgate Mall San Diego, CA 92121-1909 Attn: David L. Crawford, Esq. Email: [***]
If to Prospective Purchaser:	_____ _____ _____ _____

Such notice sent in accordance with clauses (i) or (ii) shall be deemed to have been given upon the date of actual receipt or delivery (or refusal to accept delivery), as evidenced by the notifying Party's receipt of written or electronic confirmation of such delivery or refusal, and such notice sent electronically in accordance with clause (iii) shall be deemed to have been given upon the date that such electronic notification was sent, provided such notice clearly confirms, without alteration of the email, the date and time the email was sent, in each case if such notice is received by the Party to be notified between the hours of 8:00 A.M. and 5:00 P.M. Pacific time on any business day, with delivery made after such hours to be deemed received the following business day.

14. Rules of Construction.

(a) This Agreement shall be governed and construed in accordance with the statutory and common law of the State of California and applicable federal law, without regard to any conflicts of law principles that. Any actions brought to enforce or interpret this Agreement shall be brought only in a court of competent jurisdiction located in the State of California.

(b) No change, modification or termination of any other terms, provisions, or conditions of this Agreement shall be effective unless made in writing and signed or initialed by both Parties to this Agreement. The waiver by a Party of a breach or a threatened breach of any provision of this Agreement by the other Party shall not be construed as a waiver of any subsequent breach.

(c) Each provision of this Agreement shall be valid and enforced to the fullest extent permitted by law. The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision.

(d) This Agreement constitutes the entire Agreement between the Parties pertaining to the subject matter hereof, and it supersedes all negotiations, preliminary agreements, and all prior and contemporaneous discussions and understandings of the Parties in connection with the subject matter hereof. Following the acquisition of the Property by Prospective Purchaser or its Affiliate, if it occurs, this Agreement shall be deemed incorporated into the Lease by reference and shall terminate at such time, if any, as Prospective Purchase or such Affiliate ceases to be the Landlord thereunder.

(e) This Agreement may be executed in any number of counterparts, and by facsimile or electronically transmitted signature and each such counterpart and signature shall be deemed to be an original and all of which shall constitute one agreement that is binding on all parties hereto.

(f) As used herein, "***Affiliates***" means any individual, partnership, corporation, limited liability company, limited liability partnership, trust or other entity that directly, or indirectly through one or more intermediaries, controls, is controlled by or is under common control with a Party. For the purposes of this definition, "control" means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of an individual, partnership, corporation, limited liability company, limited liability partnership, trust or other entity, whether through the ownership of voting securities, by contract or otherwise, and the terms "controlling" and "controlled" have the meanings correlative to the foregoing.

IN WITNESS WHEREOF, the Parties have executed this Agreement effective as of the date first set forth above.

IONIS GAZELLE, LLC	**[PROSPECTIVE PURCHASER]**
By: _____	By: _____
Name: _____	Name: _____
Title: _____	Title: _____

EXHIBIT G

LANDLORD SIGNAGE

EXHIBIT H

PLANS AND SPECIFICATIONS FOR
CONFERENCE CENTER ALTERATIONS

The plans and specifications prepared by DGA | Planning | Architecture | Interiors for IONIS PHAMRACEUTICALS for the "CONFERENCE CENTER OFFICE CONVERSION TENANT IMPROVEMENT" (Project No. 22047) at 2850 GAZELLE COURT, CARLSBAD, CA 92010, referencing Schematic Design dated 3/18/2022, Design Development dated 4/15/2022, Construction Documents dated 5/17/2022, and Plan Check Resubmittal #1 dated 6/16/2022, copies of which are on file with Landlord.

EXHIBIT I

TENANT IMMEDIATE AND SHORT TERM REPAIRS

[***]

EXHIBIT J

COMMENCEMENT AND TERMINATION DATE AGREEMENT

THIS COMMENCEMENT AND TERMINATION DATE AGREEMENT, made as of _____, 20__, is by and between 2850 2855 & 2859 Gazelle Owner (DE) LLC, a Delaware limited liability company ("Landlord"), and Ionis Pharmaceuticals, Inc., a Delaware corporation ("Tenant"). Reference is made to that certain Lease Agreement dated _____, 2022, (the "Lease") pursuant to which Landlord leases to Tenant the Premises described therein.

1. Capitalized terms used, but not defined, herein shall have the same meanings given to them in the Lease.

2. The Commencement Date occurred on _____, 20____.

3. The Expiration Date is scheduled to occur on _____, 20____, unless Tenant exercises any option to extend the Term of the Lease or unless the Lease terminates earlier as provided in the Lease.

4. The date of commencement of the first Extension Option shall be _____, 20___, if Tenant effectively exercises its option in respect thereof, and if Tenant does so, the Term of the Lease shall expire on _____, 20___, unless Tenant exercises any option to further extend the Term of the Lease or unless the Lease terminates earlier as provided in the Lease.

5. The date of commencement of the second Extension Option shall be _____, 20___, if Tenant effectively exercises its option in respect thereof, and if Tenant does so, the Term of the Lease shall expire on _____, 20___, unless Tenant exercises any option to further extend the Term of the Lease or unless the Lease terminates earlier as provided in the Lease.

6. The parties agree that this Agreement may be electronically signed pursuant to the terms of the ESIGN Act of 2000 and is legally binding. The parties agree that any electronic signatures appearing on this Agreement are the same as handwritten signatures for the purposes of validity, enforceability and admissibility.

IN WITNESS WHEREOF, the parties hereto have caused this Commencement and Termination Date Agreement to be executed as of the date first above written.

LANDLORD:
2850 2855 & 2859 Gazelle Owner (DE) LLC

By: _____
Name: _____
Title: _____

TENANT:
Ionis Pharmaceuticals, Inc.

By: _____
Name: _____
Title: _____

EXHIBIT K

TENANT CONSTRUCTION MANUAL

[Attached]

Section 1: GENERAL INFORMATION

1.01 Introduction

These Construction Rules and Regulations been prepared to introduce Tenants and Contractors to the Oxford Properties Group Design, Systems and Building Regulations in order to assist in the design and construction of the leased premises. These Rules and Regulations are to be read in conjunction with the building lease document. In the event of any conflict between these Rules and Regulations and the lease, the provisions of the lease or any other specific written agreements between the Landlord and Tenant shall prevail.

Subject to the preceding paragraph, the Landlord reserves the right, from time to time, to add to or amend the information, procedures and regulations contained herein in a reasonable manner consistent with similar single tenant NNN facilities in the Carlsbad, California area and the Lease, upon reasonable prior notice to Tenant. Any such additions or amendments will affect any Construction work undertaken after the addition or amendment has been issued.

1.02 Tenant Coordination

The Landlord will appoint the Property Manager who will act as a point of contact within the Landlord's organization. All questions, comments and submissions are to be addressed to:

Oxford Properties Group
_____
_____

1.03 Tenant Design and Working Drawings

To the extent required by the Lease, please submit for review a detailed scope of work, PDF and CAD ver. 14 or later and three (3) sets of Tenant Design Working Drawings and Specifications of all work proposed within the Leased premises. The landlord requires that drawing packages are provided in the following stages:

- Preliminary space plan
- Building Permit submission
- Issued for Construction Submission
- As-built drawings as further outlined in the Lease

To the extent Landlord’s approvals of such drawings is required by the Lease, once drawings have been reviewed the Landlord will forward an approval letter to the Tenant outlining any comments or changes, if any, that pertain to the drawings. The drawings may be subject to change if requested. Revised drawings are to include all the comments and corrections and a set of prints provided prior to commencing work. Drawings to be resubmitted shall be revised to conform to the requirements and re-submitted for subsequent Landlord review. Any revisions to the Landlord reviewed drawings must be submitted for further review, and work must not proceed until the revised drawings are returned to the contractor. A Copy of the Landlord reviewed drawings must be kept on the job site for viewing throughout the construction period. Landlord shall respond to requests for approval as provided in the Lease.

Additional or expanded information, for purposes of definition or clarification before giving approval may be required. Working drawings should supply the information listed below (depending on the stage).

1.03.01 ***Complete Floor Plans (drawing scale of 1/8" = 1')***

a) Location of all major fixed elements within the leased premises dimensionally related to grid lines and demising partitions.

b) Location and layout of rooms of unusual loading concentrations such as cranes, racking areas and calculations of unusual loadings which may result in floor damage.

c) Location of power, telephone, data and communications outlets. Room names and uses.

d) Floor materials and finishes throughout the premises.

e) Location of exit lights.

1.03.02 ***Complete Reflected Ceiling Plans (scale: 1/8" = 1')***

These should include lighting layout.

1.03.03 ***Complete Construction Details***

These plans should be appropriately scaled and indicate methods of construction.

1.03.04 ***Complete Electrical, Mechanical, Sprinkler, Building Automation, Security, Communications, Data, Life Safety System Drawings (scale: 1/8"=1') complete with Engineer's stamp.***

Details of all alterations and all additions to the **BASE BUILDING**, as well as base building conditions, which remain unchanged.

Details of all metering equipment changes to conform to base building standards. Schedule for any changes to fire, sprinkler and security systems.

1.03.06 ***Complete Structural Drawings***

These drawings must be supplied where special conditions warrant their production i.e. openings in slabs, erection of racking units, the addition of cranes, ramps, etc.

1.03.07 ***Completion***

Upon completion of construction, to the extent required by the Lease the Tenant is responsible to submit “as built” Architectural, Electrical, Mechanical, Security, Communications, Data and Structural Drawings on CAD ver. 14 or later disk to the Landlord for their records.

1.04 Certificates and Approvals

The Tenant is responsible for ensuring that all the following requirements have been complied with before construction begins:

1. **Insurance**. Landlord requires evidence of insurance for contractors and subcontractors as required by the Lease.

2. **Permits** Tenant's design and construction work must comply with all applicable by-laws. The Tenant must obtain all necessary permits and approvals or construction work in the leased premises from the appropriate government authorities. Permits and approval that are required to commence construction must be obtained before construction begins within the leased premises. A copy of all permits must be delivered to the Landlord. The Tenant must correct immediately any work, which does not meet with the approval of the building inspector, even though the Tenants drawings may have been reviewed previously by the appropriate government authorities and the Landlord.

3. **Applicable Hazardous Materials Law**. All contractors, sub-trades and suppliers shall abide by applicable laws governing use of Hazardous Materials when working in the Building.

4. **Workers Compensation** To the extent applicable, Tenant contractor shall furnish written evidence of good standing with the North Carolina Industrial Commission and that all employees engaged in the work are covered in accordance with the statutory requirements of authorities having jurisdiction.

5. **Occupational Health and Safety** The Tenant acknowledges that it is solely responsible for the health and safety of all its employees and workers, as well as for the continuing safe conditions in the Premises. The Tenant shall comply with and shall require all of its employees and workers to comply with the provisions of all Laws respecting Occupational Health and Safety, the Environment, Worker's Compensation and the safe condition of the Premises.

   All materials and supplies used by the Tenant's personnel in the Demised Premises and the Lands shall be used, handled, stored, otherwise dealt with and properly labeled in accordance with the Workplace Hazardous Materials Information System.

1.05 Appointment of Contractors

All Tenant contractors are subject to approval by the Landlord to the extent provided in the Lease.

1.06 Reserved

1.07 Commencement of Construction

For work subject to Landlord consent, the Tenant is required to carry out its construction work in strict accordance with the “Landlord Reviewed Drawings", subject to modifications permitted in accordance with the Lease.

Construction may proceed only after the Tenant has:

a) Submitted acceptable evidence of insurance coverage to the Landlord as set out in these Rules and Regulations.
b) Posted all required permits and safety signage on site, where applicable.
c) For work subject to Landlord’s consent, made available on the leased premises one (1) set of prints, of the Tenant Design Working Drawings and Specifications for the duration of the construction period for reference by the Landlord's Tenant Coordinator.
d) For work subject to Landlord’s consent, submitted a schedule showing the timetable for the progress and completion of the Tenant's work and a list of all trades requiring access to the premises including the trades address and telephone number.

1.08 Completion of Tenant’s Construction

Following completion of the job, and within 30 days, the Tenant must submit to the Landlord a certificate from its architect or designer stating that all work, including that of the mechanical and electrical contractors (if any), has been completed substantially in accordance with the reviewed drawings if such work was subject to Landlord’s consent. Upon the request of Landlord or the property manager, Tenant shall provide similar certifications for Minor Alterations previously performed (to the extent not already in the possession of Landlord).

A full set of architectural, mechanical and electrical "as built" CAD drawings ver. 14 or later shall accompany the above noted certificates where required by the Lease.

Further, the Landlord requires copies of all permits and certificates issued by authorities having jurisdiction over all or any part of the Tenant's Alterations. For work requiring Landlord’s consent, such copies shall be provided prior to the commencement of work, or within 30 days following the completion of such work to the extent obtained during or following completion. Upon the request of Landlord or the property manager, Tenant shall provide copies of all permits and certificates issued by authorities having jurisdiction over all or any part of Minor Alterations previously performed (to the extent not already in the possession of Landlord).

Section 2: RULES AND REGULATIONS GOVERNING TENANT WORK

While carrying out work in the leased premises, the Tenant and all of its contractors, agents and employees are required to abide by the reasonable rules and regulations defined and communicated by the Landlord in advance. *Failure to comply will result in work stoppage.*

2.01 Inspection of Tenant Work in Progress

As and to the extent provided in the Lease, the Landlord and its agents, architects, engineers and consultants shall have reasonable access to the Tenant's premises for the purpose of inspecting the Tenant work in progress. If Landlord and its architects, engineers or consultants note deficiencies in the Tenant work, Tenant shall correct the same. **Contractor/Tenant must contact the appointed Property Manager to attend final inspection of work that is subject to Landlord's consent under the Lease.**

2.02 Security Control

Tenant is responsible for providing its contractor's access to the Premises.

The Tenant is fully responsible for the physical security of the leased premises and the contents therein throughout the construction period.

2.03 Public Safety

It is the Tenants responsibility to ensure that the Tenant contractor observes and complies with all applicable construction safety regulations.

2.04 Emergency Contact

The Tenant and its contractor are required to post at the site the emergency contact name and telephone number with copies forwarded to Landlord.

2.05 Temporary Services

The Tenant's Contractor is responsible for the distribution of temporary power and telephone service within the leased premises during the construction period. The Tenant and Tenant's Contractor are responsible for providing operable fire extinguishers in the premises throughout the construction period. Landlord shall have no obligation to provide any services to Tenant's Contractor.

2.06 Work Areas

All construction materials, tools, equipment and workbenches must be kept within the leased premises throughout the construction period and not stored in areas outside of the building.

2.07 Waste Removal

Removal of garbage and construction debris generated by the work of a Tenant's contractor will be the total responsibility of the contractor, subject to the waste removal and recycling program of the complex, if any.

All disposals to comply with applicable law.

All cost incurred are responsibility of the Tenant and Contractor.

2.08 Drilling or Cutting

Tenant's contractor is not permitted to drill, cut or chase openings of any description in any part of the building structure without prior approval from the Landlord as and when provided under the Lease. If such work is approved by the Landlord, drilling, etc. shall be carried out by the Tenant's Landlord approved contractor at the Tenant's cost. Any work of this type may require x-ray inspection of the slab prior to drilling, which will also be at the Tenant's expense.

2.09 Welding

If pressurized gas cylinders are used for welding, cutting or other purposes, the Tenant's contractor shall ensure that their use is in accordance with requisite safety provisions and requirements. An operational fire extinguisher shall be available in the immediate vicinity of the work.

No welding or soldering on any part of a floor shall be done without knowledge of the Landlord as these activities may trigger a fire alarm. Work Permits requesting the deactivation of a floor's fire alarm system must be obtained from the Landlord.

2.10 Hot Work Permits

The Contractor is responsible for providing the required “Fire Watch” during and after the Hot Work is completed.

2.11 Wiring and Conduit

All wiring must be a minimum of #12 solid wire for runs under 75 feet and a minimum #10 solid wire for runs greater than 75 feet. Absolutely no BX cable is to be used in the electrical rooms.

All cabling and telephone type wiring used above the ceiling must be installed in conduit in accordance with the Building and Fire Codes. Conduit may not be required when cabling with FT6/IBM type 2 or 4 (fire rated) cable, if approved by the Landlord.

2.12 Smoking

There is no smoking allowed in any Oxford Property managed buildings or loading docks including the Construction areas.

2.13 PENALTIES FOR FALSE ALARMS

Tenant is responsible for all governmental penalties imposed on account of false alarms, except to the extent caused by Landlord or any of its agents or contractors or their respective employees.

Section 3: READY TO START

3.01 Are You Ready to Start Construction?

Prior to a work permit being issued by the Landlord for work requiring Landlord consent, the following items must be completed and submitted to the Landlord's Tenant Coordinator.

- Drawings, Specifications and Scope of Work as outlined within this document.
- Insurance Certificate provided on Landlord's standard form.
- Building Permit or copy of Building Permit application.
- List of Contractors and Trades to be used including contact names and phone numbers.
- Detailed Construction Schedule.
- Emergency Contact Numbers for all contractors and supervisors responsible for project.

3.02 Have You Completed Construction?

It is the tenant's responsibility to ensure the construction has been completed in accordance with this Document. The following documents must be complete and submitted to the Landlord's Tenant Coordinator for work requiring Landlord consent.

- Fire Alarm and Life Safety Verification.
- Architect's Certificate of Completion.
- Final Electrical and Mechanical engineers sign-off stating work is completed substantially in accordance with design drawings and specifications.
- Copies of all permits and certificates related to work.
- As-built Mechanical Drawings with the associated CAD disk ver. 14 or later. Disks are to be labeled as follows:
  - Indicate "As-Builts" – Mechanical
  - Name of Contractor
  - Project Name, Floor and Address
  - Project Date (Month-Year)
  - Name of Company Prepared By
- As and to the extent required by the Lease, As-built Electrical Drawings with the associated CAD disk ver. 14 or later. Disks are to be labeled as follows:
  - Indicate "As-Builts" – Electrical
  - Name of Contractor
  - Project Name, Floor and Address
  - Project Date (Month-Year)
  - Name of Company Prepared By

Exhibit A

REQUIRED CONTRACTOR AND SUBCONTRACTOR INSURANCE

Certificates of Insurance

Landlord requires all contractors and subcontractors performing work at the Property to carry insurance. Property Management collects certificates of insurance, which contain information about the vendor's insurance. This insurance must meet certain minimum requirements and name Landlord, Oxford Properties Group, Arcadia Management Group, Inc., and Oxford I Asset Management US as additional insureds.

Service Contractor Certificates

The specific insurance requirements for a particular service contractor are those written into their contract with the building owner/manager or tenant, and to the extent approved by Landlord these may differ from the guidelines listed below. When determining whether or not a certificate shows coverage that meets the actual requirements for a particular service contractor, always refer to the contract wording.

The standard operating procedures require having a certificate of insurance naming Landlord, Oxford Properties Group, Arcadia Management Group, Inc., and Oxford I Asset Management US as additional insured, and having a signed contract/service agreement in place listing the insurance requirements and having an indemnification section.

General Guidelines

The following are insurance guidelines for contractors and subcontractors performing work under $20,000,000; for work in excess of such amount, the limits of liability will be subject to Landlord's reasonable approval. Landlord and Tenant shall reasonably cooperate in good faith to determine such insurance liability limits within thirty (30) days after the Effective Date.

1. **Workers Compensation:** Statutory Coverage in accordance with the laws of your state.

2. **Employers Liability:** Limits of not less than $1,000,000 each accident/occurrence, $1,000,000 each employee/disease, $1,000,000 disease/policy limit.

3. **General Liability:** Please see the chart below for General Liability per Occurrence/ General Aggregate.

   Commercial General Liability, including but not limited to comprehensive form, premises operations, explosion and collapse hazard and underground hazard, products and a minimum of twelve (12) months completed operations hazard, contractual liability on a "blanket" basis designating all written contracts related to the work, broad form property damage (including completed operations), independent contractors' protective, personal injury liability, automobile liability comprehensive form for owned, hired and non-owned vehicles, elevators and escalators hazards, and incidental medical malpractice coverage hazards, and as follows: combined single limits for (i) bodily injury and (ii) property damages, endorsed such that the policy aggregate applies to each property location where work occurs. Bodily injury shall include, without limitation, damages for care and loss of services because of bodily injury, including death at any time resulting therefrom, sustained by any person or persons. Property Damage Liability Insurance shall include, without limitation, losses due to damages to or destruction of tangible property, including loss of use of such property resulting therefrom in compliance with the amounts set forth above; Contractor shall provide X, C and U coverage if Contractor's operations involve any exposure to explosion, collapse or underground damage. Products and Completed Operations to be maintained for 3 years after final payment.

4. **Automobile Liability:** Bodily injury and property damage in an amount not less than $2,000,000 combined single limit covering all owned, non-owned, hired or leased vehicles.

5. **Excess / Umbrella Liability:** $1,000,000 in excess of the above primary Employer's Liability, General Liability, and Automobile Liability.

6. **Property:** Property Insurance will cover the physical loss, including theft, or damage to equipment, machinery, supplies or tools owned, leased, hired or borrowed by contractor, utilized or operated by contractor while performing contracted services. The valuation basis shall be "replacement cost".

7. **Professional Liability (Errors and Omissions):** If the nature of the work involves a professional liability exposure (e.g. design/build), contractor shall maintain professional liability (errors and omissions) coverage at a minimum limit of $2,000,000 or $5,000,000, depending on project size, for each claim.

8. **Contractors Pollution - Asbestos Legal Liability:** If the nature of the services performed involves pollutants or any other materials which would affect soil, water or structures, then the contractor shall maintain contractors pollution – asbestos legal liability coverage for a limit of not less than $1,000,000 each occurrence - $2,000,000 policy aggregate, including errors and omissions. However, see attached requirements for higher limits for asbestos abatement and hazardous material removal contractors.

Certificate Holders, Additional Insured's, and Additionally Insured Endorsement

Service contractors are required to add the Landlord as an additional insured with regard to the General Liability policy. An additional Additionally Insured Endorsement is required based on the required amounts contained in the Certificate of Insurance Limits chart below.

CERTIFICATE OF INSURANCE LIMITS REQUIREMENT

1. For insurance requirements for crane lifts or any special contract work; contact for the property team for specific coverage and language.

2. Commercial General Liability Coverage Required (millions, per occurrence and aggregate) is the sum of the basic coverage + excess umbrella.

   See Example for Electrical Maintenance below:

- Commercial General Liability Coverage Required = 5MM. This requirement is met by:
- General Liability each Occurrence 3MM + Excess umbrella 2MM = 5MM
- General Liability General Aggregate 3MM + Excess umbrella 2MM = 5MM

Certificate of Insurance Limits

Type of Service	General Liability Each Occurrence / General Aggregate	Employers' Liability Each Accident / Disease – Each Employee / Disease – Policy Limit	Automobile Liability Combined Single Limit	Excess / Umbrella Liability Each Occurrence / Aggregate
Alarm Systems Service and Repair	1MM / 2MM	1MM	1MM	2MM
Appliance Repair & Maintenance	1MM / 1MM	1MM	1MM	1MM
Architectural *	3MM / 3MM	1MM	1MM	2MM
Asbestos Abatement and Hazardous Material Removal ****	5MM / 5MM	1MM	1MM	10MM
Audio-Visual Equipment	1MM / 1MM	1MM	1MM	1MM
Backflow Testing	1MM/1MM	1MM	1MM	1MM
Cabling	1MM / 1MM	1MM	1MM	2MM
Carpet/Floor Finishes	1MM / 2MM	1MM	1MM	2MM
Crane/Rigging	5MM / 5MM	1MM	1MM	10MM
Custom Fabrication & Installation Millwork	1MM / 1MM	1MM	1MM	2MM
Doors & Locks	1MM / 1MM	1MM	1MM	1MM
Electrical Maintenance	3MM / 3MM	1MM	1MM	2MM
Elevator/Escalator Service & Maintenance	5MM / 5MM	1MM	1MM	10MM
Elevator interior installation	2MM / 3MM	1MM	1MM	5MM
Engineering Consulting Service*	3MM / 3MM	1MM	1MM	2MM
Fire Extinguishing in Restaurants	1MM / 1MM	1MM	1MM	2MM
Fitness Equipment Maintenance	1MM / 2MM	1MM	1MM	2MM
Garbage Removal & Disposal, incl. dumpster maintained on premises	1MM / 2MM	1MM	1MM	2MM
General Contractors	3MM / 3MM	1MM	1MM	2MM
Generator Maintenance	1MM / 3MM	1MM	1MM	2MM
Glass Repair & Maintenance	1MM / 2MM	1MM	1MM	2MM
Glass Repair & Maintenance elevated	5MM / 5MM	1MM	1MM	10MM
Graffiti Removal	1MM / 3MM	1MM	1MM	2MM

Type of Service	General Liability Each Occurrence / General Aggregate	Employers' Liability Each Accident / Disease – Each Employee / Disease – Policy Limit	Automobile Liability Combined Single Limit	Excess / Umbrella Liability Each Occurrence / Aggregate
Handyman	1MM / 1MM	1MM	1MM	2MM
Heating, Ventilation & Air Conditioning Service/install	3MM / 3MM	1MM	1MM	2MM
Insulation/Fiberglass	1MM / 3MM	1MM	1MM	2MM
Interior Design Consulting*	1MM / 2MM	1MM	1MM	2MM
Life Safety/Fire Equipment	3MM / 3MM	1MM	1MM	2MM
Life Safety/Monitoring	3MM / 3MM	1MM	1MM	2MM
Lighting re-lamping (interior)	1MM / 2MM	1MM	1MM	2MM
Elevated Lighting Maintenance	5MM /5MM	1MM	1MM	5MM
Moves/Relocations/ reconfiguration	3MM / 3MM	1MM	1MM	2MM
Office Equipment Service	1MM / 2MM	1MM	1MM	2MM
Overhead and Revolving Door	1MM / 2MM	1MM	1MM	2MM
Painting	1MM / 2MM	1MM	1MM	2MM
Parking Surface Maintenance/sweeping	2MM / 2MM	1MM	1MM	2MM
Paving and Striping	2MM / 3MM	1MM	1MM	2MM
Plumbing	3MM / 3MM	1MM	1MM	2MM
Power washing (non-elevated)	1MM / 2MM	1MM	1MM	2MM
Power washing (elevated)	5MM /5MM	1MM	1MM	5MM
Pump Maintenance	3MM / 3MM	1MM	1MM	2MM
Roofing	5MM /5MM	1MM	1MM	10MM
Signage non elevated	2MM / 2MM	1MM	1MM	2MM
Signage Elevated	5MM / 5MM	1MM	1MM	10MM
Sprinkler System Service and Repair	3MM / 3MM	1MM	1MM	2MM
Stonework/Marble/wood/ metal cleaners and refinishers Repair & Maintenance	1MM / 2MM	1MM	1MM	2MM
Telecommunications and TV Equip. Master Wiring and Antennas (non-elevated)	3MM / 3MM	1MM	1MM	2MM

Type of Service	General Liability Each Occurrence / General Aggregate	Employers' Liability Each Accident / Disease – Each Employee / Disease – Policy Limit	Automobile Liability Combined Single Limit	Excess / Umbrella Liability Each Occurrence / Aggregate
Telecommunications and TV Equip. Master Wiring and Antennas (elevated or roof)	5MM / 5MM	1MM	1MM	5MM
UPS/SEP Equipment Maintenance	3MM / 3MM	1MM	1MM	2MM
Walk Off Mat Cleaning	1MM / 1MM	1MM	1MM	2MM
Water Treatment	1MM / 2MM	1MM	1MM	2MM
Window coverings (non- elevated)	1MM / 1MM	1MM	1MM	2MM
Window Washing and Swing Station Equipment Services	5MM / 5MM	1MM	1MM	10MM

***** Design and Engineering vendors must include Professional Errors and Omissions Insurance in the following amounts:

- Architects = 5MM
- Engineers = 5MM
- Interior Design = 2MM (or call Risk Management if limited scope)
- Any deviation from requested amount should be cleared through Oxford Properties Risk Management.
- Errors & Omissions is not based on spend, but rather the scope detail (access liability), such as no structural issues and what amount of damage/cost could be sustained if done incorrectly.

This Exhibit A may be updated from time to time as may be reasonably requested by Landlord at any time after the end of the fifth (5th) Lease Year and no more frequently than once every three (3) Lease Years thereafter, but not in excess of the amounts and types of insurance then being required by landlords of buildings comparable to and in the vicinity of the Building.

EXHIBIT L

TENANT STANDARD OPERATING PROCEDURES

[Attached]

[***]

CERTAIN CONFIDENTIAL PORTIONS OF THIS EXHIBIT HAVE BEEN OMITTED AND REPLACED WITH "[***]". SUCH IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THIS EXHIBIT BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL.

DEFEASANCE PLEDGE AND SECURITY AGREEMENT

THIS DEFEASANCE PLEDGE AND SECURITY AGREEMENT (this "**Agreement**") dated as of October 20, 2022 is made by and among **IONIS GAZELLE, LLC**, a Delaware limited liability company ("**Original Borrower**"), **WELLS FARGO BANK, NATIONAL ASSOCIATION, AS TRUSTEE FOR THE BENEFIT OF THE REGISTERED HOLDERS OF UBS COMMERCIAL MORTGAGE TRUST 2017-C3, COMMERCIAL MORTGAGE PASS-THROUGH CERTIFICATES, SERIES 2017-C3**, as secured party (said Trustee or its successors and assigns, "**Lender**"), and, for the sole purpose of agreeing to the provisions of **Sections 6(a)(viii), 7, 8, 9(b), 12, 14, 15, 16, 22, 25 and 26** of this Agreement, **U.S. BANK TRUST COMPANY, NATIONAL ASSOCIATION**, a national banking association, as Securities Intermediary and Custodian (together with its successors and assigns, "**Intermediary**").

RECITALS:

A. UBS AG, by and through its branch office at 1285 Avenue of the Americas, New York, New York ("**Original Lender**"), made a loan (the "**Mortgage Loan**") to Original Borrower in the original principal amount of $51,350,000.00, made pursuant to a Loan Agreement dated July 18, 2017 (the "**Loan Agreement**"), and evidenced by (1) a Promissory Note A-1 dated July 18, 2017 in the original principal amount of $36,350,000.00 (the "**Note A-1**"), (2) a Promissory Note A-2 dated July 18, 2017 in the original principal amount of $5,000,000.00 (the "**Note A-2**"), and (3) a Promissory Note A-3 dated July 18, 2017 in the original principal amount of $10,000,000.00 (Note A-1, Note A-2 and Note A-3 are, individually and collectively, the "**Note**" or the "**Notes**").

B. The Mortgage Loan and the Notes are secured by, among other things, a Deed of Trust and Security Agreement dated July 18, 2017 from Original Borrower to and for the benefit of Original Lender (the "**Security Instrument**"), which grants to Original Lender, among other things, a lien on the real and personal property described in said Security Instrument (the "**Mortgaged Property**"). The Mortgage Loan is further evidenced or secured by various other documents, including guaranties, executed by Original Borrower and others in favor of Original Lender (together with the Notes, the Loan Agreement and the Security Instrument, the "**Mortgage Loan Documents**").

C. Original Lender assigned all of its right, title and interest in the Mortgage Loan and the Mortgage Loan Documents (by one or more assignments) to Lender in connection with the issuance of UBS Commercial Mortgage Trust 2017-C3, Commercial Mortgage Pass-Through Certificates, Series 2017-C3 (the "**Certificates**"). Lender is the current holder of the Notes and the owner of the Mortgage Loan and the Mortgage Loan Documents.

D. Midland Loan Services, a division of PNC Bank, National Association ("**Servicer**"), is the Master Servicer under the Pooling and Servicing Agreement dated as of August 1, 2017 (as from time to time amended, supplemented or modified, the "**Pooling and Servicing Agreement**").

E. Pursuant to the Mortgage Loan Documents, Original Borrower has directed Lender to release the Mortgaged Property and all escrows and reserves from the liens and security interests of the Security Instrument and to release any other collateral or security previously given by Original Borrower as security for the Mortgage Loan upon Original Borrower's defeasance of the Mortgage Loan (the "**Defeasance**").

F. Original Borrower is the legal and beneficial owner of the securities listed in **Exhibit A** hereto (collectively, the "**Securities**"). Pursuant to the Mortgage Loan Documents, one of the conditions precedent to Lender's obligation to release the lien of the Security Instrument on the Mortgaged Property is that Original Borrower grant a security interest in the Pledged Collateral (as defined herein) to Lender to secure the payment and performance in full when due of all amounts payable under the Mortgage Loan Documents.

G. The parties intend that immediately after the execution of this Agreement, Lender, Servicer, Original Borrower, DHC UBSCM 17 C3 Successor Borrower-R, LLC, a Delaware limited liability company ("**Successor Borrower**"), and Intermediary will enter into the Defeasance Assignment, Assumption and Release Agreement of even date herewith (the "**Defeasance Assumption Agreement**") pursuant to which, among other things, Original Borrower will transfer the Pledged Collateral to Successor Borrower and, to the extent set forth in the Defeasance Documents, Successor Borrower will assume the rights and obligations of Original Borrower under the Note, this Agreement and the Account Agreement.

NOW, THEREFORE, for valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Original Borrower, Lender, and (as to the provisions specified in the first paragraph of this Agreement) Intermediary agree as follows:

Section 1. Definitions.

The following terms shall have the following meanings when used herein. Each capitalized term used and not defined herein shall have the meaning assigned to such term in the Mortgage Loan Documents.

"**Account Agreement**" means the Defeasance Account Agreement of even date herewith among Original Borrower, Lender, Servicer, Intermediary, and Account Bank.

"**Accountant's Report**" means that certain Defeasance Report of even date herewith from Causey Demgen & Moore P.C. regarding the Defeasance, a copy of which is attached hereto as **Exhibit B**.

"**Action**" has the meaning set forth in **Section 16** herein.

"**Book-Entry Securities**" means U.S. Obligations that are (a) "Book-Entry Securities" as defined in 31 C.F.R. Section 357.2, that have been issued by the United States Department of the Treasury, (b) "Book-Entry GSE Securities" as defined in the regulations of the United States Department of Housing and Urban Development governing direct obligations of FNMA and FHLMC (24 C.F.R. Part 81, as amended), or (c) "Book-Entry Funding Corporation Securities" as defined in the regulations of the United States Department of the Treasury governing securities issued by REFCO (12 C.F.R. Part 1511, as amended), and are, in each case, maintained in the Treasury/Reserve Automated Debt Entry System ("**Trades**") of the Federal Reserve Bank pursuant to 31 C.F.R. Subpart B.

"**Business Day**" means any day other than (a) a Saturday or a Sunday and (b) a day on which federally insured depository institutions in New York, New York or the Intermediary Office Location are authorized or obligated by law, regulation, governmental decree or executive order to be closed.

"**Cash Deposit**" means a sum of cash no greater than $1,000.00 in immediately available funds deposited by Original Borrower into the Pledged Collateral Account on the date hereof.

"**Certificates**" has the meaning set forth in the **Recitals**.

"**Claim**" has the meaning set forth in **Section 22** herein.

"**Code**" means the Uniform Commercial Code of the State.

"**Custodian**" means the Intermediary in its capacity as custodian of the Pledged Collateral Account.

"**Defeasance**" has the meaning set forth in the **Recitals**.

"**Defeasance Assumption Agreement**" has the meaning set forth in the **Recitals**.

"**Defeasance Certificate**" means the Defeasance Certificate of even date herewith executed by Original Borrower.

"**Defeasance Documents**" means this Agreement, the Account Agreement, the Defeasance Assumption Agreement, the Waiver and Consent, the Defeasance Certificate, the Note, and all financing statements now or hereafter filed in connection with this Agreement and all other documents, instruments and agreements now or hereafter executed in connection with the Defeasance, all as amended, continued or otherwise modified; provided, that for purposes of any assumption of any obligations by the Successor Borrower under the Defeasance Assumption Agreement, the Waiver and Consent and the Defeasance Certificate shall be excluded from this definition.

"**Eligible Institution**" means (i) a federal or state chartered depository institution or trust company whose commercial paper, short-term debt obligations or other short-term deposits are rated at least "A-1" by S&P, at least P1 by Moody's and at least F-1+ by Fitch if the deposits in the Pledged Collateral Account are to be held for thirty (30) days or less, or (ii) a federal or state-chartered depository institution or trust company whose long-term unsecured debt obligations are rated at least "A+" by S&P, at least "Aa3" by Moody's and at least "AA-" by Fitch if the deposits in the Pledged Collateral Account are to be held for more than thirty (30) days, or (iii) the trust department of a federal or state chartered depository institution or trust company acting in its fiduciary capacity which institution or trust company is subject to regulations regarding fiduciary funds on deposit substantially similar to 12 C.F.R. § 9.10(b), or (iv) an institution otherwise acceptable to each Rating Agency, as confirmed in writing that the holding by such institution of the Pledged Collateral Account would not, in and of itself, result in a downgrade, qualification or withdrawal of the then current ratings assigned to any of the Certificates.

"**Entitlement Order**" means "entitlement order" as defined in Section 8-102 of the Code.

"**Entity**" means a limited liability company.

"**Entity State**" means the State of Delaware.

"**Event of Default**" has the meaning set forth in **Section 9(a)**.

"**Federal Book-Entry Regulations**" means the regulations of (a) the United States Department of the Treasury governing the transfer and pledge of marketable Book-Entry Securities maintained in the form of entries in the TRADES book-entry system in the Federal Reserve Bank, as set forth in 31 C.F.R. Part 357, as amended, (b) the United States Department of Housing and Urban Development regulations governing the transfer and pledge of securities issued by FNMA or FHLMC, in each case maintained by a Federal Reserve Bank in the form of entries in the Book-Entry System (as defined in Subpart A of 24 C.F.R. Part 81) as set forth in Subpart H of 24 C.F.R. Part 81, and (c) the U.S. Treasury regulations governing the transfer and pledge of securities issued by REFCO, and maintained by a Federal Reserve Bank in the form of entries in the Book-Entry System (as defined in 12 C.F.R. Part 1511) as set forth in 12 C.F.R. Part 1511.

"**Federal Reserve Bank**" means the Federal Reserve Bank at which Intermediary maintains its Participant's Securities Account.

"**FHLMC**" means the Federal Home Loan Mortgage Corporation.

"**Final Payment Date**" means the Open Prepayment Commencement Date.

"**Financial Asset**" means a "financial asset" as defined under Section 8-102(a)(9) of the Code.

"**FNMA**" means the Federal National Mortgage Association.

"**Governmental Authority**" means any federal, state, local or foreign court, agency, authority, board, bureau, commission, department, office or instrumentality of any nature whatsoever or any governmental or quasi-governmental unit, whether now or hereafter in existence, or any officer or official thereof.

"**Guarantor**" means Ionis Pharmaceuticals, Inc., a Delaware corporation.

"**Indemnitees**" has the meaning set forth in **Section 22** herein.

"**Intermediary**" has the meaning set forth on page 1.

"**Intermediary Office Location**" means Phoenix, Arizona.

"**IRC**" means the Internal Revenue Code of 1986, as amended, and applicable temporary or final regulations of the United States Department of the Treasury issued pursuant thereto.

"**Lender**" has the meaning set forth on page 1.

"**Loan Agreement**" has the meaning set forth in the **Recitals**.

"**Mortgage Loan**" has the meaning set forth in the **Recitals**.

"**Mortgage Loan Documents**" has the meaning set forth in the **Recitals**.

"**Mortgaged Property**" has the meaning set forth in the **Recitals**.

"**Note**" or "**Notes**" has the meaning set forth in the **Recitals**.

"**Note A-1**" has the meaning set forth in the **Recitals**.

"**Note A-2**" has the meaning set forth in the **Recitals**.

"**Note A-3**" has the meaning set forth in the **Recitals**.

"**Obligor**" means any issuer, guarantor or other obligor with respect to any of the Securities or any Permitted Investment.

"**Open Prepayment Commencement Date**" means April 6, 2027, which is the Monthly Payment Date that occurs four (4) months prior to the Stated Maturity Date specified in the Loan Agreement.

"**Original Borrower**" has the meaning set forth on page 1.

"**Participant's Securities Account**" means a "Participant's Securities Account" (as defined in the Federal Book-Entry Regulations) at a Federal Reserve Bank to which Book-Entry Securities may be credited.

"**Permitted Investment**" has the meaning set forth in **Exhibit C** attached hereto.

"**Person**" means any individual, corporation, limited liability company, partnership, joint venture, estate, association, joint stock company, trust, unincorporated organization, or government or any agency or political subdivision thereof and any fiduciary acting in such capacity on behalf of any of the foregoing.

"**Pledged Collateral**" has the meaning set forth in **Section 2**.

"**Pledged Collateral Account**" means Account No. 212740751 titled "Ionis Gazelle-SIDEF" at Intermediary, which is the Securities Account maintained by Intermediary in the name of Lender.

"**Pledged Entitlements**" has the meaning set forth in **Section 2(b)**.

"**Pledgor**" means the legal and beneficial owner of the Securities from time to time. Prior to the assumption of the Defeasance Documents by Successor Borrower, Original Borrower is the Pledgor, and after the assumption of the Defeasance Documents pursuant to the Defeasance Assumption Agreement, Successor Borrower is the Pledgor to the extent set forth in the Defeasance Assumption Agreement.

"**Pool Defeasance Collateral**" has the meaning set forth in **Exhibit D** attached hereto.

"**Pool Defeasance Documents**" has the meaning set forth in **Exhibit D** attached hereto.

"**Pool Defeasance Transactions**" means, if applicable, one or more transactions in which Successor Borrower becomes the successor borrower under one or more defeased mortgage loans that are owned by Lender as trustee with respect to the Certificates.

"**Pooling and Servicing Agreement**" has the meaning set forth in the **Recitals**.

"**Proceeds**" means "proceeds" as defined in Section 9-102 of the Code or as defined in the Uniform Commercial Code as in effect in any jurisdiction whose law applies to such proceeds or as defined under other applicable law.

"**REFCO**" means the Resolution Funding Corporation.

"**REMIC**" means a "real estate mortgage investment conduit" within the meaning of Section 860D of the IRC.

"**Secured Obligations**" means the principal amount of the Note outstanding from time to time, as increased or decreased as a result of prepayment, modification or otherwise, and all accrued and unpaid interest thereon and all other obligations, expenses, and liabilities due or to become due to Lender under the Defeasance Documents, including without limitation all costs and expenses incurred by Lender in collecting amounts due under the Defeasance Documents and in enforcing the Defeasance Documents.

"**Securities**" has the meaning set forth in the **Recitals** and are listed on **Exhibit A** attached hereto.

"**Securities Account**" means the securities account (as defined in Section 8-501(a) of the Code) maintained by Intermediary for Lender to which the Securities have been credited and is sometimes also referred to herein as the "Pledged Collateral Account".

"**Securities Intermediary**" means a "securities intermediary" within the meaning of Section 357.2 or 12 C.F.R. Part 1511.1 of the Federal Book-Entry Regulations and Section 8-102 of the Code.

"**Security Entitlement**" means a "security entitlement" as defined in the Federal Book-Entry Regulations with respect to a Book-Entry Security.

"**Security Instrument**" has the meaning set forth in the **Recitals**.

"**Servicer**" has the meaning set forth in the **Recitals**.

"**Single Purpose Entity**" has the meaning set forth in **Exhibit D** attached hereto.

"**State**" means the State of New York, the laws of which State shall govern the terms of this Agreement and the other Defeasance Documents.

"**Successor Borrower**" has the meaning set forth in the **Recitals**. Successor Borrower will assume the rights and obligations of Original Borrower under the Note, this Agreement and the Account Agreement pursuant to the Defeasance Assumption Agreement, to be executed immediately after the execution of this Agreement.

"**U.S. Obligations**" means non-redeemable securities evidencing an obligation to timely pay principal and/or interest in a full and timely manner that are (a) direct obligations of the United States of America for the payment of which its full faith and credit is pledged, or (b) to the extent permitted by the Mortgage Loan Documents and acceptable to Lender and the Rating Agencies, other "government securities" as such term is defined in Section 2(a)(16) of the Investment Company Act of 1940, as amended (15 U.S.C. 80a-1, *et seq.*), that are not subject to prepayment, call or early redemption, that are not certificates of deposit, and that are maintained in the form of entries on the books of a Federal Reserve Bank.

"**UBSCM 2017-C3 Pool**" has the meaning set forth in **Exhibit D** attached hereto.

"**Waiver and Consent**" means the Waiver and Consent of even date herewith between Original Borrower and Lender.

Section 2. Pledge.

As collateral security for the Secured Obligations, Original Borrower hereby pledges, assigns, transfers and grants to Lender a continuing first priority security interest in and lien on all of the right, title and interest of Original Borrower in, to and under the following property (collectively, the "**Pledged Collateral**"):

(a) the Securities and any interest of Original Borrower in the entries on the books of any Securities Intermediary (including Intermediary) pertaining to the Securities;

(b) all Security Entitlements with respect to the Securities and with respect to any Permitted Investments (the "**Pledged Entitlements**");

(c) all Proceeds of the Securities and the Pledged Entitlements, including, without limitation, proceeds of any indemnity, warranty or guarantee payable from time to time with respect to any of the Securities or the Pledged Entitlements, or payments (in any form) made or due and payable to Pledgor from time to time in connection with any requisition, confiscation, condemnation, seizure or forfeiture of all or any part of the Securities or the Pledged Entitlements by or on behalf of any Governmental Authority, and any and all other amounts from time to time paid or payable under or in connection with any of the Securities or the Pledged Entitlements; and

(d) any and all other (i) funds and Financial Assets and Proceeds thereof now or hereafter deposited in or credited to the Pledged Collateral Account at Intermediary (which account is the Securities Account), including the Cash Deposit, (ii) interest and earnings on any of the Pledged Collateral including interest that accrues either before or after the commencement of any bankruptcy or insolvency proceeding by or against Original Borrower or Successor Borrower, (iii) present and future accounts, general intangibles, chattel paper, contract rights, deposit accounts, instruments and documents (as defined in the Code or in the Uniform Commercial Code as in effect in any jurisdiction whose law applies to such property) now or hereafter relating or arising with respect to the Pledged Collateral Account and/or the use thereof, and (iv) cash and non-cash Proceeds and products of the items described in subclauses (i), (ii) and (iii) of this **Section 2(d)**.

Section 3. Secured Obligations.

This Agreement secures, and the Pledged Collateral is collateral security for, the payment and performance in full when due, whether at stated maturity, by acceleration or otherwise, of all of the Secured Obligations (including, without limitation, the payment of interest and other amounts which would accrue and become due but for the filing of a petition in bankruptcy (whether or not a claim is allowed against Original Borrower or Successor Borrower for such interest or other amounts in any such bankruptcy proceeding) or the operation of the automatic stay under the United States Bankruptcy Code, 11 U.S.C. § 362(a)).

Section 4. No Release or Assumption of Original Borrower's Obligations to Others.

The granting by Original Borrower to Lender of the security interest in the Pledged Collateral shall not relieve Original Borrower from the performance of any term, covenant, condition or agreement on Original Borrower's part to be performed or observed on or prior to the date hereof in connection with the acquisition of the Pledged Collateral or from any liability to any Person other than Lender in connection with the acquisition of the Pledged Collateral and the granting of the security interest therein or impose any obligation on Lender to perform or observe any such term, covenant, condition or agreement to be so performed or observed by Original Borrower or impose any liability on Lender for any act or omission on the part of Original Borrower relating thereto or for any breach of any representation or warranty to any Person other than Lender by Original Borrower with respect to the acquisition of the Pledged Collateral or made in connection herewith or therewith. The provisions set forth in this **Section 4** shall survive any release of Original Borrower by Lender set forth in the Defeasance Documents and any termination of this Agreement.

Section 5. Further Assurances.

Pledgor agrees that, upon written request of Lender at any time and from time to time, it will make, execute, endorse, acknowledge and file and refile, or permit Lender to file and refile, such lists, descriptions and designations of the Pledged Collateral, copies of documents of title, vouchers, invoices, schedules, Entitlement Orders, powers of attorney, assignments, confirmatory assignments, supplements, additional security agreements, financing statements, amendments thereto, continuation statements, transfer endorsements and other documents (including, without limitation, this Agreement), in form reasonably satisfactory to Lender wherever required or permitted by law in order to perfect, protect and preserve the rights and interests granted to Lender hereunder. Pledgor hereby authorizes Lender and appoints Lender as its attorney-in-fact to file such financing statements, continuation statements, amendments thereto and other documents related to the Pledged Collateral, without the signature of Pledgor, to the fullest extent permitted by applicable law, and Pledgor agrees to do such further acts and things, and to execute and deliver to Lender such additional assignments, agreements, powers and instruments, as Lender may reasonably require to effectuate the purposes of this Agreement, to preserve or protect the lien on the Pledged Collateral created by this Agreement, or to assure and confirm unto Lender its rights, powers and remedies hereunder. The foregoing grant of authority is a power of attorney coupled with an interest and such appointment shall be irrevocable for the term of this Agreement. All of the foregoing shall be at the sole cost and expense of Original Borrower on or prior to the date of this Agreement, and at the sole cost and expense of Successor Borrower after the date of this Agreement. The grant of rights and authority to Lender pursuant to the provisions set forth in this **Section 5** shall survive any release of Original Borrower by Lender set forth in the Defeasance Documents and any termination of this Agreement.

Section 6. Original Borrower Representations, Warranties and Covenants.

(a) Original Borrower represents and warrants and covenants as follows:

(i) Value. Pledgor has received value (as defined in the Code) for the Secured Obligations and for the granting of the security interest described herein.

(ii) Rights in Pledged Collateral. The Securities exist and Original Borrower is, as of the date hereof, and as to all Pledged Collateral acquired by it from time to time after the date hereof, Pledgor will be, the owner of good and marketable title to all of the Pledged Collateral, subject to only the liens granted to Lender pursuant to this Agreement and the assumption of the obligations of Original Borrower hereunder by Successor Borrower pursuant to the Defeasance Assumption Agreement.

(iii) No Liens or Other Financing Statements. Except for (1) the liens granted to Lender under this Agreement and financing statements filed or to be filed with respect to and covering the lien granted by Original Borrower pursuant to this Agreement, and (2) the assignment of the Pledged Collateral to Successor Borrower to be consummated immediately after the execution of this Agreement pursuant to the terms and conditions of the Defeasance Assumption Agreement, Original Borrower:

(A) holds the Pledged Collateral now existing, free and clear of any lien, claim, or encumbrance;

(B) has not pledged, assigned, sold, granted a security interest in, or otherwise conveyed any of the Pledged Collateral, and shall defend the Pledged Collateral against all claims and demands of all Persons at any time claiming any interest therein adverse to Lender;

(C) has not authorized and has no knowledge of any control agreement or financing statement (or similar statement or instrument of registration under the law of any jurisdiction) covering or purporting to cover any interest of any kind in the Pledged Collateral, other than the Account Agreement; and so long as Original Borrower remains obligated to pay the Secured Obligations, Original Borrower shall not enter into any such control agreement or execute, file or authorize to be filed in any public office any financing statement (or similar statement or instrument of registration under the laws of any jurisdiction) or statements relating to the Pledged Collateral; and

(D) is not aware of any judgment liens or tax liens against Original Borrower.

(iv) Perfection. Based on the Accountant's Report and to the best of Original Borrower's knowledge, all of the Securities are U.S. Obligations. Original Borrower has taken or caused, or authorized and directed other Persons to take, all actions necessary to effect the creation and perfection of Lender's security interest in the Securities and other Pledged Collateral. This Agreement, together with the book entries described in **Section 6(a)(viii)** below, and any other actions taken with respect to the Pledged Collateral pursuant to this Agreement, create a valid and continuing and perfected first priority security interest in the Pledged Collateral in favor of Lender pursuant to the Code, securing the Secured Obligations, and enforceable as such as against creditors of and purchasers from Original Borrower.

(v) Authorization; Enforceability. Original Borrower is an Entity duly organized or incorporated, validly existing and in good standing under the laws of the Entity State and is duly qualified to conduct business in the state where the Mortgaged Property is located. Original Borrower has full power, authority and legal right to enter into this Agreement and to pledge and grant a lien on the Pledged Collateral pursuant to this Agreement. This Agreement has been duly authorized, executed and delivered by Original Borrower and constitutes the legal, valid and binding obligation of Original Borrower, enforceable against Original Borrower in accordance with its terms except as may be limited by bankruptcy, insolvency, reorganization, fraudulent conveyance, and similar laws affecting the rights of creditors generally.

(vi) No Consents, Etc. With the exception of the filing contemplated by **Section 6(a)(iv)**, no authorization, consent, approval, license, qualification or formal exemption from, nor any filing, declaration or registration with, any court, Governmental Authority, or with any securities exchange or any other Person is required in connection with (1) the due execution, delivery or performance by Original Borrower of this Agreement, (2) the assignment of, and the grant of a lien on (including the priority thereof), the Pledged Collateral by Original Borrower in the manner and for the purpose contemplated by this Agreement, or (3) the exercise of the rights and remedies of Lender created hereby except those that have been obtained or made prior to or concurrently with the execution hereof, including, without limitation, filings in the appropriate offices under the Code.

(vii) No Breach. The execution and delivery of this Agreement by Original Borrower, the consummation of the transactions herein contemplated by Original Borrower, and the compliance by Original Borrower with the terms and provisions hereof will not conflict with or result in a breach of, the formation documents of Original Borrower, any applicable law or regulation, or any order, writ, injunction or decree of any court or Governmental Authority, or any agreement or instrument to which Original Borrower is a party or by which Original Borrower is bound or to which any of the Pledged Collateral is subject, or result in the creation or imposition of any lien upon any earnings or assets of Original Borrower pursuant to the terms of any such agreement or instrument.

(viii) Actions With Respect to Securities. Original Borrower shall cause the Securities to be credited to Intermediary's Participant's Securities Account maintained at the Federal Reserve Bank at which Intermediary maintains a Participant's Securities Account, and to be identified on the records of such Federal Reserve Bank as being held for the sole and exclusive account of Intermediary. Original Borrower does hereby (1) direct Intermediary to credit by book-entry such Securities to the Pledged Collateral Account of Lender and hold the same for the sole and exclusive account of Lender for the benefit of Lender, and (2) direct Intermediary to send a written confirmation to Lender that Intermediary has so credited the Securities to such Pledged Collateral Account and is holding the Securities for the sole and exclusive account of Lender for the benefit of Lender in accordance with the terms of this Agreement. Original Borrower hereby agrees that Intermediary is the Securities Intermediary at which the Pledged Collateral Account of Lender is maintained. Original Borrower hereby directs Intermediary to comply with all Entitlement Orders of Lender with respect to the Pledged Collateral.

(ix) Pledged Collateral. The list of the Securities is complete and accurate and all of the Securities are Book-Entry Securities. If the Securities include securities identified as obligations of FHLMC or FNMA, they are direct debt obligations of such agency; if the Securities include securities identified as obligations of REFCO, they are interest-only strips that are direct obligations of REFCO. On the date hereof, all information set forth herein (including the exhibits hereto) and in the Accountant's Report (including the schedules thereto), or otherwise provided to Lender by or on behalf of Original Borrower, is accurate and complete. None of the Securities is subject to prepayment call or early redemption, and all of the Securities are payable in United States Dollars.

(x) Single Purpose Entity. Original Borrower has complied, and shall continue to comply, with the single purpose entity requirements set forth in the Mortgage Loan Documents until the earlier of the date on which (1) Original Borrower has transferred all of its right, title and interest in the Pledged Collateral in accordance with the terms of the Defeasance Documents, or (2) all Secured Obligations have been paid in full and satisfied.

(xi) Value. The fair market value of the Mortgaged Property is greater than the fair market value of the Securities. Original Borrower has received reasonably equivalent value in exchange for the transfers contemplated by the Defeasance Documents.

(xii) No Intent to Hinder Creditors. The pledge of the Securities to Lender and the transfer of the Securities to Successor Borrower are not done in contemplation of insolvency or bankruptcy or with an intent to hinder, delay or defraud any of Original Borrower's creditors.

(xiii) No Insolvency. Original Borrower is not insolvent immediately before signing this Agreement and is not being rendered insolvent by the pledge of the Securities to Lender or by the transfer of the Securities to Successor Borrower.

(xiv) Not Unreasonably Small Capital. The assets owned by Original Borrower immediately after giving effect to the pledge of the Securities to Lender and the transfer of the Securities to Successor Borrower represent an amount of capital that is not unreasonably small for the business in which Original Borrower is engaged, and Original Borrower does not intend to engage in any other business for which such capital would be unreasonably small.

(xv) No Intent to Incur Debts Beyond Ability to Pay. At the time of the pledge of the Securities to Lender and the transfer of the Securities to Successor Borrower, Original Borrower does not intend to, or believe that it will, incur debts that would be beyond its ability to pay as such debts mature.

(xvi) Purpose. Original Borrower's purpose in entering into the Defeasance is to facilitate a disposition of property or other customary commercial transaction and not as part of an arrangement to collateralize the REMIC pool evidenced by the Certificates with obligations that are not real estate mortgages.

(xvii) Litigation. No litigation or other proceeding is now pending or, to Original Borrower's best knowledge, threatened against Original Borrower, wherein an unfavorable decision (1) would affect Original Borrower's title to the Pledged Collateral, or (2) might reasonably be expected to result in a material adverse change in the financial condition of Original Borrower or its ability to legally perform its obligations under the Defeasance Documents.

(xviii) No Indebtedness. Neither Original Borrower, nor the holder of any direct or indirect interest in Original Borrower, has incurred any indebtedness (including, but not limited to, any mezzanine debt, preferred equity debt, pari passu debt, senior secured debt, subordinate secured debt, or B-note debt) related to Original Borrower or the Mortgaged Property, other than the Mortgage Loan, indebtedness specifically authorized by the Mortgage Loan Documents, and any debt associated with the refinancing of the Mortgage Loan which is secured only by the Mortgaged Property. The Mortgage Loan Documents are not cross-collateralized or cross-defaulted with any other indebtedness and the Defeasance does not require notice to, or the consent of, the holder of any other indebtedness.

(xix) Transfers. Except as specifically permitted by the Mortgage Loan Documents, Original Borrower has not sold, assigned, transferred, conveyed, pledged, granted a lien on or security interest in, encumbered, or otherwise disposed of (1) any direct interest in Original Borrower, (2) any indirect interest in Original Borrower, or (3) any direct or indirect interests in Original Borrower's manager or managing member.

(b) Effective as of the assumption of the obligations of Original Borrower hereunder, Successor Borrower shall be deemed to have made the following representations, warranties and covenants:

(i) Rights in Pledged Collateral. The Securities exist and all information set forth in the Accountant's Report and the schedules thereto is accurate and complete in all material respects. Successor Borrower is and, as to all Pledged Collateral acquired by Pledgor from time to time after the date hereof will be, the owner of good and marketable title to all of the Pledged Collateral, subject to only the liens granted to Lender pursuant to this Agreement. None of the Securities is subject to prepayment call or early redemption, and all of the Securities are payable in United States Dollars.

(ii) No Liens or Other Financing Statements. Except for the liens granted to Lender under this Agreement and financing statements filed or to be filed with respect to and covering the lien granted by Original Borrower pursuant to this Agreement, Successor Borrower:

(A) holds the Pledged Collateral now existing, free and clear of any lien, claim, or encumbrance;

(B) has not pledged, assigned, sold, granted a security interest in, or otherwise conveyed any of the Pledged Collateral, and shall defend the Pledged Collateral against all claims and demands of all Persons at any time claiming any interest therein adverse to Lender; and

(C) has not authorized and has no knowledge of any control agreement or financing statement (or similar statement or instrument of registration under the law of any jurisdiction) covering or purporting to cover any interest of any kind in the Pledged Collateral.

Section 7. Intermediary Representations, Warranties and Covenants.

Intermediary hereby represents, warrants and covenants that:

(a) it is a Securities Intermediary and will at all times act in that capacity in connection with the Pledged Collateral;

(b) it is an Eligible Institution;

(c) all of the Securities are U.S. Obligations;

(d) the Securities have been received by Intermediary and credited to the Participant's Securities Account maintained by Intermediary at the Federal Reserve Bank free and clear of any liens, claims, interests or encumbrances (other than the lien created under the Defeasance Documents) created by, or claimed through, the Intermediary;

(e) the Pledged Collateral Account is, and will at all times be maintained as, a "securities account" within the meaning of Section 8-501(a) of the Code;

(f) the Pledged Entitlements have been and will continue to be credited, by accurate book entry, to and maintained in, the Pledged Collateral Account maintained by Intermediary for the benefit of Lender, and Lender is the holder of all Security Entitlements with respect to the Securities;

(g) it will at all times maintain the Pledged Collateral Account at the current Intermediary Office Location, provided however, if Intermediary intends to move the Pledged Collateral Account to another location, it shall provide the Lender with not less than thirty (30) days prior written notice and the Intermediary shall cooperate with Lender in ensuring Lender's continuing perfected security interest in the Pledged Collateral Account as required under the Code, including without limitation, the execution of any and all documents required to continue the Lender's perfected security interest in the Pledged Collateral Account;

(h) Lender has and shall continue to have "control" (as defined in Section 8-106 of the Code) over the Securities, the Pledged Entitlements and the other Pledged Collateral;

(i) it has received no actual notice of, and has no actual knowledge of, any "adverse claim" (as defined in the Code) or lien or encumbrance as to the Pledged Collateral (including, but not limited to, any claim, lien or encumbrance in favor of the United States or any state) (other than the lien created under the Defeasance Documents);

(j) each item of property (including, but not limited to, any item of "investment property" (as defined under the Code), security instrument or cash, and every Security Entitlement in any of the foregoing) credited to the Pledged Collateral Account shall be treated by Intermediary as a Financial Asset subject to this Agreement;

(k) without limitation of any of the foregoing, it shall comply with all written Entitlement Orders originated by Lender without consent of Original Borrower or any other Person, and shall not accept Entitlement Orders from any Person other than Lender except as authorized in writing by Lender; and

(l) it does not have, and will not take, a security interest in the Pledged Collateral or the Pledged Collateral Account, other than as custodian for the sole benefit of Lender, nor will it exercise any offset rights against the Pledged Collateral or the Pledged Collateral Account, and any security interest in the Pledged Collateral or the Pledged Collateral Account in favor of Intermediary that exists in violation of this provision shall be null and void.

Section 8. Covenants Concerning the Pledged Collateral.

Intermediary and Pledgor hereby covenant, each as to itself, that:

(a) Waiver of Liens. It waives and releases, solely for the benefit of Lender, any and all claim, lien, encumbrance or right of set off that it may now or hereafter have against the Pledged Collateral or any portion thereof.

(b) Protection of Lender's Security. It shall not take any action that impairs the rights of Lender in the Pledged Collateral or the perfection of the security interests created hereunder.

(c) Payments. So long as no Event of Default shall have occurred and be continuing, all distributions, cash, interest, earnings, return of capital or other payments made in respect of the Pledged Collateral shall be deposited in the Pledged Collateral Account and utilized in accordance with the provisions of the Defeasance Documents (which utilization shall include, without limitation, the payment of scheduled installments due under the Note and the final payment on the Final Payment Date of the entire balance of the Mortgage Loan). At all times, whether before or during the continuation of any Event of Default, all rights to enforce and collect payments in respect of the Pledged Collateral or to direct the disposition thereof shall be exercised exclusively by Lender and the proceeds of any such exercise shall be applied to Pledgor's obligations under the Defeasance Documents. In the event that any payments in respect of the Pledged Collateral are made directly to Pledgor, Pledgor shall hold such amounts as agent and trustee for Lender, segregate all amounts received pursuant thereto in a separate account and pay such amounts promptly to or as directed by Lender.

(d) Transfers or Liens. Except for the transfer of the Pledged Collateral by Original Borrower to Successor Borrower contemplated herein and in the Defeasance Assumption Agreement, it shall not (i) sell, convey, assign or otherwise dispose of, or grant any security interest, pledge, covenant, lien, option, right, warrant, or other encumbrance, whether junior or senior to the interest of Lender with respect to any of the Pledged Collateral, except to the extent Intermediary is permitted or required to transfer its rights and obligations to a successor pursuant to Sections 4 and 7 of the Account Agreement, or (ii) create or, by its action or inaction, permit to exist any lien upon or with respect to any Pledged Collateral, except for the lien evidenced by this Agreement.

Section 9. **Default; Remedies upon Default; Obtaining the Pledged Collateral upon Event of Default.**

(a) The occurrence and continuation of one or more of the following shall constitute an "**Event of Default**" hereunder:

(i) Any default in the payment when due of any principal of or interest on the Mortgage Loan, including the payment of the entire balance of the Mortgage Loan due on the Final Payment Date, or default in the payment when due of any other amount payable with respect to the Secured Obligations, after the expiration of any applicable grace periods; or

(ii) Any representation, warranty or certification made by any Person for the benefit of Lender in any Defeasance Document (or in any modification or supplement thereto), or in any certificate, report, financial statement or other item furnished to Lender in connection with this transaction shall prove to have been false or misleading in any material respect as of the time made or furnished and, if this shall be a result of conduct of a party other than Successor Borrower, such default results, or is likely, in Lender's reasonable determination to result, in a default under **Section 9(a)(i)**; or

(iii) Any of the Defeasance Documents shall be rescinded (other than as a result of the termination of the Account Agreement by Lender and failure to appoint a substitute intermediary) or declared null and void, or shall fail to create or perfect the liens, rights, powers and privileges purported to be created thereby (including a perfected security interest in and lien on all of the Pledged Collateral, subject to no equal or prior lien) and, if this shall be a result of conduct of a party other than Original Borrower or Successor Borrower, such default results, or is likely, in Lender's reasonable determination to result, in a default under **Section 9(a)(i)**; or

(iv) The Pledged Collateral or any part thereof or interest therein, or any direct or indirect interest in Successor Borrower becomes subject to any security interest, pledge, covenant, lien, or other encumbrance, whether junior or senior to the interest of Lender; or

(v) The Pledged Collateral or any part thereof or interest therein, or any direct interest in Successor Borrower, or more than 49% of the indirect interests, in the aggregate, in Successor Borrower or in its manager, managing member or sole member, is sold, assigned, transferred, conveyed, or otherwise disposed of or is the subject of any attempted sale, assignment, transfer or conveyance without written consent of Lender and the Rating Agencies; or

(vi) Any party to the Defeasance Documents other than Lender shall default in the performance of any of the other obligations to Lender under the Defeasance Documents and such default shall continue unremedied for a period of thirty (30) days after notice thereof and, if this shall be a result of conduct of a party other than Original Borrower or Successor Borrower, such default results, or is likely, in Lender's reasonable determination to result, in a default under **Section 9(a)(i)**; or

(vii) Original Borrower (prior to the expiration of any preference period affecting the Pledged Collateral) or Successor Borrower shall admit in writing its inability to, or be generally unable to, pay its debts as such debts become due; or

(viii) Original Borrower (prior to the expiration of any preference period affecting the Pledged Collateral) or Successor Borrower shall make a general assignment for the benefit of its creditors; or

(ix) Successor Borrower shall be terminated, dissolved or liquidated (as a matter of law or otherwise) or proceedings shall be commenced by or on behalf of any person seeking the termination, dissolution or liquidation of Successor Borrower; or

(x) Successor Borrower shall at any time cease to be a Single Purpose Entity; or

(xi) In any proceeding under the United States Bankruptcy Code (as now or hereafter in effect) in which Successor Borrower or Intermediary is debtor or under any other law relating to bankruptcy, insolvency, reorganization, winding-up, composition or readjustment of debts, or fraudulent conveyances with respect to Successor Borrower's assets or assets held by Intermediary, any aspect of the transaction effected pursuant to the Defeasance Documents or any exercise by Lender of its rights or remedies thereunder, is challenged, voided, rescinded or set aside, or is subject to any stay or injunction; or

(xii) A proceeding or case shall be commenced, with or without the application or consent of Original Borrower (prior to the expiration of any preference period affecting the Pledged Collateral) or Successor Borrower as debtor, seeking (1) such debtor's liquidation, reorganization, dissolution or winding-up, or the composition or readjustment of its debts, (2) the appointment of a trustee, receiver, custodian, liquidator or the like of such debtor for all or any part of its assets, (3) relief in respect of such debtor under the United States Bankruptcy Code or (4) similar relief in respect of such debtor under any law relating to bankruptcy, insolvency, reorganization, winding-up, or composition or adjustment of debts, and in any such proceeding in which Original Borrower is the debtor any claim shall be asserted that all or any portion of the Pledged Collateral is an asset of the debtor's estate, or any aspect of the transaction effected pursuant to the Defeasance Documents, or any exercise by Lender of its rights or remedies thereunder, is challenged, voided, rescinded or set aside, or is subject to any stay or injunction; or

(xiii) Original Borrower or Successor Borrower shall take any action that (1) causes any REMIC formed pursuant to the Pooling and Servicing Agreement to lose its status as a REMIC or (2) subjects any such REMIC to any tax under Chapter I, Subchapter M of the IRC.

(b) If an Event of Default shall have occurred and be continuing, uncured beyond any applicable grace period, then and in every such case, Lender may, at its sole option, take any one or more or all of the following actions:

(i) instruct the Obligor or Obligors on the Securities or any agreement, instrument or other obligation constituting Pledged Collateral to make any payment required by the terms of such instrument, agreement or obligation directly to or as directed by Lender;

(ii) cause all book entries in the records of Intermediary with respect to the Securities to be changed or modified to show Lender or a designee of Lender as the record owner of the Securities;

(iii) exercise all the rights and remedies of a secured party under the Code with respect to the Pledged Collateral;

(iv) seek specific performance of, or enjoin actions in violation of, any party's obligations to Lender under the Defeasance Documents; and

(v) exercise all other available rights, privileges and remedies, at law or in equity, with respect to the Pledged Collateral, and may exercise such rights and remedies either in the name of Lender or in the name of Pledgor for the use and benefit of Lender to the fullest extent permitted by applicable law.

(c) The proceeds of the exercise by Lender of any remedy hereunder shall be paid to Lender and applied, in such order of priority and amounts as Lender in its discretion shall deem proper, to:

(i) the payment of all costs and expenses of any suit and of all proper compensation, expenses, liabilities and advances, including reasonable expenses and attorneys' fees, owed to, incurred by or made by Lender and all taxes, assessments or liens superior to the lien hereof;

(ii) the payment of all amounts due and owing in respect of the Secured Obligations;

(iii) the payment of the reasonable expenses of the Lender or Servicer or any other party to the Pooling and Servicing Agreement with respect to its obligations thereunder and the reasonable fees or expenses of any party to the Defeasance Documents (other than Original Borrower or Successor Borrower) to the extent the same is permitted in such Defeasance Document; and

(iv) the balance, if any, to Pledgor or to another Person lawfully entitled thereto as determined by a court of competent jurisdiction.

(d) The parties acknowledge and agree that the Securities are sold on a recognized market and, accordingly, Lender need not furnish Pledgor with notice of its intention to sell the Securities. If, however, applicable law requires such notice, then upon the occurrence and during the continuance of an Event of Default, Lender may, upon ten (10) Business Days prior written notice to Pledgor of the time and place (except as provided to the contrary in the final sentence of this paragraph), sell, assign or otherwise dispose of all or any part of the Pledged Collateral or any part thereof that shall then be in, or shall thereafter come into, the possession, custody or control of Lender or any of its agents, at such place or places as Lender deems appropriate, and for cash or for credit or for future delivery, at public or private sale, without demand of performance or notice of intention to effect any such disposition or of the time or place thereof (except such notice as is required above or required by applicable statute, and cannot be waived), and Lender or anyone else may be the purchaser, assignee or recipient of any or all of the Pledged Collateral so disposed of at any public sale (or, to the extent permitted by law, at any private sale) and thereafter hold the same absolutely, free from any claim or right of any kind, including any right of equity of redemption (statutory or otherwise) of Pledgor, and Pledgor hereby expressly waives and releases any such demand of performance, notice (other than the notice set forth above and any non-waivable statutory notice) and right of equity of redemption. Lender may, without notice or publication, adjourn any public or private sale or cause the same to be adjourned from time to time by announcement at the time and place fixed for the sale, and such sale may be made at any time or place to which the sale may be so adjourned.

The proceeds of each collection, sale or other disposition under this **Section 9(d)** shall be applied in accordance with **Section 9(c)** hereof.

(e) Private Sale. Lender shall incur no liability as a result of the sale of the Pledged Collateral, or any part thereof, at any private sale pursuant to **Section 9(d)** hereof conducted in a commercially reasonable manner and in accordance with the Code. Pledgor hereby waives any claims against Lender arising by reason of the fact that the price at which the Pledged Collateral may have been sold at any such private sale was less than the price that might have been obtained at a public sale or was less than the aggregate amount of the Secured Obligations, even if Lender accepts the first offer received and does not offer the Pledged Collateral to more than one offeree.

Section 10. No Waiver; Cumulative Remedies.

(a) No failure on the part of Lender to exercise, no course of dealing with respect to, and no delay on the part of Lender in exercising, any right, power or remedy hereunder shall operate as a waiver thereof. No single or partial exercise of any such right, power or remedy hereunder shall preclude any other or further exercise thereof or the exercise of any other right, power or remedy. The remedies herein provided are cumulative and are not exclusive of any remedies provided by law.

(b) In the event Lender shall have instituted any proceeding to enforce any right, power or remedy under this Agreement, and such proceeding shall have been discontinued or abandoned for any reason or shall have been determined adversely to Lender, then and in every such case, Pledgor, Lender and each other party to any of the Defeasance Documents shall be restored to their respective former positions and rights hereunder with respect to the Pledged Collateral, and all rights, remedies and powers of Lender shall continue as if no such proceeding had been instituted.

Section 11. Lender May Perform; Lender Appointed Attorney-in Fact.

If Pledgor fails to do any act or thing that Pledgor has covenanted to do hereunder or if any warranty on the part of Pledgor contained herein shall be breached and such breach continues beyond any applicable grace or notice period, Lender or Servicer may (but shall not be obligated to), upon prior written notice to Pledgor specifying the action to be taken, do the same or cause it to be done or remedy any such breach, and may expend funds for such purpose. Any and all amounts so expended by Lender or Servicer (including, but not limited to, reasonable legal expenses and disbursements) shall be paid by Pledgor promptly upon demand therefor, with interest at the default rate specified in the Note, during the period from the date on which such payment is made to and including the date of repayment. Pledgor hereby authorizes Lender and Servicer and appoints Lender and Servicer as its attorneys-in-fact, with full authority in the place and stead of Pledgor and in the name of Pledgor, or otherwise, from time to time in Lender's or Servicer's reasonable discretion upon five (5) days prior written notice to Pledgor to take any action and to execute any instrument which is consistent and in accordance with the terms of this Agreement and the other Defeasance Documents and which Lender or Servicer may deem reasonably necessary or advisable to accomplish the purposes of this Agreement and the other Defeasance Documents. The foregoing grant of authority is a power of attorney coupled with an interest and such appointment shall be irrevocable for the term of this Agreement. Pledgor hereby ratifies all actions that such attorney shall lawfully take or cause to be taken in accordance with this **Section 11**.

Section 12. Modification in Writing.

This Agreement, and any provisions hereof, may not be modified, amended, waived, extended, changed, discharged or terminated orally or by any act or failure to act on the part of Pledgor or Lender, but only by an agreement in writing and signed by all the parties hereto. Any amendment, modification or supplement of or to any provision of this Agreement, any waiver of any provision of this Agreement, and any consent to any departure by Pledgor from the terms of any provision of this Agreement shall be effective only in the specific instance and for the specific purpose for which made or given. Except where notice is specifically required by this Agreement, the other Defeasance Documents or applicable law, no notice to or demand on Pledgor in any case shall entitle Pledgor to any other or further notice or demand in similar or other circumstances.

Section 13. Termination; Release.

When all of the Secured Obligations have been satisfied, performed in full, and released, this Agreement shall terminate. Upon termination of this Agreement or any release of Pledged Collateral in accordance with the provisions of the Defeasance Documents, Lender shall upon the request and at the sole cost and expense of Successor Borrower forthwith assign, transfer and deliver, and shall direct Intermediary, to assign, transfer and deliver, to Successor Borrower against receipt and without express or implied recourse to or warranty by Lender (a) such of the Pledged Collateral to be released as may be in possession of Lender or Intermediary and as shall not have been sold or otherwise applied pursuant to the terms hereof, and (b) proper instruments (including UCC termination statements) acknowledging the termination of this Agreement or the release of such Pledged Collateral, as the case may be.

Section 14. Notices.

All notices or other communications hereunder by any party to the other party shall be in writing and shall be delivered by first class certified mail, postage prepaid, return receipt requested or by nationally-recognized commercial overnight courier. Such notices or communications shall be deemed to be received by the addressee on the third (3rd) Business Day following the day such notice is deposited with the United States postal service first class certified mail, postage prepaid, return receipt requested, or on the first (1st) day after deposit with such overnight courier, in either case addressed to the address set forth below for the party to whom such notice is to be given, or to such other address as Pledgor, Lender or Intermediary, as the case may be, shall in like manner designate by written notice given in accordance with this **Section 14**. Except where notice is specifically required by this Agreement, another of the Defeasance Documents, the Note, or applicable law, no notice or demand by Lender in any case shall entitle the recipient to any other or further notice or demand from Lender in similar or other circumstances.

Original Borrower:	Ionis Gazelle, LLC 2855 Gazelle Court Carlsbad, California 92010
Intermediary:	U.S. Bank Trust Company, National Association LM-AZ-X16P 101 North 1st Avenue, Suite 1600 Phoenix, Arizona 85003 Attention: Corporate Trust Services
Lender:	Midland Loan Services, a division of PNC Bank, National Association 10851 Mastin Boulevard, Suite 700 Overland Park, Kansas 66210 Attention: Asset Management Loan Nos. 30298801 (A-1), 30298824 (A-2), and 30298825 (A-3)

Section 15. Continuing Security Interest; Assignment.

This Agreement shall create a continuing security interest in the Pledged Collateral and shall (a) be binding upon each party hereto and each of its successors and assigns, and (b) inure to the benefit of Lender and its successors and assigns. Without limiting the generality of the foregoing clause (b), Lender may assign or otherwise transfer any of the Secured Obligations to any other Person, and such other Person shall thereupon become vested with all the benefits in respect thereof granted to Lender, herein or otherwise. Except for the assignment to Successor Borrower contemplated by the terms and conditions of the Defeasance Assumption Agreement, Pledgor shall not, without the written consent of Lender and, if necessary, each rating agency that has issued a rating of the Certificates, assign its rights under this Agreement.

Section 16. Governing Law; Venue.

THE INTERMEDIARY AGREES THAT FOR ALL PURPOSES, INCLUDING SECTION 8-110(e) OF THE NEW YORK CODE AND SECTION 357 OF THE FEDERAL BOOK-ENTRY REGULATIONS, THE STATE OF NEW YORK SHALL BE THE "**SECURITIES INTERMEDIARY'S JURISDICTION**".

THIS AGREEMENT, THE CREATION, ATTACHMENT, PERFECTION, EFFECT OF PERFECTION OR NON-PERFECTION AND PRIORITY OF THE RIGHTS AND INTERESTS OF LENDER IN THE PLEDGED COLLATERAL, AND ALL OTHER RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER SHALL IN ALL RESPECTS BE GOVERNED BY, AND CONSTRUED AND ENFORCED IN ACCORDANCE WITH, THE LAWS OF THE STATE, INCLUDING THE UNIFORM COMMERCIAL CODE AS ADOPTED IN THE STATE AND INCLUDING NEW YORK GENERAL OBLIGATIONS LAW SECTIONS 5-1401 AND 5-1402 BUT OTHERWISE WITHOUT REGARD TO LAWS OF THE STATE CONCERNING CONFLICTS OF LAWS OR CHOICE OF FORUM.

PLEDGOR, LENDER AND INTERMEDIARY HEREBY IRREVOCABLY SUBMIT TO PERSONAL JURISDICTION IN THE STATE AND TO THE NON-EXCLUSIVE JURISDICTION OF ANY NEW YORK STATE OR FEDERAL COURT SITTING IN THE CITY OF NEW YORK OVER ANY SUIT, ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT. JURISDICTION AND VENUE OF ANY ACTION BROUGHT TO ENFORCE THIS AGREEMENT OR ANY OTHER DEFEASANCE DOCUMENT OR ANY ACTION RELATING TO THE TRANSACTIONS CONTEMPLATED HEREBY OR THE RELATIONSHIPS CREATED BY OR UNDER THE DEFEASANCE DOCUMENTS ("**ACTION**") SHALL, AT THE ELECTION OF LENDER, BE IN (AND IF ANY ACTION IS ORIGINALLY BROUGHT IN ANOTHER VENUE, THE ACTION SHALL AT THE ELECTION OF LENDER BE TRANSFERRED TO) A STATE OR FEDERAL COURT OF APPROPRIATE JURISDICTION LOCATED IN THE STATE. PLEDGOR, LENDER AND INTERMEDIARY HEREBY CONSENT AND SUBMIT TO THE PERSONAL JURISDICTION OF THE COURTS OF THE STATE AND OF FEDERAL COURTS LOCATED IN THE STATE IN CONNECTION WITH ANY ACTION AND HEREBY WAIVE ANY AND ALL PERSONAL RIGHTS UNDER THE LAWS OF ANY OTHER STATE TO OBJECT TO JURISDICTION WITHIN THE STATE FOR PURPOSES OF ANY ACTION. PLEDGOR, LENDER AND INTERMEDIARY HEREBY WAIVE AND AGREE NOT TO ASSERT, AS A DEFENSE TO ANY ACTION OR A MOTION TO TRANSFER VENUE OF ANY ACTION, (I) ANY CLAIM THAT IT IS NOT SUBJECT TO SUCH JURISDICTION; (II) ANY CLAIM THAT ANY ACTION MAY NOT BE BROUGHT AGAINST IT OR IS NOT MAINTAINABLE IN THOSE COURTS OR THAT THIS AGREEMENT MAY NOT BE ENFORCED IN OR BY THOSE COURTS, OR THAT IT IS EXEMPT OR IMMUNE FROM EXECUTION; (III) THAT THE ACTION IS BROUGHT IN AN INCONVENIENT FORUM; OR (IV) THAT THE VENUE FOR THE ACTION IS IN ANY WAY IMPROPER.

Section 17. Severability of Provisions.

Any provision of this Agreement which is prohibited or determined by a court of law to be unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof or affecting the validity or enforceability of such provision in any other jurisdiction.

Section 18. Electronic Signatures; Counterparts.

This Agreement shall be valid, binding, and enforceable against a party when executed and delivered by an authorized individual on behalf of the party by means of (i) an original manual signature; (ii) a faxed, scanned, or photocopied manual signature, or (iii) any other electronic signature permitted by the federal Electronic Signatures in Global and National Commerce Act, state enactments of the Uniform Electronic Transactions Act, and/or any other relevant electronic signatures law, including any relevant provisions of the Code (collectively, "**Signature Law**"), in each case to the extent applicable. Each faxed, scanned, or photocopied manual signature, or other electronic signature, shall for all purposes have the same validity, legal effect, and admissibility in evidence as an original manual signature. Each party hereto shall be entitled to conclusively rely upon, and shall have no liability with respect to, any faxed, scanned, or photocopied manual signature, or other electronic signature, of any other party and shall have no duty to investigate, confirm or otherwise verify the validity or authenticity thereof. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but such counterparts shall, together, constitute one and the same instrument. For the avoidance of doubt, original manual signatures shall be used for execution or indorsement of writings when required under the Code or other Signature Law due to the character or intended character of the writings.

Section 19. Headings.

The Section headings used in this Agreement are for convenience of reference only and shall not affect the construction of this Agreement.

Section 20. Entire Agreement; Successors and Assigns.

This Agreement, together with those other agreements referenced herein, constitutes the entire agreement and understanding of the parties hereto with respect to the matters and transactions contemplated hereby and supersedes all prior agreements and understandings whatsoever relating to such matters and transactions. This Agreement shall be binding upon and, subject to **Section 15** above, shall inure to the benefit of the successors and assigns of the parties hereto.

Section 21. Limitation on Duty of Lender in Respect of Collateral.

Beyond the exercise of reasonable care in the custody thereof, Lender shall have no duty as to any Pledged Collateral in its possession or control or in the possession or control of any agent or bailee or any income thereon or as to the preservation of rights against prior parties or any other rights pertaining thereto. Lender shall be deemed to have exercised reasonable care in the custody and preservation of the Pledged Collateral in its possession if the Pledged Collateral is accorded treatment substantially equal to that which Lender accords its own property, and shall not be liable or responsible for any loss or damage to any of the Pledged Collateral, or for any diminution in the value thereof, by reason of the act or omission of any agent or bailee selected by Lender in good faith.

Section 22. Indemnification.

Original Borrower agrees to indemnify Lender, Intermediary (including in its capacity as Custodian), Servicer, and their respective directors, officers, stockholders, affiliates, employees, agents, successors and assigns (collectively, the "**Indemnitees**") and hold such Indemnitees harmless from and against any and all liabilities, losses, damages, costs and expenses of any kind (each a "**Claim**" and collectively "**Claims**"), including, without limitation, the reasonable fees and disbursements of counsel, which may be incurred by any Indemnitee in connection with Original Borrower's or Indemnitee's actions or failure to act hereunder or in connection with any investigative, administrative or judicial proceedings (whether or not such Indemnitee shall be designated a party thereto) relating to or arising out of the Pledged Collateral, this Agreement, or the other Defeasance Documents (including, without limitation, any such proceeding by Original Borrower against any Indemnitee or by any Indemnitee against Original Borrower (but only as to Claims arising from acts or omissions of Original Borrower and to the extent that Indemnitee is the prevailing party)); provided that no Indemnitee shall have the right to be indemnified hereunder for its own negligence or willful misconduct as finally determined by a court of competent jurisdiction. The provisions of this **Section 22** shall survive the termination of this Agreement, the discharge of the obligations of Original Borrower, its successors and assigns under this Agreement, and the removal or resignation of Intermediary.

Section 23. Authority.

Any Person executing this Agreement in a fiduciary or other representative capacity represents that it has full power and authority to do so and that any applicable or required court, limited liability company, partnership, corporate or other authority has been duly and properly given and continues as of the date hereof.

Section 24. Insufficient Funds.

Successor Borrower shall immediately deposit into the Pledged Collateral Account an amount sufficient to pay any shortfall if, at any time, funds available in the Pledged Collateral Account are insufficient to satisfy all obligations then due under the Note or under any other Defeasance Document arising because the Securities are insufficient to make scheduled payments of interest and principal as required under the Note, including payment of the Mortgage Loan in full on the Final Payment Date, without taking into account (a) reinvestment income, or (b) failure by any Obligor to satisfy its obligations under the Securities.

Section 25. Waiver of Trial by Jury.

PLEDGOR, LENDER AND INTERMEDIARY EACH HEREBY AGREES NOT TO ELECT A TRIAL BY JURY OF ANY ISSUE TRIABLE OF RIGHT BY JURY, AND WAIVES ANY RIGHT TO TRIAL BY JURY FULLY TO THE EXTENT THAT ANY SUCH RIGHT SHALL NOW OR HEREAFTER MAY EXIST WITH REGARD TO THIS AGREEMENT OR ANY DOCUMENT RELATED HERETO, OR ANY CLAIM, COUNTERCLAIM OR OTHER ACTION ARISING IN CONNECTION THEREWITH. THIS WAIVER OF RIGHT TO TRIAL BY JURY IS GIVEN KNOWINGLY AND VOLUNTARILY BY PLEDGOR, LENDER AND INTERMEDIARY, AND IS INTENDED TO ENCOMPASS INDIVIDUALLY EACH INSTANCE AND EACH ISSUE AS TO WHICH A RIGHT TO TRIAL BY JURY WOULD OTHERWISE ACCRUE. PLEDGOR, LENDER AND INTERMEDIARY EACH IS HEREBY AUTHORIZED TO FILE A COPY OF THIS SECTION IN ANY PROCEEDING AS CONCLUSIVE EVIDENCE OF THIS WAIVER BY EACH OTHER.

Section 26. Rights and Protections of the Intermediary.

(a) Any permissive right of the Intermediary as set forth in this Agreement or in any of the Defeasance Documents shall not be construed as a duty;

(b) In performing its duties hereunder, the Intermediary shall be entitled to rely conclusively on any opinions, Entitlement Orders or instructions, certificates, reports, or other information delivered or provided to it pursuant to the Defeasance Documents, and shall be entitled to conclusively rely upon same without any duty or obligation to recompute, validate, verify or re-evaluate any of the amounts or other information stated therein;

(c) The Intermediary shall not be liable under this Agreement for anything other than a breach of its duties arising out of its own negligence, bad faith, willful misconduct, or a breach of its representations and warranties made under the Defeasance Documents;

(d) The Intermediary shall not have any responsibility or liability for or with respect to the compliance by the other parties to the Defeasance Documents, or with respect to any warranty or representation made by any other party;

(e) The Intermediary shall not be charged with actual knowledge of any Event of Default until (i) notice is provided in accordance with **Section 14** hereof, or (ii) a responsible officer of the Intermediary obtains actual knowledge of such Event of Default;

(f) The Intermediary shall have no obligation to pursue any action that is not in accordance with applicable law. In no event shall the Intermediary be liable for any failure or delay in the performance of its obligations hereunder due to force majeure or acts of God; and

(g) Any Person into which the Intermediary may be merged or converted or with which either may be consolidated or any Person resulting from any merger, conversion or consolidation to which the Intermediary shall be a party, or any Person succeeding to all or substantially all of the corporate trust business of the Intermediary shall be the successor of the Intermediary hereunder without the execution or filing of any paper or further act on the part of the Intermediary; provided, however, (i) such entity must be an Eligible Institution, and (ii) such entity must be deemed to have assumed all of the obligations of the Intermediary under the Defeasance Documents by operation of law or by written agreement. Nothing in this provision shall impair Lender's termination rights under Section 7 of the Account Agreement.

The Intermediary shall be entitled to all of the same rights, protections, immunities and indemnities afforded to it as Intermediary in each capacity for which it serves under the Defeasance Documents including, without limitation, as Custodian.

Section 27. Priority of Notes.

Notwithstanding any other term of this Agreement, the Defeasance Documents, or the Mortgage Loan Documents to the contrary, the parties hereby acknowledge and agree that for so long as the Mortgage Loans remain outstanding, each of the Notes has equal priority with each of the other Notes, and no portion of any Mortgage Loan has priority or preference over any portion of any other Mortgage Loan. If for any reason the funds available in the Pledged Collateral Account are insufficient to satisfy all obligations then due under each of the Notes and the Defeasance Documents (including payments of each of the Mortgage Loans in full on the Final Payment Date), then any payment, whether principal or interest, under any of the Notes and any proceeds from the sale of the Pledged Collateral will be applied to the Mortgage Loans on a pro rata basis, based on the outstanding principal balance of each of the Mortgage Loans at the time such insufficiency occurs. Notwithstanding the foregoing, nothing in this **Section 27** modifies any of Successor Borrower's obligations under the Defeasance Documents, including Successor Borrower's obligations under **Section 24** of this Agreement.

[Signatures on Following Pages]

IN WITNESS WHEREOF, each of the parties hereto has caused this Agreement to be executed and delivered by its duly authorized officer as of the date first above written.

ORIGINAL BORROWER:

IONIS GAZELLE, LLC,
a Delaware limited liability company

By: Ionis Pharmaceuticals, Inc.,
a Delaware corporation, its Sole Member

By: /s/Elizabeth L. Hougen
Elizabeth L. Hougen
Executive Vice President & Chief Financial Officer

LENDER:

WELLS FARGO BANK, NATIONAL ASSOCIATION, AS TRUSTEE FOR THE BENEFIT OF THE REGISTERED HOLDERS OF UBS COMMERCIAL MORTGAGE TRUST 2017-C3, COMMERCIAL MORTGAGE PASS-THROUGH CERTIFICATES, SERIES 2017-C3

By: Midland Loan Services, a division of PNC Bank, National Association, Servicer and Attorney-in-Fact

By: /s/Wm. Dugger Schwartz
Name: Wm. Dugger Schwartz
Title: Senior Vice President Servicing Officer

U.S. Bank Trust Company, National Association, a national banking association, acting in its capacity as Securities Intermediary, hereby acknowledges its agreement to be bound by the provisions set forth in **Sections 6(a)(viii), 7, 8, 9(b), 12, 14, 15, 16, 22, 25 and 26** of this Agreement, as of the date first above written.

INTERMEDIARY:

U.S. BANK TRUST COMPANY, NATIONAL ASSOCIATION, a national banking association

By: /s/Linda Riley
Name: Linda Riley
Title: Vice President

Signature page for Ionis Gazelle
Defeasance Pledge Agreement

EXHIBIT A

DETAIL OF THE GOVERNMENT SECURITIES

Ionis Gazelle Defeasance

Type	CUSIP Number	Settlement Date	Maturity Date
T-BILL	912796N96	20-Oct-22	03-Nov-22
T-BILL	912796X95	20-Oct-22	05-Jan-23
T-BILL	912796XT1	20-Oct-22	02-Feb-23
T-BILL	9I2796YB9	20-Oct-22	02-Mar-23
T-NOTE	91282CCD1	20-Oct-22	31-May-23
T-NOTE	91282CCK5	20-Oct-22	30-Jun-23
T-NOTE	91282CCN9	20-Oct-22	31-Jul-23
T-NOTE	9I282CDD0	20-Oct-22	31-Oct-23
T-NOTE	91282CDV0	20-Oct-22	31-Jan-24
T-NOTE	912828W48	20-Oct-22	29-Feb-24
T-NOTE	91282CEG2	20-Oct-22	31-Mar-24
T-NOTE	9128286R6	20-Oct-22	30-Apr-24
T-NOTE	91282CFA4	20-Oct-22	31-Jul-24
T-NOTE	9128282U3	20-Oct-22	31-Aug-24
T-NOTE	912828YH7	20-Oct-22	30-Sep-24
T-NOTE	9128283P3	20-Oct-22	31 -Dec-24
T-NOTE	9128284F4	20-Oct-22	31-Mar-25
T-NOTE	912828ZW3	20-Oct-22	30-Jun-25
T-NOTE	9128285C0	20-Oct-22	30-Sep-25
T-NOTE	9128285T3	20-Oct-22	31-Dec-25
T-NOTE	91282CBH3	20-Oct-22	31-Jan-26
T-NOTE	91282CBQ3	20-Oct-22	28-Feb-26
T-NOTE	91282CBT7	20-Oct-22	31-Mar-26
T-NOTE	91282CCJ8	20-Oct-22	30-Jun-26
T-NOTE	91282CCW9	20-Oct-22	31-Aug-26
T-NOTE	91282CDK4	20-Oct-22	30-Nov-26
T-NOTE	91282CEC1	20-Oct-22	28-Feb-27
FHLB	3130ATQT7	20-Oct-22	05-Apr-27

EXHIBIT B

ACCOUNTANT'S REPORT

[***]

EXHIBIT C

PERMITTED INVESTMENTS

All terms used herein and not otherwise defined shall have the meanings set forth in the Pooling and Servicing Agreement.

Permitted Investments means any one or more of the following obligations or securities payable in United States Dollars on demand or on a scheduled maturity on or before the Business Day immediately preceding the date upon which the funds in the Pledged Collateral Account are required to be drawn, with maturities of not more than 365 days, regardless of whether issued by the Depositor, the Master Servicer, the Trustee or any of their respective affiliates, and having at all times the required ratings, if any, provided for in this definition, unless each Rating Agency shall have confirmed in writing to Servicer that a lower rating would not, in and of itself, result in a downgrade, qualification or withdrawal of the then current ratings assigned to the Certificates:

(i) obligations of, or obligations fully guaranteed as to payment of principal and interest by, the United States or any agency or instrumentality thereof provided such obligations are backed by the full faith and credit of the United States of America including, without limitation, obligations of: the U.S. Treasury (all direct or fully guaranteed obligations), the Farmers Home Administration (certificates of beneficial ownership), the General Services Administration (participation certificates), the U.S. Maritime Administration (guaranteed Title XI financing), the Small Business Administration (guaranteed participation certificates and guaranteed pool certificates), the U.S. Department of Housing and Urban Development (local authority bonds) and the Washington Metropolitan Area Transit Authority (guaranteed transit bonds); provided, however, that the investments described in this clause (1) must have a predetermined fixed dollar amount of principal due at maturity that cannot vary or change, (2) if such investments have a variable rate of interest, such interest rate must be tied to a single interest rate index plus a fixed spread (if any) and must move proportionately with that index, and (3) must not be subject to liquidation prior to their maturity;

(ii) Federal Housing Administration debentures;

(iii) obligations of the following United States government sponsored agencies: Federal Home Loan Mortgage Corp. (debt obligations), the Farm Credit System (consolidated systemwide bonds and notes), the Federal Home Loan Banks (consolidated debt obligations), the Federal National Mortgage Association (debt obligations), the Financing Corp. (debt obligations), and the Resolution Funding Corp. (debt obligations); provided, however, that the investments described in this clause (1) must have a predetermined fixed dollar amount of principal due at maturity that cannot vary or change, (2) if such investments have a variable rate of interest, such interest rate must be tied to a single interest rate index plus a fixed spread (if any) and must move proportionately with that index, and (3) must not be subject to liquidation prior to their maturity;

(iv) federal funds, unsecured certificates of deposit, time deposits, bankers' acceptances and repurchase agreements with maturities of not more than 365 days, of any bank, the short term obligations of which are rated in the highest short term rating category by each Rating Agency (or otherwise acceptable to each Rating Agency, as confirmed in writing that such investment would not, in and of itself, result in a downgrade, qualification or withdrawal of the then current ratings assigned to the Certificates); provided, however, that the investments described in this clause (1) must have a predetermined fixed dollar amount of principal due at maturity that cannot vary or change, (2) if such investments have a variable rate of interest, such interest rate must be tied to a single interest rate index plus a fixed spread (if any) and must move proportionately with that index, and (3) must not be subject to liquidation prior to their maturity;

(v) Federal Deposit Insurance Corporation fully insured demand and time deposits in, or certificates of deposit of, or bankers' acceptances issued by, any bank or trust company, savings and loan association or savings bank, the short term obligations of which are rated in the highest short term rating category by each Rating Agency (or otherwise acceptable to each Rating Agency, as confirmed in writing that such investment would not, in and of itself, result in a downgrade, qualification or withdrawal of the then current ratings assigned to the Certificates); provided, however, that the investments described in this clause (1) must have a predetermined fixed dollar amount of principal due at maturity that cannot vary or change, (2) if such investments have a variable rate of interest, such interest rate must be tied to a single interest rate index plus a fixed spread (if any) and must move proportionately with that index, and (3) must not be subject to liquidation prior to their maturity;

(vi) debt obligations with maturities of not more than 365 days and rated by each Rating Agency in its highest long-term unsecured rating category (or otherwise acceptable to each Rating Agency, as confirmed in writing that such investment would not, in and of itself, result in a downgrade, qualification or withdrawal of the then current ratings assigned to the Certificates); provided, however, that the investments described in this clause (1) must have a predetermined fixed dollar amount of principal due at maturity that cannot vary or change, (2) if such investments have a variable rate of interest, such interest rate must be tied to a single interest rate index plus a fixed spread (if any) and must move proportionately with that index, and (3) must not be subject to liquidation prior to their maturity;

(vii) commercial paper (including both non-interest-bearing discount obligations and interest-bearing obligations payable on demand or on a specified date not more than one year after the date of issuance thereof) with maturities of not more than 365 days and that is rated by each Rating Agency in its highest short-term unsecured debt rating (or otherwise acceptable to each Rating Agency, as confirmed in writing that such investment would not, in and of itself, result in a downgrade, qualification or withdrawal of the then current ratings assigned to the Certificates); provided, however, that the investments described in this clause (1) must have a predetermined fixed dollar amount of principal due at maturity that cannot vary or change, (2) if such investments have a variable rate of interest, such interest rate must be tied to a single interest rate index plus a fixed spread (if any) and must move proportionately with that index, and (3) must not be subject to liquidation prior to their maturity;

(viii) units of taxable money market mutual funds issued by regulated investment companies which seek to maintain a constant net asset value per share (including the Goldman FS Government MM Fund #465 (FGTXX) CUSIP #38141W273 (the "**Fund**")) so long as such fund is rated by each Rating Agency that rates such fund in its highest long-term unsecured debt ratings category (or, if not rated by each Rating Agency, otherwise acceptable to each Rating Agency, as applicable, as confirmed in writing that such investment would not, in and of itself, result in a downgrade, qualification or withdrawal of the then current ratings assigned to the Certificates);

(ix) any other demand, money market or time deposit, demand obligation or any other obligation, security or investment, provided that each Rating Agency has confirmed in writing to the Master Servicer, Special Servicer or Trustee, as applicable, that such investment would not, in and of itself, result in a downgrade, qualification or withdrawal of the then current ratings assigned to the Certificates; and

(x) such obligations as are included in the definition of "Permitted Investments" in the Pooling and Servicing Agreement or are otherwise acceptable as Permitted Investments to each Rating Agency, as confirmed in writing to Trustee, that such obligations would not, in and of itself, result in a downgrade, qualification or withdrawal of the then current ratings assigned to the Certificates;

provided, however, that, with respect to clause (ix) above, in the judgment of the Master Servicer, Special Servicer or Trustee, as applicable, such instrument qualifies as a "cash flow investment" pursuant to Section 860G(a)(6) of the United States Internal Revenue Code earning a passive return in the nature of interest and provided further that no instrument or security shall be a Permitted Investment if (a) such instrument or security evidences a right to receive only interest payments, (b) the right to receive principal and interest payments derived from the underlying investment provides a yield to maturity in excess of one hundred twenty percent (120%) of the yield to maturity at par of such underlying investment, or (c) such investments have a maturity in excess of one year.

EXHIBIT D

SINGLE PURPOSE ENTITY REQUIREMENTS

"**Single Purpose Entity**" means (a) with respect to an existing Successor Borrower, the single purpose entity provisions in such entity's formation documents, or (b) with respect to a new Successor Borrower formed pursuant to this Agreement, a business trust, corporation, limited partnership, or limited liability company (for purposes of this definition, the "**Entity**") which, at all times since its formation and thereafter for so long as any of the Secured Obligations remain outstanding and not discharged in full:

(i) was and will be organized solely for the purpose of owning the Pledged Collateral and other similar collateral (collectively "**Pool Defeasance Collateral**") owned by such Entity in connection with the defeasance of securitized loans from UBS Commercial Mortgage Trust 2017-C3, Commercial Mortgage Pass-Through Certificates, Series 2017-C3 securitization (the "**UBSCM 2017-C3 Pool**") and performing and complying with the Defeasance Documents and other documents executed in connection with loans defeased from the UBSCM 2017-C3 Pool ("**Pool Defeasance Documents**"), and has not and will not engage in any business unrelated to such purposes;

(ii) has not and will not have any assets other than the Pledged Collateral and Pool Defeasance Collateral;

(iii) has not and will not transfer, convey, grant, assign or pledge or permit the transfer, conveyance, granting, assignment or pledge of any of its assets or any interest therein except for the pledge of Pool Defeasance Collateral to Lender in connection with other Pool Defeasance Transactions;

(iv) has not and will not fail to correct any misunderstanding by a third party regarding the separate identity of such Entity when such Entity is aware of such misunderstanding;

(v) has not permitted, cooperated with or sought involuntarily and will not permit, cooperate with or seek involuntarily the occurrence of any (1) bankruptcy, insolvency or reorganization petition or any relief under any laws relating to the relief from debts or the protection of debtors generally; (2) the appointment of a receiver, liquidator, assignee, trustee, sequestrator, custodian or any similar official; or (3) assignment for the benefit of creditors with respect to any beneficiary, partner or member of the Entity;

(vi) has maintained and will maintain its accounts, books and records separate from any other person or entity;

(vii) has maintained and will maintain its books, records, resolutions and agreements as official records;

(viii) has not commingled and will not commingle its funds or assets with those of any other person or entity;

(ix) has held and will hold its assets in its own name;

(x) has conducted and will conduct its business in its name;

(xi) has maintained and will maintain its financial statements, accounting records and other entity documents separate from any other person or entity;

(xii) has paid and will pay its own liabilities out of its own funds and assets;

(xiii) has observed and will observe all trust, partnership, corporate or limited liability company formalities, as applicable;

(xiv) has maintained and will maintain an arms-length relationship with its affiliates;

(xv) has and will have no obligations other than the obligations under the Defeasance Documents and other Pool Defeasance Documents;

(xvi) has not and will not assume any contingent obligations;

(xvii) has not acquired and will not acquire obligations or securities of its beneficiaries, partners, members or shareholders (as the case may be);

(xviii) has allocated and will allocate fairly and reasonably shared expenses with any affiliates, including, shared office space, and uses separate stationery, invoices and checks;

(xix) has not and will not pledge its assets for the benefit of any other person or entity other than to Lender pursuant to the Defeasance Documents and other Pool Defeasance Documents;

(xx) has held and identified itself and will hold itself out and identify itself as a separate and distinct entity under its own name and not as a division or part of any other person or entity;

(xxi) has not made and will not make loans to any other person or entity;

(xxii) has not and will not identify its beneficiaries, partners, members or shareholders (as the case may be), or any affiliates of any of them as a division or part of it;

(xxiii) has not entered and will not enter into or be a party to, any transaction other than the transaction described in the Defeasance Documents or Pool Defeasance Transactions;

(xxiv) has paid and will pay the salaries of its own employees from its own funds;

(xxv) has maintained and will maintain adequate capital in light of its contemplated business operations;

(xxvi) has not and will not hold out its credit as being available to satisfy the obligations of any member, affiliate or other person;

(xxvii) if such Entity is a limited liability company or limited partnership, then such Entity shall continue (and not dissolve) for so long as a solvent member or partner, as applicable, exists, and such Entity's organizational documents shall so provide;

(xxviii) will at all times comply with, and will not violate, the Single Purpose Entity provisions set forth herein;

(xxix) has expressly incorporated these Single Purpose Entity provisions (or substantially similar provisions) into its organizational documents together with a provision requiring the prior written consent of the Lender to change, waive or amend any of such provisions for so long as the Secured Obligations remain outstanding; and

(xxx) will conduct its business so that the assumptions made with respect to such Entity in any "substantive non-consolidation" opinion letter delivered in connection with any Pool Defeasance Transaction will continue to be true and correct in all respects.

In addition to the foregoing, for so long as any of the Secured Obligations remain outstanding and not discharged in full, such Entity will have an independent trustee, director or manager, or a trustee, general partner or manager that is a corporation that has among its directors an independent director, and the organizational documents for such Entity will provide that, without the unanimous consent of all trustees, managers, partners, or directors, including such independent trustee, director or manager, no person shall have authority on behalf of such Entity to:

(i) seek the dissolution or winding up, in whole or in part, of such Entity;

(ii) merge into or consolidate with any person or entity or dissolve, terminate or liquidate, in whole or in part, transfer or otherwise dispose of all or substantially all of its assets or change its legal structure;

(iii) file a voluntary petition or otherwise initiate proceedings to have such Entity adjudicated bankrupt or insolvent, or consent to the institution of bankruptcy or insolvency proceedings against such Entity, or file a petition seeking or consenting to reorganization or relief of such Entity as debtor under any applicable federal or state law relating to bankruptcy, insolvency, or other relief for debtors with respect to such Entity; or seek or consent to the appointment of any trustee, receiver, conservator, assignee, sequestrator, custodian, liquidator (or other similar official) of such Entity or of all or any substantial part of the properties and assets of such Entity, or make any general assignment for the benefit of creditors of such Entity, or admit in writing the inability of such Entity to pay its debts generally as they become due or declare or effect a moratorium on such Entity's debts or take any action in furtherance of any such action; or

(iv) amend, modify or alter such provisions of such Entity's organizational documents.

In addition to the foregoing, for so long as any of the Secured Obligations remains outstanding and not discharged in full, the organizational documents for such Entity shall provide that no trustee, manager, general partner or director of such Entity shall have authority to take any action in items (i) through (iv) above without the written consent of the holder of the Defeasance Documents.

For purposes of this definition, the term "independent" shall mean, with respect to any individual director, trustee, managing member or general partner, not being at the time of appointment as such director, trustee, managing member or general partner of any Entity, at any time after such appointment, or at any time in the five (5) years preceding such appointment (a) a direct or indirect legal or beneficial owner of such Entity or any of its affiliates, (b) a creditor, director, supplier, employee, officer, manager or contractor of such Entity or any of its affiliates, (c) a person who controls such Entity or any of its affiliates, or (d) a member of the immediate family of a person described in (a), (b) or (c) above.

DEFEASANCE ASSIGNMENT, ASSUMPTION AND RELEASE AGREEMENT

THIS DEFEASANCE ASSIGNMENT, ASSUMPTION AND RELEASE AGREEMENT (this "**Agreement**") dated as of October 20, 2022 is made by and among **IONIS GAZELLE, LLC**, a Delaware limited liability company ("**Original Borrower**"), **DHC UBSCM 17 C3 SUCCESSOR BORROWER-R, LLC**, a Delaware limited liability company ("**Successor Borrower**"), **WELLS FARGO BANK, NATIONAL ASSOCIATION, AS TRUSTEE FOR THE BENEFIT OF THE REGISTERED HOLDERS OF UBS COMMERCIAL MORTGAGE TRUST 2017-C3, COMMERCIAL MORTGAGE PASS-THROUGH CERTIFICATES, SERIES 2017-C3**, as secured party (together with its successors and assigns, "**Lender**"), **MIDLAND LOAN SERVICES**, a division of PNC Bank, National Association ("**Servicer**"), on behalf of said Trustee under the Pooling and Servicing Agreement (as hereinafter defined), and, for the sole purpose of acknowledging the transactions effected by this Agreement, **U.S. BANK TRUST COMPANY, NATIONAL ASSOCIATION**, a national banking association, as Securities Intermediary and Custodian (together with its successors and assigns, "**Intermediary**").

RECITALS:

A. UBS AG, by and through its branch office at 1285 Avenue of the Americas, New York, New York ("**Original Lender**"), made a loan (the "**Mortgage Loan**") to Original Borrower in the original principal amount of $51,350,000.00, made pursuant to a Loan Agreement dated July 18, 2017 (the "**Loan Agreement**"), and evidenced by (1) a Promissory Note A-1 dated July 18, 2017 in the original principal amount of $36,350,000.00 (the "**Note A-1**"), (2) a Promissory Note A-2 dated July 18, 2017 in the original principal amount of $5,000,000.00 (the "**Note A-2**"), and (3) a Promissory Note A-3 dated July 18, 2017 in the original principal amount of $10,000,000.00 (Note A-1, Note A-2 and Note A-3 are, individually and collectively, the "**Note**" or the "**Notes**").

B. The Mortgage Loan and the Notes are secured by, among other things, a Deed of Trust and Security Agreement dated July 18, 2017 from Original Borrower to and for the benefit of Original Lender (the "**Security Instrument**"), which grants to Original Lender, among other things, a lien on the real and personal property described in said Security Instrument (the "**Mortgaged Property**"). The Mortgage Loan is further evidenced or secured by various other documents, including guaranties, executed by Original Borrower and others in favor of Original Lender, including that certain Guaranty dated July 18, 2017, given by Ionis Pharmaceuticals, Inc., a Delaware corporation ("**Guarantor**") (together with the Notes, the Loan Agreement and the Security Instrument, the "**Mortgage Loan Documents**").

C. Original Lender assigned all of its right, title and interest in the Mortgage Loan and the Mortgage Loan Documents (by one or more assignments) to Lender in connection with the issuance of UBS Commercial Mortgage Trust 2017-C3, Commercial Mortgage Pass-Through Certificates, Series 2017-C3 (the "**Certificates**"). Lender is the current holder of the Notes and the owner of the Mortgage Loan and the Mortgage Loan Documents.

D. Servicer is the Master Servicer under the Pooling and Servicing Agreement dated as of August 1, 2017 (as from time to time amended, supplemented or modified, the "**Pooling and Servicing Agreement**").

E. Pursuant to the Mortgage Loan Documents, Original Borrower has directed Lender to release the Mortgaged Property and all escrows and reserves from the liens and security interests of the Security Instrument and the other Mortgage Loan Documents and to release any other collateral or security previously given by Original Borrower as security for the Mortgage Loan upon Original Borrower's defeasance of the Mortgage Loan (the "**Defeasance**").

F. Original Borrower is the legal and beneficial owner of the securities listed in Exhibit A to the Pledge Agreement (collectively, the "**Securities**"). Pursuant to the Mortgage Loan Documents and as a condition precedent to Lender's obligation to release the Mortgaged Property from the lien of the Security Instrument, Original Borrower has granted to Lender a security interest in the Securities and the proceeds thereof in accordance with the terms and conditions of the Defeasance Pledge and Security Agreement of even date herewith among Original Borrower, Lender, and Intermediary (the "**Pledge Agreement**"), to secure the payment and performance in full when due of all amounts payable under the Mortgage Loan Documents.

G. In connection with the Pledge Agreement, Original Borrower, Lender, Intermediary, Account Bank, and Servicer have entered into the Defeasance Account Agreement of even date herewith (the "**Account Agreement**"), pursuant to which Intermediary has established and will maintain an account to hold the interests of Original Borrower and Successor Borrower in the Securities and other collateral.

H. Pursuant to the Mortgage Loan Documents, Original Borrower is required or permitted to transfer and assign all of its obligations, rights and duties under and to the Note and the other Defeasance Documents (as defined in the Pledge Agreement), together with its right, title and interest in the Pledged Collateral (as defined in the Pledge Agreement), to a successor entity established or designated in accordance with the Mortgage Loan Documents.

I. Successor Borrower has been established or designated as a single purpose successor entity which will assume certain of Original Borrower's rights, obligations and liabilities under the Defeasance Documents.

J. Original Borrower desires to (i) obtain the release of the Mortgaged Property and all escrows and reserves from the lien of the Security Instrument, (ii) transfer and assign certain of its rights and obligations under the Note and the other Defeasance Documents to Successor Borrower, (iii) transfer its right, title and interest in the Pledged Collateral to Successor Borrower, and (iv) obtain a release of its rights and obligations under the Mortgage Loan Documents, the Note, and the other Defeasance Documents to the extent provided herein. Successor Borrower, to the extent set forth in the Defeasance Documents, desires to assume Original Borrower's rights and obligations under the Note, the Pledge Agreement and the Account Agreement and acquire Original Borrower's right, title and interest in and to the Pledged Collateral.

NOW, THEREFORE, in consideration of the mutual covenants and promises of the parties hereto and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

Section 1. Definitions.

Each capitalized term used and not defined herein shall have the meaning assigned to such term in the Pledge Agreement or the Account Agreement, as applicable.

Section 2. Assignment of Secured Obligations and Securities.

Effective as of the date hereof, Original Borrower hereby sells, transfers and assigns to Successor Borrower (a) all of Original Borrower's obligations, rights (including the right, if any, to prepay the Mortgage Loan to the extent permitted by the Mortgage Loan Documents following the consummation of the Defeasance), liabilities and duties in, to and under, and subject to the terms of, the Note and the other Defeasance Documents (the "**Secured Obligations**"), and (b) all of Original Borrower's right, title and interest in and to the Pledged Collateral, subject to the terms of the Defeasance Documents and to the rights of the Lender and the obligations of the Intermediary pursuant to the Pledge Agreement and the Account Agreement.

Section 3. Assumption of Mortgage Loan Obligations.

(a) Successor Borrower, for good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, hereby assumes, and agrees to be bound by and to perform and/or be deemed to have made, as applicable, each of the Secured Obligations and all other covenants, agreements, representations and warranties of Original Borrower under the Note, the payment provisions of the Loan Agreement, the Pledge Agreement, and the Account Agreement first arising or accruing on or after the date of the transfer of the Pledged Collateral to Successor Borrower; provided, however, Successor Borrower shall not assume any obligations (i) under Section 4 of the Pledge Agreement (with respect to the Securities transferred to Successor Borrower on the date hereof), (ii) under Section 6 of the Pledge Agreement to the extent that such obligations are to have been fully performed by Original Borrower or parties other than Successor Borrower prior to transfer of the Securities to Successor Borrower, (iii) that arise as a result of Original Borrower's failure to effect the initial perfection of Lender's interest in the Pledged Collateral prior to the transfer of the Pledged Collateral to Successor Borrower, (iv) that may arise as a result of any material misrepresentation or misstatement made by Original Borrower in any of the Defeasance Documents or otherwise made by Original Borrower in connection with the defeasance transaction contemplated under this Agreement, which representation or statement Original Borrower knew or should have known when made to be a material misrepresentation or misstatement, or (v) that arise under the Note or the Mortgage Loan Documents (to the extent that provisions of the Mortgage Loan Documents have been incorporated into the Note), that (1) specifically relate to the use or operation of the Mortgaged Property, including without limitation, any real property-related events of default set forth in the Note, (2) do not otherwise relate to payment terms under the Note, or (3) directly conflict with any express covenant made or assumed by Successor Borrower under the Defeasance Documents, or (vi) for any costs, payments and expenses other than those expressly assumed herein.

(b) Except as otherwise expressly provided herein, Successor Borrower shall be liable to Lender only to the extent of the Pledged Collateral and other Pool Defeasance Collateral that has been pledged to Lender in connection with Pool Defeasance Transactions except that Successor Borrower shall be required to advance funds to cover any shortfall if at any time the funds available in the Pledged Collateral Account are insufficient to pay amounts then due with respect to the Secured Obligations without taking into account (1) reinvestment income, or (2) failure by any Obligor to satisfy its obligations under the Securities. Lender shall have no recourse against, and Lender shall not enforce any monetary judgment with respect to the Secured Obligations against assets of Successor Borrower other than the Pledged Collateral and other Pool Defeasance Collateral; provided, however, Lender shall not enforce any monetary judgment against other Pool Defeasance Collateral until the defeased promissory note related to such Pool Defeasance Collateral has been repaid in full in accordance with its terms.

(c) Notwithstanding the provisions of **Section 3(b)** above, Successor Borrower (but not its directors, members, or managers) shall be personally liable for all claims, demands, liabilities, deficiencies, losses, damages, judgments, costs, and expenses, including without limitation reasonable attorneys' fees and costs of collection incurred, suffered or paid by Lender as a result of:

(i) any representation, warranty or certification made by or on behalf of Successor Borrower for the benefit of Lender in any Defeasance Document (or in any modification or supplement thereto), or in any certificate, report, financial statement or other item furnished to Lender in connection with this transaction having been false or misleading in any material respect as of the time made or furnished;

(ii) the Pledged Collateral or any part thereof or interest therein becoming subject to any security interest, pledge, covenant, lien, or other encumbrance, whether junior or senior to the interest of Lender, as a result of actions of Successor Borrower;

(iii) the Pledged Collateral or any part thereof or interest therein being sold, assigned, transferred, conveyed or otherwise disposed of, or becoming the subject of any attempted sale, assignment, transfer or conveyance, by Successor Borrower;

(iv) any of the Events of Default described in subsections (iv) through (xii) of Section 9(a) of the Pledge Agreement shall occur as a result of actions of Successor Borrower or circumstances relating to Successor Borrower;

(v) Successor Borrower's failure at any time to be a Single Purpose Entity; or

(vi) Successor Borrower's failure to immediately deposit into the Pledged Collateral Account an amount sufficient to pay any shortfall if, at any time, funds available in the Pledged Collateral Account are insufficient to satisfy all obligations then due under the Note or under any other Defeasance Document arising because the Securities are insufficient to make scheduled payments of interest and principal as required under the Note, including payment of the Mortgage Loan in full on the Final Payment Date without taking into account (1) reinvestment income, or (2) failure by any Obligor to satisfy its obligations under the Securities.

(d) Successor Borrower's assumption of the obligations of Original Borrower as set forth above under the Defeasance Documents is limited to those obligations arising on and after the date hereof, except that Successor Borrower expressly assumes (i) liability under the Note for interest accruing on the Mortgage Loan from and after the first day of the interest accrual period in which the Defeasance contemplated herein occurs (or in the event the next Scheduled Monthly Payment is being made in connection with the Defeasance closing, then Successor Borrower shall be liable for interest accruing on the Mortgage Loan from and after the due date of such Scheduled Monthly Payment), which shall be deposited by Original Borrower in the Pledged Collateral Account on or before the date hereof and paid in accordance with the provisions of the Account Agreement from the Pledged Collateral Account, and (ii) any liability that may arise if the Securities are insufficient to make timely payments in accordance with the Account Agreement (other than any insufficiency resulting from the failure of Obligor to make timely payments with respect to the Securities). Notwithstanding the foregoing, Successor Borrower hereby ratifies and confirms the representations, warranties and covenants in the Pledge Agreement made solely as to Successor Borrower.

(e) In addition to Lender's rights under the Defeasance Documents, Successor Borrower hereby grants to Lender and Servicer a power of attorney to file any franchise or other administrative filings which may be required to maintain Successor Borrower's good standing and legal existence in the event Successor Borrower fails to do so within ten (10) days following receipt of written notice from Lender of such failure. Any and all losses, expenses and costs of any nature or kind whatsoever which may be paid or incurred by Lender or Servicer as a result of Successor Borrower's failure to maintain its good standing and legal existence are specifically included within the Secured Obligations for which the Securities and any proceeds thereof are pledged.

(f) In addition to any other remedies that Lender may have under the Defeasance Documents or Mortgage Loan Documents to the extent assumed by Successor Borrower, in the event of the failure of Successor Borrower to maintain its status as a Single Purpose Entity in good standing, Successor Borrower's failure to file all required tax returns and pay all taxes which it owes or Successor Borrower's failure to file all forms and documents required to maintain its separate legal existence, in each case which failure continues for ten (10) days (the "**Cure Period**") after Successor Borrower's receipt of written notice thereof, Successor Borrower hereby agrees to the assumption of the Mortgage Loan by, and the transfer of the Pledged Collateral to, a Single Purpose Entity designated by Lender and hereby appoints Lender and Servicer as attorneys in fact with power of attorney to effect such transfer and assumption, provided that Lender agrees that the exercise of its rights hereunder to designate a successor Single Purpose Entity shall not be exercised for non-material technical defaults of the single purpose entity requirements, and further provided that Lender shall have the right to exercise its remedies hereunder without compliance with the Cure Period if Lender determines in its reasonable discretion that the Cure Period could materially diminish the value of, or otherwise materially affect, the Pledged Collateral or the Lender's security interest therein.

(g) As security for the Secured Obligations, Successor Borrower hereby pledges, assigns, transfers and grants to Lender a continuing first priority security interest in and lien on all of the right, title and interest of Successor Borrower (as assigned from Original Borrower) in, to and under the Pledged Collateral whether now owned or existing or hereafter acquired or arising. Successor Borrower hereby authorizes the filing of UCC financing statements describing the Pledged Collateral. Original Borrower hereby ratifies and affirms the security interest that it has granted in the Pledged Collateral pursuant to the Pledge Agreement.

Section 4. Acknowledgment and Consent of Lender.

Subject to (a) the satisfaction or waiver of all conditions to the Defeasance set forth in the Mortgage Loan Documents, and (b) the Defeasance Documents, Lender hereby recognizes and consents to Original Borrower's transfer and assignment to Successor Borrower of Original Borrower's rights in the Pledged Collateral and its rights and obligations under the Defeasance Documents in accordance with **Section 2** above, and the assumption by Successor Borrower of Original Borrower's rights in the Pledged Collateral and its rights and obligations under the Defeasance Documents in accordance with **Section 3** above.

Section 5. Release of Original Borrower and Guarantor.

(a) Subject to satisfaction or written waiver of all conditions to the Defeasance set forth in the Mortgage Loan Documents, Lender (i) shall promptly release and discharge the Mortgaged Property and all escrows and reserves from the lien of the Security Instrument and the other Mortgage Loan Documents, (ii) authorizes Original Borrower to terminate any UCC financing statements filed in connection with the Mortgage Loan naming Original Borrower as debtor, and listing all or any portion of the Mortgaged Property as collateral therein, and (iii) hereby releases and discharges Original Borrower and Guarantor from all claims, liabilities and obligations under the Mortgage Loan Documents, the Note, and the other Defeasance Documents related to events first occurring or arising after the transfer of the Pledged Collateral to Successor Borrower; provided, however, Original Borrower and Guarantor shall not be released from liability for any loss or damages suffered, or expenses incurred, by Lender, Intermediary or Successor Borrower as a result of or established pursuant to a claim, liability or obligation:

(i) arising from Original Borrower's obligations under Sections 4, 5, 6 or 22 of the Pledge Agreement that have not been expressly assumed by Successor Borrower under this Agreement;

(ii) with respect to any representation, warranty or certification of Original Borrower or Guarantor under the Defeasance Documents or the Mortgage Loan Documents or in any certificate, report, financial statement or other item delivered by Original Borrower or Guarantor in connection therewith that proves to have been false or misleading in any material respect when made or delivered;

(iii) arising as a result of the transfer of, or creation and perfection of, the first priority lien on the Pledged Collateral being deemed void or voidable for any reason whatsoever, or any other payment made by Original Borrower in respect of amounts due under the Mortgage Loan Documents on or prior to the date hereof being recovered from the Lender by Original Borrower, its creditors, or any other person for any reason whatsoever claiming by or through Original Borrower;

(iv) for any other failure by Original Borrower to pledge the Pledged Collateral to Lender or take or authorize any action necessary to effect the first priority perfection of Lender's security interest therein on or before the date hereof or to effectively transfer the Pledged Collateral to Successor Borrower in accordance with the Defeasance Documents;

(v) arising under any environmental or hazardous materials indemnity agreement or any other indemnity obligation or other obligation set forth in the Mortgage Loan Documents that, by its terms, is intended to survive the release of the lien of the Security Instrument to the extent the event giving rise to such liability occurred prior to the date hereof; or

(vi) arising as a result of an Event of Default under the Pledge Agreement that results from circumstances relating to Original Borrower, or actions of Original Borrower, included in subsections (iii) through (viii) and (xii) and (xiii) of Section 9(a) of the Pledge Agreement.

(b) Without limiting any other remedies Lender may have, upon the occurrence of any Event of Default arising under the Mortgage Loan Documents from any breach, act or omission of Original Borrower or Guarantor prior to the date hereof, Lender shall be entitled to enforce all of its remedies set forth in the Mortgage Loan Documents against Original Borrower or Guarantor. Except as expressly set forth in this **Section 5**, Lender hereby releases Original Borrower and Guarantor from their respective obligations under the Mortgage Loan Documents and the Defeasance Documents.

Section 6. Release of Lender and Servicer.

Original Borrower and Guarantor hereby covenant and agree that: (a) from and after the date hereof, Lender and Servicer may deal solely with Successor Borrower in all matters relating to the Mortgage Loan; (b) Lender and Servicer have no further duty or obligation of any nature relating to the Mortgage Loan or the Mortgage Loan Documents to Original Borrower and Guarantor (except that the Servicer agrees to return to Original Borrower promptly following the date hereof any escrows or reserves, minus any outstanding fees due, that it holds pursuant to the Mortgage Loan Documents); and (c) Original Borrower and Guarantor hereby release Lender and Servicer, and each of their predecessors-in-interest, together with all officers, directors, employees and agents of each of the foregoing, from all claims, causes of action and liabilities relating directly or indirectly to the Mortgage Loan, the Mortgaged Property, the Mortgage Loan Documents and the closing of the Defeasance arising on or prior to the date hereof, including any and all claims arising from or relating to negotiations, demands, requests or exercise of remedies in connection with the Mortgage Loan and the closing of the Defeasance.

Section 7. Representations and Warranties.

(a) Original Borrower represents and warrants to the other parties hereto that, as of the date hereof:

(i) all principal, interest and other amounts due and payable on or before the date hereof under the Note and the other Mortgage Loan Documents have been paid;

(ii) no default has occurred and is continuing under any of the Mortgage Loan Documents beyond any applicable grace or notice period;

(iii) the fair market value of the Mortgaged Property is greater than the fair market value of the Securities;

(iv) Original Borrower has not incurred any indebtedness other than the Mortgage Loan in contravention of the Mortgage Loan Documents;

(v) the pledge of the Securities to Lender and transfer of the Securities to Successor Borrower are not done in contemplation of insolvency or bankruptcy or with an intent to hinder, delay or defraud any of Original Borrower's creditors;

(vi) Original Borrower is not insolvent immediately before signing this Agreement and is not being rendered insolvent by the pledge of the Securities to Lender and transfer of the Securities to Successor Borrower;

(vii) the assets owned by Original Borrower immediately after giving effect to the pledge of the Securities to Lender and transfer of the Securities to Successor Borrower represent an amount of capital that is not unreasonably small for the business in which Original Borrower is engaged, and Original Borrower does not intend to engage in any other business for which such capital would be unreasonably small;

(viii) at the time of the pledge of the Securities to Lender and transfer of the Securities to Successor Borrower, Original Borrower does not intend to, or believe that it will, incur debts that would be beyond its ability to pay as such debts mature;

(ix) Based on the Accountant's Report and to the best of Original Borrower's knowledge, the proceeds of the Securities (without regard to reinvestment income) will be sufficient to make all payments required under the Defeasance Documents, including all amounts required under Section 4(e) of the Account Agreement; and

(x) the Mortgage Loan Documents do not contain provisions requiring Original Borrower to make any scheduled payments that by their terms would be payable on or after the date of the closing of the Defeasance contemplated herein, other than scheduled payments of principal and interest under the Note, including annual surveillance fees of rating agencies or servicing or trustees fees with respect to securitization of the Mortgage Loan, except such payments as have been specifically identified by Original Borrower and either (1) expressly assumed by Successor Borrower under the Defeasance Documents, or (2) paid in full in advance by Original Borrower in connection with the closing of the Defeasance contemplated herein.

(b) Successor Borrower represents and warrants to the other parties hereto, and hereby covenants for the benefit of such parties, that:

(i) Successor Borrower is a limited liability company, duly organized, validly existing and in good standing under the laws of the State of Delaware. Successor Borrower has all requisite power and authority to carry on its business as now conducted and as proposed to be conducted, and to enter into and perform its obligations under this Agreement and the other Defeasance Documents;

(ii) the execution and delivery of this Agreement, the assumption of the Original Borrower's rights and obligations under the Pledge Agreement, the Account Agreement and the Note, and performance of all of Successor Borrower's rights and obligations thereunder have been duly authorized by all necessary and appropriate action of Successor Borrower;

(iii) no consent or approval of any person, entity, or governmental authority is required with respect to the execution and delivery of this Agreement by Successor Borrower or the consummation by Successor Borrower of the transactions contemplated hereby or the performance by Successor Borrower of its obligations under this Agreement and the other Defeasance Documents, except such consents or approvals as have already been obtained;

(iv) this Agreement, the Pledge Agreement and the Account Agreement (as assumed pursuant to this Agreement) are the legal, valid and binding obligations of the Successor Borrower, enforceable against the Successor Borrower in accordance with their respective terms, except as may be limited by bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or other similar laws of general applicability affecting the enforcement of creditors' rights;

(v) the state of organization of Successor Borrower is Delaware. The taxpayer identification number of the Successor Borrower is 83-2813361. Successor Borrower's organizational identification number is 6490626;

(vi) since its formation, Successor Borrower has not changed its jurisdiction of organization. Successor Borrower shall not change its name as it appears in the organizational documents on file in its jurisdiction of organization, or change its jurisdiction of organization until (1) it has given Lender not less than thirty (30) days prior written notice of its intention to do so, clearly describing the new name or jurisdiction, and (2) it has provided Lender with any information regarding the new name or jurisdiction as Lender may request. If Successor Borrower intends to change its name or change its jurisdiction of organization, Successor Borrower shall cooperate with Lender in taking all action required by Lender to maintain perfection, priority and validity of the lien of Lender in the Pledged Collateral granted by the Pledge Agreement;

(vii) Successor Borrower has no notice or knowledge of any adverse claim, lien or encumbrance with respect to the Pledged Collateral;

(viii) Successor Borrower's address for purposes of UCC-1 financing statements is as set forth in **Section 17**;

(ix) Successor Borrower is, has been since the date of its formation, and shall at all times continue to be, a Single Purpose Entity in good standing in the jurisdiction in which it has been organized. Successor Borrower shall deliver to Lender, within thirty (30) days after written request from Lender, a certification signed by an officer of Successor Borrower or of Successor Borrower's managing member or general partner, as applicable, certifying that such officer is familiar with the activities and operations of Successor Borrower and all transactions entered into by Successor Borrower during the preceding twelve months (or since the date of Successor Borrower's formation if Successor Borrower was formed during such preceding twelve month period) and that, to such officer's knowledge, Successor Borrower has conducted itself as a Single Purpose Entity during such period, has filed all tax returns required to be filed during such period and has paid all taxes due and payable (and not being contested in accordance with the Defeasance Documents or applicable law) during such period. If requested by Lender, each such certification shall be accompanied by an original certificate of existence or good standing issued by the Secretary of State of the jurisdiction of Successor Borrower's formation, dated not more than thirty (30) days prior to the date of such certification;

(x) the proceeds of the Securities (without regard to reinvestment income) will be sufficient to make all regularly scheduled principal and interest payments required under the Defeasance Documents;

(xi) Successor Borrower shall immediately deposit into the Pledged Collateral Account an amount sufficient to pay any shortfall if, at any time, funds available in the Pledged Collateral Account are insufficient to satisfy all obligations then due under the Note or under any other Defeasance Document arising because the Securities are insufficient to make scheduled payments of interest and principal as required under the Note, including payment of the Mortgage Loan in full on the Final Payment Date, without taking into account (1) reinvestment income, or (2) failure by any Obligor to satisfy its obligations under the Securities;

(xii) Successor Borrower will not, and will not permit any Person to, sell, assign, transfer, convey, pledge or otherwise dispose of all or any interest in Successor Borrower, or the Pledged Collateral in violation of Subsection (iv) and (v) of Section 9(a) of the Pledge Agreement;

(xiii) Successor Borrower has authorized to be filed with the Secretary of State of the jurisdiction of organization of Successor Borrower, a UCC financing statement (naming Successor Borrower, as debtor) evidencing the liens and security interests or pledge created by this Agreement. Successor Borrower acknowledges that this Agreement, together with the book entries described in Section 6(a)(viii) of the Pledge Agreement, the filing of the UCC financing statement contemplated above, and any other actions taken with respect to the Pledged Collateral pursuant to this Agreement, create a valid and continuing and perfected first priority security interest in the Pledged Collateral in favor of Lender pursuant to the Code, securing the Secured Obligations, and enforceable as such as against creditors of and purchasers from Successor Borrower;

(xiv) Successor Borrower hereby agrees that Intermediary is the Securities Intermediary at which the Pledged Collateral Account of Lender is maintained. Successor Borrower hereby directs Intermediary to comply with all Entitlement Orders of Lender issued in connection with the terms of this Agreement with respect to the Pledged Collateral;

(xv) Successor Borrower has not authorized and has no knowledge of any control agreement or financing statement (or similar statement or instrument of registration under the law of any jurisdiction) covering or purporting to cover any interest of any kind in the Pledged Collateral and, except as may be required by Lender or Servicer, shall not enter into any such control agreement or execute, file or authorize to be filed in any public office any financing statement (or similar statement or instrument of registration under the laws of any jurisdiction) or statements relating to the Pledged Collateral;

(xvi) Successor Borrower shall deliver to Servicer and Intermediary (1) an executed Internal Revenue Service Form W-9 or an appropriate IRS form W-8, as applicable, no later than the Closing Date, and (2) upon request, any additional IRS forms (or updated versions of any previously submitted IRS forms) or other documentation at such time or times required by applicable law or upon the reasonable request of the Intermediary (as withholding agent) as may be necessary (A) to reduce or eliminate the imposition of U.S. withholding taxes and (B) to permit Intermediary to fulfill its tax reporting obligations under applicable law with respect to the Pledged Collateral Account or any amounts paid to Successor Borrower. If any IRS form or other documentation previously delivered becomes obsolete or inaccurate in any respect, upon request, Successor Borrower shall timely provide to the Intermediary accurately updated and complete versions of such IRS forms or other documentation; provided, however, that if the Successor Borrower's entity or form of entity has changed, then the Successor Borrower shall promptly provide such updated form to the Intermediary;

(xvii) Successor Borrower shall notify Lender in writing in the event Successor Borrower, together with any affiliate of Successor Borrower that is the successor borrower under one or more defeased loans held by Lender, is the current obligor under loans which, in the aggregate, equal or exceed $35,000,000.00 or 5% of the aggregate principal balance of all loans in any pool of loans governed by a Pooling and Servicing Agreement rated by S&P (as defined in the Account Agreement); and

(xviii) Successor Borrower shall keep complete and accurate books and records of account and hereby confirms that RMMC Investments, LLC, a Delaware limited liability company ("**Sponsor**") (1) has filed, or caused to be filed, all tax returns required by applicable law to be filed by Sponsor and its subsidiaries, including Successor Borrower, (2) has a net worth of at least $35,000,000.00, and (3) has cash and cash equivalents in excess of $3,500,000.00.

(c) Intermediary acknowledges and confirms that any fees charged by the Intermediary related to investments in Default Permitted Investments or to wire transfers to the Collection Account from the Pledged Collateral Account or to Successor Borrower are included in fees that have already been paid to Intermediary.

Section 8. Conditions to Defeasance.

Except as set forth on Schedule 1 of the Waiver and Consent, Original Borrower represents, warrants and covenants that it has satisfied the conditions set forth in the defeasance provisions of the Mortgage Loan Documents required to effectuate the release of the Mortgaged Property from the lien of the Security Instrument and the closing of the Defeasance of the Mortgage Loan on the date hereof, or such conditions have been waived in writing by Lender. Original Borrower will deliver the Defeasance Certificate to Lender on the date hereof, and Original Borrower acknowledges that Successor Borrower will rely on such Defeasance Certificate and on the representations set forth herein as a condition to entering into this Agreement. Original Borrower further acknowledges and agrees that all proceeds from the Pledged Collateral in excess of amounts due under the Defeasance Documents will be the sole property of Successor Borrower.

Section 9. Modifications.

This Agreement may not be amended, modified or otherwise changed in any manner, except by a writing executed by all of the parties to this Agreement. Notwithstanding the foregoing, from and after the date hereof, any new agreement pertaining to the Mortgage Loan and any amendment, modification or extension of the Note or the Defeasance Documents may be made solely by Successor Borrower and Lender and shall not require the consent or execution of Original Borrower. No such changes will increase Original Borrower's obligations or liabilities under the Mortgage Loan Documents and the Defeasance Documents that continue after the date of this Agreement as set forth in **Section 5** above.

Section 10. Approvals.

As to itself, each of Original Borrower and Successor Borrower hereby represents and warrants to Lender that such entity has obtained any and all third-party approvals and consents required to be obtained in connection with the execution and delivery of this Agreement and the performance of such entity's obligations hereunder.

Section 11. Successors and Assigns.

This Agreement applies to, inures to the benefit of, and binds all parties hereto, their heirs, legatees, devisees, administrators, executors, and permitted successors and assigns.

Section 12. Governing Law; Venue.

THIS AGREEMENT AND ALL RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER SHALL IN ALL RESPECTS BE GOVERNED BY, AND CONSTRUED AND ENFORCED IN ACCORDANCE WITH, THE LAWS OF THE STATE, INCLUDING THE UNIFORM COMMERCIAL CODE AS ADOPTED IN THE STATE AND INCLUDING NEW YORK GENERAL OBLIGATIONS LAW SECTIONS 5-1401 AND 5-1402 BUT OTHERWISE WITHOUT REGARD TO LAWS OF THE STATE CONCERNING CONFLICTS OF LAWS OR CHOICE OF FORUM.

ORIGINAL BORROWER, LENDER, SUCCESSOR BORROWER, SERVICER AND INTERMEDIARY HEREBY IRREVOCABLY SUBMIT TO PERSONAL JURISDICTION IN THE STATE AND TO THE NON-EXCLUSIVE JURISDICTION OF ANY NEW YORK STATE OR FEDERAL COURT SITTING IN THE CITY OF NEW YORK OVER ANY SUIT, ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT. JURISDICTION AND VENUE OF ANY ACTION BROUGHT TO ENFORCE THIS AGREEMENT OR ANY OTHER DEFEASANCE DOCUMENT OR ANY ACTION RELATING TO THE TRANSACTIONS CONTEMPLATED HEREBY OR THE RELATIONSHIPS CREATED BY OR UNDER THE DEFEASANCE DOCUMENTS ("**ACTION**") SHALL, AT THE ELECTION OF LENDER, BE IN (AND IF ANY ACTION IS ORIGINALLY BROUGHT IN ANOTHER VENUE, THE ACTION SHALL AT THE ELECTION OF LENDER BE TRANSFERRED TO) A STATE OR FEDERAL COURT OF APPROPRIATE JURISDICTION LOCATED IN THE STATE. ORIGINAL BORROWER, LENDER, SUCCESSOR BORROWER, SERVICER AND INTERMEDIARY HEREBY CONSENT AND SUBMIT TO THE PERSONAL JURISDICTION OF THE COURTS OF THE STATE AND OF FEDERAL COURTS LOCATED IN THE STATE IN CONNECTION WITH ANY ACTION AND HEREBY WAIVE ANY AND ALL PERSONAL RIGHTS UNDER THE LAWS OF ANY OTHER STATE TO OBJECT TO JURISDICTION WITHIN THE STATE FOR PURPOSES OF ANY ACTION. ORIGINAL BORROWER, LENDER, SUCCESSOR BORROWER, SERVICER AND INTERMEDIARY HEREBY WAIVE AND AGREE NOT TO ASSERT, AS A DEFENSE TO ANY ACTION OR A MOTION TO TRANSFER VENUE OF ANY ACTION, (I) ANY CLAIM THAT IT IS NOT SUBJECT TO SUCH JURISDICTION; (II) ANY CLAIM THAT ANY ACTION MAY NOT BE BROUGHT AGAINST IT OR IS NOT MAINTAINABLE IN THOSE COURTS OR THAT THIS AGREEMENT MAY NOT BE ENFORCED IN OR BY THOSE COURTS, OR THAT IT IS EXEMPT OR IMMUNE FROM EXECUTION; (III) THAT THE ACTION IS BROUGHT IN AN INCONVENIENT FORUM; OR (IV) THAT THE VENUE FOR THE ACTION IS IN ANY WAY IMPROPER.

THE INTERMEDIARY AGREES THAT FOR ALL PURPOSES, INCLUDING SECTION 8-110(e) OF THE NEW YORK UCC AND SECTION 357 OF THE FEDERAL BOOK-ENTRY REGULATIONS, THE STATE OF NEW YORK SHALL BE THE "**SECURITIES INTERMEDIARY'S JURISDICTION**".

Section 13. Entire Agreement.

This Agreement and the other agreements referred to herein constitute all of the agreements among the parties relating to the matters set forth herein and supersede all other prior or concurrent oral or written letters, agreements or understandings with respect to the matters set forth herein.

Section 14. Full Force and Effect.

Except as modified by this Agreement and the other Defeasance Documents, the Mortgage Loan Documents shall remain unchanged and in full force and effect.

Section 15. Electronic Signatures; Counterparts.

This Agreement shall be valid, binding, and enforceable against a party when executed and delivered by an authorized individual on behalf of the party by means of (i) an original manual signature; (ii) a faxed, scanned, or photocopied manual signature, or (iii) any other electronic signature permitted by the federal Electronic Signatures in Global and National Commerce Act, state enactments of the Uniform Electronic Transactions Act, and/or any other relevant electronic signatures law, including any relevant provisions of the Code (collectively, "**Signature Law**"), in each case to the extent applicable. Each faxed, scanned, or photocopied manual signature, or other electronic signature, shall for all purposes have the same validity, legal effect, and admissibility in evidence as an original manual signature. Each party hereto shall be entitled to conclusively rely upon, and shall have no liability with respect to, any faxed, scanned, or photocopied manual signature, or other electronic signature, of any other party and shall have no duty to investigate, confirm or otherwise verify the validity or authenticity thereof. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but such counterparts shall, together, constitute one and the same instrument. For the avoidance of doubt, original manual signatures shall be used for execution or indorsement of writings when required under the Code or other Signature Law due to the character or intended character of the writings.

Section 16. Waiver Of Trial By Jury.

ORIGINAL BORROWER, LENDER, SUCCESSOR BORROWER, SERVICER AND INTERMEDIARY EACH HEREBY AGREES NOT TO ELECT A TRIAL BY JURY OF ANY ISSUE TRIABLE OF RIGHT BY JURY, AND WAIVES ANY RIGHT TO TRIAL BY JURY FULLY TO THE EXTENT THAT ANY SUCH RIGHT SHALL NOW OR HEREAFTER MAY EXIST WITH REGARD TO THIS AGREEMENT OR ANY DOCUMENT RELATED HERETO, OR ANY CLAIM, COUNTERCLAIM OR OTHER ACTION ARISING IN CONNECTION THEREWITH. THIS WAIVER OF RIGHT TO TRIAL BY JURY IS GIVEN KNOWINGLY AND VOLUNTARILY BY ORIGINAL BORROWER, LENDER, SUCCESSOR BORROWER, SERVICER AND INTERMEDIARY AND IS INTENDED TO ENCOMPASS INDIVIDUALLY EACH INSTANCE AND EACH ISSUE AS TO WHICH A RIGHT TO TRIAL BY JURY WOULD OTHERWISE ACCRUE. ORIGINAL BORROWER, LENDER, SUCCESSOR BORROWER, SERVICER AND INTERMEDIARY EACH IS HEREBY AUTHORIZED TO FILE A COPY OF THIS SECTION IN ANY PROCEEDING AS CONCLUSIVE EVIDENCE OF THIS WAIVER BY EACH OTHER.

Section 17. Notices.

All notices or other communications hereunder shall be given in accordance with Section 14 of the Pledge Agreement, and shall be sent to Successor Borrower and Servicer at the following addresses:

Successor Borrower:	DHC UBSCM 17 C3 Successor Borrower-R, LLC 11121 Carmel Commons Boulevard, Suite 250 Charlotte, North Carolina 28226 Attention: Asset Manager
Servicer:	Midland Loan Services, a division of PNC Bank, National Association 10851 Mastin Boulevard, Suite 700 Overland Park, Kansas 66210 Attention: Asset Management Loan Nos. 30298801 (A-1), 30298824 (A-2), and 30298825 (A-3)

Section 18. Indemnification.

Successor Borrower agrees to indemnify Lender, Intermediary (including in its capacity as Custodian), Servicer, and their respective directors, officers, stockholders, affiliates, employees, agents, successors and assigns (collectively, the "**Indemnitees**") and hold such Indemnitees harmless from and against all Claims, including, without limitation, the reasonable fees and disbursements of counsel, which may be incurred by any Indemnitee in connection with Successor Borrower's or Indemnitee's actions or failure to act hereunder or in connection with any investigative, administrative or judicial proceedings (whether or not such Indemnitee shall be designated a party thereto) relating to or arising out of this Agreement, the Pledge Agreement, the Account Agreement or the Pledged Collateral (including, without limitation, any such proceeding by Successor Borrower against any Indemnitee or by any Indemnitee against Successor Borrower to the extent that Indemnitee is the prevailing party) relating to events first arising or accruing on or after the date of the transfer of the Pledged Collateral to Successor Borrower; provided that no Indemnitee shall have the right to be indemnified hereunder for its own gross negligence or willful misconduct (and with respect to Intermediary only, its own negligence) as finally determined by a court of competent jurisdiction. The provisions of this **Section 18** shall survive the termination of this Agreement, the discharge of the obligations of Original Borrower, its successors and assigns under this Agreement, and the removal or resignation of Intermediary or Servicer.

Section 19. Rights and Protections of the Intermediary.

All rights and protections of the Intermediary as set forth in Section 26 of the Pledge Agreement are herein incorporated by reference for the benefit of the Securities Intermediary and Custodian.

Section 20. Prepayment Prohibited.

Successor Borrower acknowledges that the Notes may not be further prepaid following consummation of the Defeasance and the release of the Mortgaged Property.

Section 21. Payments Due on Non-Business Day.

If any payment required under this Agreement is due on a date that is not a Business Day, then such payment shall be made on the immediately preceding Business Day.

[Signatures on Following Pages]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above written.

ORIGINAL BORROWER:

IONIS GAZELLE, LLC,
a Delaware limited liability company

By: Ionis Pharmaceuticals, Inc.,
a Delaware corporation, its Sole Member

By: /s/Elizabeth L. Hougen
Elizabeth L. Hougen
Executive Vice President & Chief Financial Officer

BY EXECUTION HEREOF, in consideration for the release granted herein in **Section 5**, Guarantor hereby acknowledges, confirms and agrees to be bound by the terms of this Agreement.

GUARANTOR:

IONIS PHARMACEUTICALS, INC.,
a Delaware corporation

By: /s/Elizabeth L. Hougen
Elizabeth L. Hougen
Executive Vice President & Chief Financial Officer

SUCCESSOR BORROWER:

DHC UBSCM 17 C3 SUCCESSOR BORROWER-R, LLC, a Delaware limited liability company

By: /s/Dawn M. Holland
Dawn M. Holland, President

Signature page for Ionis Gazelle
Defeasance Assumption Agreement

LENDER:

WELLS FARGO BANK, NATIONAL ASSOCIATION, AS TRUSTEE FOR THE BENEFIT OF THE REGISTERED HOLDERS OF UBS COMMERCIAL MORTGAGE TRUST 2017-C3, COMMERCIAL MORTGAGE PASS-THROUGH CERTIFICATES, SERIES 2017-C3

By: Midland Loan Services, a division of PNC Bank, National Association, Servicer and Attorney-in-Fact

By: /s/Wm. Dugger Schwartz
Name: Wm. Dugger Schwartz
Title: Senior Vice President Servicing Officer

SERVICER:

MIDLAND LOAN SERVICES,
a division of PNC Bank, National Association, as Servicer

By: /s/Wm. Dugger Schwartz
Name: Wm. Dugger Schwartz
Title: Senior Vice President Servicing Officer

U.S. Bank Trust Company, National Association, a national banking association, in its capacity as Securities Intermediary and Custodian (as defined in the Pledge Agreement) with respect to the Pledged Collateral, hereby acknowledges the terms and conditions of, and the transactions effected by, this Agreement, as of the date first above written.

INTERMEDIARY:

U.S. BANK TRUST COMPANY, NATIONAL ASSOCIATION, a national banking association

By: /s/Linda Riley
Name: Linda Riley
Title: Vice President

CERTAIN CONFIDENTIAL PORTIONS OF THIS EXHIBIT HAVE BEEN OMITTED AND REPLACED WITH "[***]". SUCH IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THIS EXHIBIT BECAUSE IT IS (I) NOT MATERIAL AND (II) IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL.

DEFEASANCE ACCOUNT AGREEMENT

THIS DEFEASANCE ACCOUNT AGREEMENT (this "**Agreement**") is entered into as of October 20, 2022 by and among **IONIS GAZELLE, LLC**, a Delaware limited liability company ("**Original Borrower**"), **U.S. BANK TRUST COMPANY, NATIONAL ASSOCIATION**, a national banking association, as Securities Intermediary and Custodian (together with its permitted successors and assigns, "**Intermediary**"), **U.S. BANK NATIONAL ASSOCIATION**, a national banking association ("**Account Bank**"), **WELLS FARGO BANK, NATIONAL ASSOCIATION, AS TRUSTEE FOR THE BENEFIT OF THE REGISTERED HOLDERS OF UBS COMMERCIAL MORTGAGE TRUST 2017-C3, COMMERCIAL MORTGAGE PASS-THROUGH CERTIFICATES, SERIES 2017-C3**, as secured party (together with its successors and assigns, "**Lender**"), and **MIDLAND LOAN SERVICES**, a division of PNC Bank, National Association ("**Servicer**"), as Master Servicer on behalf of said Trustee under the Pooling and Servicing Agreement (as hereinafter defined).

RECITALS:

A. UBS AG, by and through its branch office at 1285 Avenue of the Americas, New York, New York ("**Original Lender**"), made a loan (the "**Mortgage Loan**") to Original Borrower in the original principal amount of $51,350,000.00, made pursuant to a Loan Agreement dated July 18, 2017 (the "**Loan Agreement**"), and evidenced by (1) a Promissory Note A-1 dated July 18, 2017 in the original principal amount of $36,350,000.00 (the "**Note A-1**"), (2) a Promissory Note A-2 dated July 18, 2017 in the original principal amount of $5,000,000.00 (the "**Note A-2**"), and (3) a Promissory Note A-3 dated July 18, 2017 in the original principal amount of $10,000,000.00 (Note A-1, Note A-2 and Note A-3 are, individually and collectively, the "**Note**" or the "**Notes**").

B. The Mortgage Loan and the Notes are secured by, among other things, a Deed of Trust and Security Agreement dated July 18, 2017 from Original Borrower to and for the benefit of Original Lender (the "**Security Instrument**"), which grants to Original Lender, among other things, a lien on the real and personal property described in said Security Instrument (the "**Mortgaged Property**"). The Mortgage Loan is further evidenced or secured by various other documents, including guaranties, executed by Original Borrower and others in favor of Original Lender (together with the Notes, the Loan Agreement and the Security Instrument, the "**Mortgage Loan Documents**").

C. Original Lender assigned all of its right, title and interest in the Mortgage Loan and the Mortgage Loan Documents (by one or more assignments) to Lender in connection with the issuance of UBS Commercial Mortgage Trust 2017-C3, Commercial Mortgage Pass-Through Certificates, Series 2017-C3 (the "**Certificates**"). Lender is the current holder of the Notes and the owner of the Mortgage Loan and the Mortgage Loan Documents.

D. Servicer is the Master Servicer under the Pooling and Servicing Agreement dated as of August 1, 2017 (as from time to time amended, supplemented or modified, the "**Pooling and Servicing Agreement**").

E. Original Borrower, Lender, and Intermediary have entered into that certain Defeasance Pledge and Security Agreement of even date herewith (as from time to time amended, supplemented or modified, the "**Pledge Agreement**") with respect to the securities listed in Exhibit A to the Pledge Agreement (the "**Securities**") and other assets that, together with the Securities, constitute the Pledged Collateral (as defined in the Pledge Agreement).

F. Original Borrower desires that Intermediary hold the Pledged Collateral and perform certain services as a "Securities Intermediary" and "Custodian".

G. Intermediary is willing to hold the Pledged Collateral and to perform such services, subject to the terms and conditions of this Agreement and the Pledge Agreement.

H. The parties intend that immediately after the execution of this Agreement, Original Borrower, Lender, Servicer, Intermediary, and DHC UBSCM 17 C3 Successor Borrower-R, LLC, a Delaware limited liability company ("**Successor Borrower**"), will enter into the Defeasance Assignment, Assumption and Release Agreement of even date herewith (the "**Defeasance Assumption Agreement**") pursuant to which, among other things, Original Borrower will transfer all of its right, title and interest in and to the Pledged Collateral to Successor Borrower and Successor Borrower will assume the rights, obligations and liabilities of Original Borrower under the Note, this Agreement and the Pledge Agreement.

NOW, THEREFORE, for valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Original Borrower, Lender, Servicer, and Intermediary agree as follows:

Section 1. Definitions.

Each capitalized term used herein and not otherwise defined shall have the meaning assigned to such term in the Pledge Agreement. In addition, the following terms shall have the following meanings when used herein.

"**A-1 Collection Account**" means the account maintained and designated by Servicer for deposit of payments due under the Note A-1, which is the account described on **Exhibit A-1** attached hereto.

"**A-1 Pay-Off Amount**" means the sum of $33,342,080.52.

"**A-1 Scheduled Monthly Payment**" means the sum of $171,055.96.

"**A-2 Collection Account**" means the account maintained and designated by Servicer for deposit of payments due under the Note A-2, which is the account described on **Exhibit A-2** attached hereto.

"**A-2 Pay-Off Amount**" means the sum of $4,586,255.80.

"**A-2 Scheduled Monthly Payment**" means the sum of $23,529.02.

"**A-3 Collection Account**" means the account maintained and designated by Servicer for deposit of payments due under the Note A-3, which is the account described on **Exhibit A-3** attached hereto.

"**A-3 Pay-Off Amount**" means the sum of $9,172,512.17.

"**A-3 Scheduled Monthly Payment**" means the sum of $47,058.03.

"**Accountant's Report**" means that certain Defeasance Report of even date herewith from Causey Demgen & Moore P.C. regarding the Defeasance, a copy of which is attached as Exhibit B to the Pledge Agreement.

"**Business Day**" means any day other than (a) a Saturday or a Sunday and (b) a day on which federally insured depository institutions in New York, New York or the Intermediary Office Location are authorized or obligated by law, regulation, governmental decree or executive order to be closed.

"**Certificates**" has the meaning set forth in the Recitals.

"**Code**" means the Uniform Commercial Code of the State of New York.

"**Collection Account**" means the A-1 Collection Account, the A-2 Collection Account, and the A-3 Collection Account.

"**Custodian**" means the Intermediary in its capacity as custodian of the Pledged Collateral Account.

"**DBRS**" means DBRS, Inc.

"**Default Permitted Investment**" means the Goldman FS Government MM Fund #465 (FGTXX) CUSIP #38141W273, but only for so long as it is a Permitted Investment or is otherwise acceptable to each Rating Agency as confirmed in writing that such investment would not, in and of itself, result in a downgrade, qualification or withdrawal of the then current ratings assigned to any of the Certificates.

"**Defeasance Assumption Agreement**" has the meaning set forth in the **Recitals**.

"**Eligible Account**" means (i) a segregated account maintained with an Eligible Institution, or (ii) an account otherwise acceptable to each Rating Agency, as confirmed in writing that such account would not, in and of itself, result in a downgrade, qualification or withdrawal of the then current ratings assigned to any of the Certificates.

"**Eligible Institution**" means (i) a federal or state chartered depository institution or trust company whose commercial paper, short-term debt obligations or other short-term deposits are rated at least "A-1" by S&P, at least P-1 by Moody's and at least F-1+ by Fitch if the deposits in the Pledged Collateral Account are to be held for thirty (30) days or less, or (ii) a federal or state-chartered depository institution or trust company whose long-term unsecured debt obligations are rated at least "A" by S&P, at least "A2" by Moody's and at least "AA-" by Fitch if the deposits in the Pledged Collateral Account are to be held for more than thirty (30) days, or (iii) the trust department of a federal or state chartered depository institution or trust company acting in its fiduciary capacity which institution or trust company is subject to regulations regarding fiduciary funds on deposit substantially similar to 12 C.F.R. § 9.10(b), or (iv) an institution otherwise acceptable to each Rating Agency, as confirmed in writing that the holding by such institution of the Pledged Collateral Account would not, in and of itself, result in a downgrade, qualification or withdrawal of the then current ratings assigned to any of the Certificates.

"**Entitlement Order**" means "entitlement order" as defined in Section 8-102 of the Code.

"**Final Payment Date**" means the Open Prepayment Commencement Date.

"**Financial Asset**" means a "financial asset" as defined under Section 8-102(a)(9) of the Code.

"**Fitch**" means Fitch Ratings, Inc.

"**Intermediary Custodial Fee**" means the sum of $8,000.00.

"**Kroll**" means Kroll Bond Rating Agency, LLC.

"**Moody's**" means Moody's Investors Service, Inc.

"**Morningstar**" means Morningstar Credit Ratings, LLC.

"**Open Prepayment Commencement Date**" means April 6, 2027, which is the Monthly Payment Date that occurs four (4) months prior to the Stated Maturity Date specified in the Loan Agreement.

"**Permitted Investment**" has the meaning set forth in Exhibit C to the Pledge Agreement.

"**Pledge Agreement**" has the meaning set forth in the **Recitals**.

"**Pledged Collateral Account**" means Account No. 212740751 titled "Ionis Gazelle-SIDEF" at Intermediary, which is the Securities Account maintained by Intermediary in the name of Lender.

"**Pledgor**" means the legal and beneficial owner of the Securities from time to time. Prior to the assumption of the Defeasance Documents by Successor Borrower, Original Borrower is the Pledgor, and after the assumption of the Defeasance Documents pursuant to the Defeasance Assumption Agreement, Successor Borrower is the Pledgor.

"**Rating Agency**" means each of S&P, Moody's, Fitch, DBRS, Morningstar, or Kroll which rates any of the Certificates or as otherwise defined in the Pooling and Servicing Agreement.

"**S&P**" means Standard & Poor's Ratings Services.

"**Scheduled Payment Date**" means November 6, 2022 and the sixth (6^{th}) day of each calendar month thereafter through and including the Final Payment Date. If any payment required under this Agreement is due on a date that is not a Business Day, then such payment shall be made on the immediately preceding Business Day.

"**Securities Intermediary**" means a "securities intermediary" within the meaning of Section 357.2 or 12 C.F.R. Part 1511.1 of the Federal Book-Entry Regulations and Section 8-102 of the Code.

"**Servicer Processing Fee**" shall mean the sum of $27,000.00.

"**Tax Identification Number**" means the federal tax identification number of Successor Borrower, which number is 83-2813361.

Section 2. Establishment and Custody of Pledged Collateral Account.

Intermediary has established the Pledged Collateral Account at Intermediary (or at the Account Bank set forth on **Addendum 1**, if any, which **Addendum 1** the parties hereto agree functions as an amendment to this Agreement), which is a Securities Account maintained in the name of Lender as entitlement holder. Each party hereto hereby authorizes, appoints and directs Intermediary to act as Securities Intermediary with respect to the Pledged Collateral and as Custodian of the Pledged Collateral Account (subject to the terms and conditions of the Pledge Agreement and this Agreement), and to maintain the Pledged Collateral Account subject to the sole dominion and control (as defined in Section 8-106 of the Code) of Lender. Intermediary, or Account Bank, as applicable, agrees for so long as it remains Securities Intermediary to maintain the Pledged Collateral Account and all of the Pledged Collateral at its office currently located in Phoenix, Arizona, provided however, if Intermediary intends to move the Pledged Collateral Account to another location, it shall provide Lender with not less than thirty (30) days prior written notice and Intermediary shall cooperate with Lender at Intermediary's sole cost and expense in ensuring Lender's continuing perfected security interest in the Pledged Collateral Account as required under the Code, including without limitation, the execution of any and all documents required to continue Lender's perfected security interest in the Pledged Collateral Account. Intermediary agrees to serve as Securities Intermediary with respect to the Securities and the other Pledged Collateral and as Custodian with respect to the Pledged Collateral Account in accordance with this Agreement and the Pledge Agreement. Notwithstanding anything to the contrary contained herein, Pledgor and Intermediary agree that New York is Intermediary's jurisdiction for purposes of the Code.

Section 3. Title to Pledged Collateral.

Title to the Pledged Collateral shall be held in accordance with the Pledge Agreement and the Federal Book-Entry Regulations.

Section 4. Intermediary's Duties Regarding Pledged Collateral.

(a) Administration. Intermediary shall have no responsibility for supervision or management of the Pledged Collateral except as provided in this Agreement, the Pledge Agreement or as otherwise provided by applicable law. The Pledged Collateral Account shall at all times be maintained as a segregated Eligible Account. Each item of property at any time credited to the Pledged Collateral Account shall be treated by Intermediary as a Financial Asset. Proceeds of the Pledged Collateral, and interest and earnings thereon, shall be credited to and held in the Pledged Collateral Account, and shall be re-invested only in accordance with this Agreement. Intermediary's responsibility with regard to the sale, purchase, exchange or other matters relating to any assets at any time in the Pledged Collateral Account shall be limited to following all written orders, including Entitlement Orders, of Servicer (on behalf of Lender) promptly upon receipt thereof, without the need for consent by Pledgor or any other Person. In connection with the execution and delivery of the Defeasance Assumption Agreement by Successor Borrower, the Pledged Collateral Account shall be assigned the Tax Identification Number, and all taxable income earned or gain realized with respect to the Pledged Collateral shall be taxable as income or gain, as applicable, and reported under the Tax Identification Number.

(b) Eligible Institution. Intermediary shall at all times serve as both Securities Intermediary and Custodian hereunder. Intermediary is and shall at all times continue to be, and the Pledged Collateral Account shall at all times be maintained with, an Eligible Institution. Upon any downgrade, withdrawal, qualification or suspension by any Rating Agency of the rating of Intermediary or any other circumstances resulting in a failure to qualify as an Eligible Institution, (i) the Pledged Collateral Account and all of the Pledged Collateral, and all rights and obligations of Intermediary under this Agreement, shall promptly, and in any case within thirty (30) calendar days, be moved to an Eligible Institution that is a Securities Intermediary and Custodian approved by Lender that maintains a Participant's Securities Account with the Federal Reserve Bank; (ii) such Eligible Institution shall assume in writing all obligations of Intermediary under this Agreement; and (iii) Intermediary shall promptly reimburse Lender and Servicer for all expenses incurred in connection with the appointment of such Eligible Institution as successor to Intermediary, including the full reasonable price charged by such successor to Intermediary to deliver all services provided for by this Agreement through the Final Payment Date.

(c) Reinvestment of Proceeds; Permitted Investments.

(i) Pledgor hereby instructs Servicer, and Servicer hereby instructs Intermediary, to invest funds in the Pledged Collateral Account in the Default Permitted Investment unless and until different instructions are received in accordance with this **Subsection (c)** or until Servicer has determined that the Default Permitted Investment is not a Permitted Investment, and has provided new investment instructions to Intermediary. Intermediary shall have no obligation to invest funds in the Pledged Collateral Account (other than in the Default Permitted Investment as provided above) absent receipt of written instructions from Servicer or except as otherwise provided in this Agreement. Intermediary hereby certifies that, as of the date of this Agreement, the Default Permitted Investment constitutes a Permitted Investment.

(ii) Upon the written request of Pledgor (which request may be made not more than once per month), Servicer agrees to direct Intermediary to invest and reinvest any funds in the Pledged Collateral Account from time to time in Permitted Investments as instructed by Pledgor, provided, however, that if an Event of Default shall have occurred, Servicer may direct Intermediary to invest and reinvest such funds in such Permitted Investments as Servicer shall determine in Servicer's discretion. Intermediary shall only be required to follow the written investment instructions that were most recently received by Servicer, and Pledgor shall be bound by such last received investment instructions. Any request from Pledgor containing investment instructions (except the instruction to invest in Default Permitted Investments as provided herein) shall contain an officer's certificate from Pledgor (which may be conclusively relied upon by Servicer, Intermediary and their agents) that any such investments constitute Permitted Investments. Intermediary shall have three (3) Business Days following receipt of such instructions to effectuate such investment direction. Intermediary may conclusively rely upon the investment instructions received from Servicer.

(iii) Permitted Investments shall be selected that mature (unless payable on demand) not later than one (1) Business Day before the date such funds are required to be distributed pursuant to **Section 4(e)** of this Agreement. To the extent any funds in the Pledged Collateral Account will be necessary to make payments to the Collection Account more than three (3) months after the related Securities were converted to cash, such funds shall be invested only in obligations of, or obligations guaranteed as to principal and interest by, the United States or an agency or instrumentality thereof, backed by the full faith and credit of the United States. In no event shall such funds be applied to debt service on the Mortgage Loan more than four (4) months after being converted to cash, except as provided in the Accountant's Report. All Permitted Investments shall be held to maturity unless payable on demand, in which case Intermediary shall demand payment as necessary to meet the payment requirements of **Section 4(e)**. All earnings and payments received with respect to Permitted Investments shall be credited to and held in the Pledged Collateral Account in accordance with this Agreement.

(iv) If a requested Permitted Investment is determined to be, in the reasonable judgment of Servicer, an investment for which confirmation from one or more of the Rating Agencies is required, Servicer shall, within three (3) Business Days of receipt of the required confirmation from the Rating Agencies, provide instructions to Intermediary authorizing such Permitted Investment. Servicer shall not be required to request confirmation from any Rating Agency without written instructions from Pledgor and receipt of reasonable assurances from Pledgor that Servicer shall be reimbursed for costs associated with such Rating Agency confirmation. Pledgor shall be responsible for paying all costs associated with obtaining such Rating Agency confirmation, including, but not limited to, Servicer fees and Rating Agency fees.

(v) With respect to all investments made on instructions of Pledgor, Pledgor shall be liable for (1) ordinary and customary transaction fees associated with the investment of funds in the Pledged Collateral Account except as provided in **Section 9** hereof, and (2) losses that result from such investment. Pledgor shall pay such fees or reimburse Lender for such investment losses within five (5) Business Days after receipt of written request or invoice therefor.

(vi) All Permitted Investments shall be under the sole dominion and control of Lender. No Permitted Investment shall be made unless Lender holds a first priority perfected lien in such Permitted Investment and all filings and other actions necessary to ensure the validity, perfection, and priority of such lien have been taken. Notwithstanding the foregoing, Intermediary will have no responsibility for losses on the investments made in accordance with written instruction. Lender, Servicer, and Intermediary shall have no responsibility or liability for losses on any investments made under instructions authorized in this subsection (c) or in accordance with the other procedures provided for herein, or for losses on any Default Permitted Investments authorized under this Agreement.

(d) Collection of Interest, Principal and Earnings. All interest and principal when due from any Obligor with respect to the Pledged Collateral, and all amounts due with respect to Permitted Investments shall be paid to Intermediary. Intermediary shall deposit all amounts received with respect to Pledged Collateral and Permitted Investments to the Pledged Collateral Account, but shall be under no responsibility or duty to undertake collection efforts or to instigate or participate in any legal proceedings or to retain counsel in an effort to accomplish such collection. All revenues received in any collection action shall be deposited to the Pledged Collateral Account and disposed of as set forth herein.

(e) Distributions. Lender, acting by and through Servicer as herein provided, shall have the sole right to direct distributions from the Pledged Collateral Account. Except as otherwise specifically provided in written instructions given in accordance with **Section 5** below, Intermediary shall, to the extent of funds on deposit in the Pledged Collateral Account, make the applicable payment to the applicable Collection Account by wire or internal transfer, beginning on the first Scheduled Payment Date and continuing thereafter on each Scheduled Payment Date until the Final Payment Date, as follows:

(i) in an amount equal to the A-1 Scheduled Monthly Payment to the A-1 Collection Account,

(ii) in an amount equal to the A-2 Scheduled Monthly Payment to the A-2 Collection Account, and

(iii) in an amount equal to the A-3 Scheduled Monthly Payment to the A-3 Collection Account

On the Final Payment Date, Intermediary shall pay, by wire or internal transfer, an amount equal to the applicable Pay-Off Amount as set forth in the applicable Note and shown in the Accountant's Report, as follows:

(i) the A-1 Pay-Off Amount to the A-1 Collection Account,

(ii) the A-2 Pay-Off Amount to the A-2 Collection Account, and

(iii) the A-3 Pay-Off Amount to the A-3 Collection Account.

Any amounts remaining in the Pledged Collateral Account after payments are made to the applicable Collection Accounts pursuant to the preceding sentence shall be held in the Pledged Collateral Account until after the final payment of all amounts required under the Notes and other Defeasance Documents on account of the Secured Obligations have been paid, whereupon any amounts remaining in the Pledged Collateral Account shall be paid over to Successor Borrower within ten (10) Business Days (or any other mutually agreed upon date) provided the Intermediary has not been notified that an Event of Default that could result in personal liability of the Successor Borrower exists under any other Pool Defeasance Documents. If any payment required under this Agreement is due on a date that is not a Business Day, then such payment shall be made on the immediately preceding Business Day.

(f) Default. Lender shall have all of the rights and remedies afforded under the Pledge Agreement or otherwise, at law or in equity, with respect to any default under this Agreement. Without limiting the generality of the foregoing, if Intermediary fails to make any of the foregoing payments as instructed herein when funds are available for such payment in the Pledged Collateral Account or otherwise fails to fully and timely perform any material obligations of Intermediary hereunder and such failure to perform such material obligations results in material financial damage to the Lender, Intermediary shall be liable to Lender for any fees, costs, expenses or other damages incurred by Lender as a result thereof, including but not limited to default interest and late fees accruing under the Note, together with reasonable attorneys' fees incurred by Lender to enforce its rights under the Defeasance Documents.

Section 5. Instructions; Signatures.

(a) From Servicer. All instructions and directions from Servicer to Intermediary for the Pledged Collateral Account must be in writing, signed by a person or persons duly authorized by Servicer on behalf of Lender to sign. Such instructions to be in such form as Intermediary may reasonably require, and shall be accompanied by such evidence of authority as Intermediary may reasonably require.

(b) From Successor Borrower. After the contemplated assignment by Original Borrower to Successor Borrower, all instructions and directions from Successor Borrower to Servicer for the Pledged Collateral Account must be in writing, signed by a person or persons duly authorized by Successor Borrower to sign. Such instructions shall be in such form as reasonably required by Servicer, and shall be accompanied by such evidence of authority as Servicer may reasonably require.

Section 6. Accounting.

Intermediary shall (a) keep complete and accurate books of the Pledged Collateral Account and all Permitted Investments showing all receipts, disbursements and transactions in the Pledged Collateral Account; (b) prepare and deliver via electronic means to Successor Borrower and Servicer, on or before the last day of each month, a monthly report summarizing all transactional activity in the Pledged Collateral Account for the preceding calendar month; and (c) advise Successor Borrower and Servicer of any non-payment by an Obligor of principal or interest on account of the Pledged Collateral within two (2) Business Days of the related payment date. Successor Borrower agrees that it shall assume the obligation to prepare and file all required state and federal tax reports and returns, and to pay any taxes related to its ownership of the assets in the Pledged Collateral Account, and that all such taxes shall be paid from sources other than the Pledged Collateral. Pledgor, Successor Borrower and Servicer acknowledge that to the extent regulations of the Comptroller of the Currency or other applicable regulatory entity grant Pledgor, Successor Borrower and Servicer the right to receive brokerage confirmations of security transactions as they occur, Pledgor and Servicer specifically waive receipt of such confirmations to the extent permitted by law.

Section 7. Termination.

Lender may, at its expense, terminate this Agreement at any time by giving thirty (30) days prior written notice to the other parties hereto; provided that upon doing so, Lender shall enter into a new Account Agreement with Pledgor upon terms materially similar to this Agreement. Lender may, at its expense, without terminating this Agreement, replace or substitute an Eligible Institution for Intermediary at any time with or without cause by giving thirty (30) days prior written notice to the other parties hereto. Upon any material default by Intermediary in its obligations under the Defeasance Documents or if any representation of Intermediary shall prove to have been inaccurate or incomplete in any material respect when made or the State of New York shall at any time not be the "securities intermediary's jurisdiction" under Section 8.110(e) of the Code and Section 357 of the Federal Book-Entry Regulations, Lender may, if such default or failure of a representation shall not have been cured within a reasonable time as determined by Servicer, terminate Intermediary's rights under this Agreement immediately upon written notice to Intermediary. Intermediary may resign from its obligations under this Agreement at any time by giving thirty (30) days prior written notice to the other parties hereto, but in no event shall Intermediary be released of its obligations as Securities Intermediary or Custodian hereunder unless and until a substitute Eligible Institution, satisfactory to Lender in its sole and absolute discretion, has been designated and has assumed in writing the obligations of Intermediary hereunder at the sole cost and expense of the resigning Intermediary. Lender shall designate a substitute Intermediary, in its sole discretion, promptly after receipt of notice of resignation by Intermediary and shall take all reasonable actions necessary to cause such designated successor to promptly assume the obligations of Intermediary hereunder. Intermediary may assign or transfer its obligations to an Eligible Institution, satisfactory to Lender in its sole and absolute discretion, by giving thirty (30) days prior written notice to Lender and Servicer. Unless Lender elects to terminate this Agreement pursuant to the first sentence of this **Section 7** or replace Intermediary pursuant to the second sentence of this **Section 7**, all costs and expenses incurred in connection with (a) the transfer of Securities to a successor to Intermediary and (b) the assumption of the obligations of Intermediary by such successor shall be borne by Intermediary. In any event, if Intermediary is replaced pursuant to this **Section 7**, other than pursuant to the first two sentences of this **Section 7**, Intermediary shall reimburse Lender for all expenses incurred in connection with the appointment of such Eligible Institution as successor to Intermediary, including the full reasonable price charged by such successor to Intermediary to deliver all services provided for by this Agreement through the Final Payment Date.

Section 8. Authority.

Any Person executing this Agreement in a fiduciary or other representative capacity represents that such party has full power and authority to do so and that any applicable or required court, limited liability company, partnership, corporate or other authority has been duly and properly given and continues as of the date hereof.

Section 9. Fees and Costs.

Concurrently with the execution of this Agreement, Original Borrower shall pay (a) the Servicer Processing Fee to Servicer as a fee in connection with the Pledged Collateral Account and the services provided hereunder by Servicer, and (b) the Intermediary Custodial Fee to Intermediary in full payment of all fees in connection with the Pledged Collateral Account and the services provided hereunder by Intermediary through the Final Payment Date, provided that Pledgor shall be responsible for fees and costs specified in **Section 4(c)** above, if applicable. Intermediary and Servicer hereby acknowledge and confirm that any fees and expenses charged by the Intermediary related to investments in the Default Permitted Investment and wire transfers to the Collection Account or to the Pledgor are included in the fees and expenses already paid to Intermediary and Servicer, respectively, pursuant to this **Section 9**, and except as provided below, Pledgor shall have no further liability for such fees and expenses as of the date hereof or at any time hereafter. Such fees have been fully earned by each of Servicer and Intermediary and are not refundable or subject to reduction, except as set forth in **Section 4(b)(iii)**. Intermediary hereby acknowledges and confirms that as of the date hereof, there are no fees charged by Intermediary in connection with investments in the Default Permitted Investment. In the event Intermediary is notified that any such fees shall at any time hereafter become payable in connection with the Default Permitted Investment, or if there is any increase in fees payable in connection with any other Permitted Investment in which any funds included in or relating to the Pledged Collateral are invested, Intermediary shall promptly give written notice of such new or increased fees to Servicer and Successor Borrower. Prior to the imposition of any such new or increased fee, Successor Borrower shall have the right, in accordance with the provisions of **Section 4(c)** hereof, to request that Servicer direct Intermediary to invest and reinvest any funds in the Pledged Collateral Account from time to time in another Permitted Investment; provided, however, that if Successor Borrower fails to provide such investment direction in the foregoing circumstances, Successor Borrower shall be solely responsible for the payment of all such new or increased fees. In no event shall any funds from the Pledged Collateral Account be used to pay any such fees, which shall be the sole responsibility of Successor Borrower.

If any out-of-pocket costs or expenses are reasonably incurred by Servicer or Intermediary in connection with the funds in the Pledged Collateral Account and the protection and preservation of Lender's rights therein, Successor Borrower shall be responsible for the payment of all such costs and expenses directly to Intermediary or Servicer, as the case may be, within ten (10) Business Days following receipt of written invoice therefor.

Section 10. Governing Law, Venue, Attorneys' Fees.

THIS AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HERETO AND THEIR SUCCESSORS AND ASSIGNS SHALL IN ALL RESPECTS BE GOVERNED BY, AND CONSTRUED AND ENFORCED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK ("**STATE**"), INCLUDING THE UNIFORM COMMERCIAL CODE AS ADOPTED IN THE STATE AND INCLUDING NEW YORK GENERAL OBLIGATIONS LAW SECTIONS 5-1401 AND 5-1402 BUT OTHERWISE WITHOUT REGARD TO LAWS OF THE STATE CONCERNING CONFLICTS OF LAWS OR CHOICE OF FORUM. IN THE EVENT OF ANY DISPUTE REGARDING THIS AGREEMENT, THE PARTIES AGREE THAT THE PREVAILING PARTY SHALL BE ENTITLED TO SUCH COSTS AND ATTORNEYS' FEES AS THE COURT MAY ADJUDGE REASONABLE.

PLEDGOR, LENDER, SERVICER AND INTERMEDIARY HEREBY IRREVOCABLY SUBMIT TO PERSONAL JURISDICTION IN THE STATE AND TO THE NON-EXCLUSIVE JURISDICTION OF ANY NEW YORK STATE OR FEDERAL COURT SITTING IN THE CITY OF NEW YORK OVER ANY SUIT, ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT. JURISDICTION AND VENUE OF ANY ACTION BROUGHT TO ENFORCE THIS AGREEMENT OR ANY OTHER DEFEASANCE DOCUMENT OR ANY ACTION RELATING TO THE TRANSACTIONS CONTEMPLATED HEREBY OR THE RELATIONSHIPS CREATED BY OR UNDER THE DEFEASANCE DOCUMENTS ("**ACTION**") SHALL, AT THE ELECTION OF LENDER, BE IN (AND IF ANY ACTION IS ORIGINALLY BROUGHT IN ANOTHER VENUE, THE ACTION SHALL AT THE ELECTION OF LENDER BE TRANSFERRED TO) A STATE OR FEDERAL COURT OF APPROPRIATE JURISDICTION LOCATED IN THE STATE. PLEDGOR, LENDER, SERVICER AND INTERMEDIARY HEREBY CONSENT AND SUBMIT TO THE PERSONAL JURISDICTION OF THE COURTS OF THE STATE AND OF FEDERAL COURTS LOCATED IN THE STATE IN CONNECTION WITH ANY ACTION AND HEREBY WAIVE ANY AND ALL PERSONAL RIGHTS UNDER THE LAWS OF ANY OTHER STATE TO OBJECT TO JURISDICTION WITHIN THE STATE FOR PURPOSES OF ANY ACTION. PLEDGOR, LENDER, SERVICER AND INTERMEDIARY HEREBY WAIVE AND AGREE NOT TO ASSERT, AS A DEFENSE TO ANY ACTION OR A MOTION TO TRANSFER VENUE OF ANY ACTION, (A) ANY CLAIM THAT IT IS NOT SUBJECT TO SUCH JURISDICTION; (B) ANY CLAIM THAT ANY ACTION MAY NOT BE BROUGHT AGAINST IT OR IS NOT MAINTAINABLE IN THOSE COURTS OR THAT THIS AGREEMENT MAY NOT BE ENFORCED IN OR BY THOSE COURTS, OR THAT IT IS EXEMPT OR IMMUNE FROM EXECUTION; (C) THAT THE ACTION IS BROUGHT IN AN INCONVENIENT FORUM; OR (D) THAT THE VENUE FOR THE ACTION IS IN ANY WAY IMPROPER.

INTERMEDIARY AGREES THAT FOR ALL PURPOSES, INCLUDING SECTION 8-110(e) OF THE NEW YORK UCC AND SECTION 357 OF THE FEDERAL BOOK-ENTRY REGULATIONS, THE STATE OF NEW YORK SHALL BE THE "**SECURITIES INTERMEDIARY'S JURISDICTION**".

Section 11. Severability of Provisions.

Any provision of this Agreement which is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof or affecting the validity or enforceability of such provision in any other jurisdiction.

Section 12. Headings.

The section headings used in this Agreement are for convenience of reference only and shall not affect the construction of this Agreement.

Section 13. Indemnification.

Pledgor agrees to indemnify Lender, Intermediary (including in its capacity as Custodian), Servicer, and their respective directors, officers, stockholders, affiliates, employees, agents, successors and assigns (collectively, the "**Indemnitees**") and hold such Indemnitees harmless from and against all Claims, including, without limitation, the reasonable fees and disbursements of counsel, which may be incurred by any Indemnitee in connection with Pledgor's or Indemnitee's actions or failure to act hereunder or in connection with any investigative, administrative or judicial proceedings (whether or not such Indemnitee shall be designated a party thereto) relating to or arising out of the Pledged Collateral, this Agreement or the other Defeasance Documents (including, without limitation, any such proceeding by Pledgor against any Indemnitee or by any Indemnitee against Pledgor to the extent that Indemnitee is the prevailing party); provided that no Indemnitee shall have the right to be indemnified hereunder for its own gross negligence or willful misconduct (and with respect to Intermediary, its own negligence) as finally determined by a court of competent jurisdiction. The provisions of this **Section 13** shall survive the termination of this Agreement and the removal or resignation of Intermediary or Servicer.

Section 14. Electronic Signatures; Counterparts.

This Agreement shall be valid, binding, and enforceable against a party when executed and delivered by an authorized individual on behalf of the party by means of (i) an original manual signature; (ii) a faxed, scanned, or photocopied manual signature, or (iii) any other electronic signature permitted by the federal Electronic Signatures in Global and National Commerce Act, state enactments of the Uniform Electronic Transactions Act, and/or any other relevant electronic signatures law, including any relevant provisions of the Code (collectively, "**Signature Law**"), in each case to the extent applicable. Each faxed, scanned, or photocopied manual signature, or other electronic signature, shall for all purposes have the same validity, legal effect, and admissibility in evidence as an original manual signature. Each party hereto shall be entitled to conclusively rely upon, and shall have no liability with respect to, any faxed, scanned, or photocopied manual signature, or other electronic signature, of any other party and shall have no duty to investigate, confirm or otherwise verify the validity or authenticity thereof. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but such counterparts shall, together, constitute one and the same instrument. For the avoidance of doubt, original manual signatures shall be used for execution or indorsement of writings when required under the Code or other Signature Law due to the character or intended character of the writings.

Section 15. Successors and Assigns.

This Agreement shall be binding upon and, subject to the restrictions on assignment by Pledgor set forth in the Pledge Agreement, shall inure to the benefit of the successors and assigns of the parties hereto. Lender shall have the right to assign or transfer rights and obligations under this Agreement without limitation. Any assignee or transferee shall be entitled to all the benefits afforded Lender under this Agreement; provided, that such assignee or transferee shall have delivered to the other parties hereto written confirmation that such assignee and transferee agrees to be bound by the terms of this Agreement and is also the assignee or transferee of the Defeasance Documents.

Intermediary shall have the right to assign or transfer its rights and obligations hereunder only in connection with a termination or with the prior written consent of Lender, as set forth in **Section 7**.

Pledgor shall have the right to assign and transfer its rights and obligations hereunder only as permitted under the Pledge Agreement.

Section 16. Notices.

All notices and other communications hereunder by any party to any other party shall be given in accordance with Section 14 of the Pledge Agreement. Notices and other communications to Servicer shall be sent to the following address:

Midland Loan Services,
a division of PNC Bank, National Association
10851 Mastin Boulevard, Suite 700
Overland Park, Kansas 66210
Attention: Asset Management
Loan Nos. 30298801 (A-1), 30298824 (A-2), and
30298825 (A-3)

Section 17. Modification in Writing.

This Agreement, and any provisions hereof, may not be modified, amended, waived, extended, changed, discharged or terminated orally or by an act or failure to act on the part of any party hereto, but only by an agreement in writing and signed by all of the parties hereto.

Section 18. Waiver of Trial by Jury.

PLEDGOR, LENDER, SERVICER AND INTERMEDIARY EACH HEREBY AGREES NOT TO ELECT A TRIAL BY JURY OF ANY ISSUE TRIABLE OF RIGHT BY JURY, AND WAIVES ANY RIGHT TO TRIAL BY JURY FULLY TO THE EXTENT THAT ANY SUCH RIGHT SHALL NOW OR HEREAFTER MAY EXIST WITH REGARD TO THIS AGREEMENT OR ANY DOCUMENT RELATED HERETO, OR ANY CLAIM, COUNTERCLAIM OR OTHER ACTION ARISING IN CONNECTION THEREWITH. THIS WAIVER OF RIGHT TO TRIAL BY JURY IS GIVEN KNOWINGLY AND VOLUNTARILY BY PLEDGOR, LENDER, SERVICER AND INTERMEDIARY, AND IS INTENDED TO ENCOMPASS INDIVIDUALLY EACH INSTANCE AND EACH ISSUE AS TO WHICH A RIGHT TO TRIAL BY JURY WOULD OTHERWISE ACCRUE. PLEDGOR, LENDER, SERVICER AND INTERMEDIARY EACH IS HEREBY AUTHORIZED TO FILE A COPY OF THIS SECTION IN ANY PROCEEDING AS CONCLUSIVE EVIDENCE OF THIS WAIVER BY EACH OTHER.

Section 19. Rights and Protections of the Intermediary.

All rights and protections of the Intermediary as set forth in Section 26 of the Pledge Agreement are herein incorporated by reference for the benefit of the Intermediary and Custodian.

Section 20. Tax Reporting.

For the avoidance of doubt, the Pledged Collateral Account (including income, if any, earned on the investments of funds in such account) will be owned by the Successor Borrower, for federal income tax purposes.

Section 21. Representations and Warranties of the Servicer.

Servicer has the requisite power and authority to execute, deliver and perform its obligations under this Agreement. This Agreement constitutes the legal, valid and binding obligation of Servicer, enforceable against it in accordance with its terms, subject to applicable bankruptcy, insolvency, reorganization, receivership, conservatorship, moratorium and other laws affecting the enforcement of creditors' rights generally.

Section 22. Priority of Notes.

Notwithstanding any other term of this Agreement, the Defeasance Documents, or the Mortgage Loan Documents to the contrary, the parties hereby acknowledge and agree that for so long as the Mortgage Loans remain outstanding, each of the Notes has equal priority with each of the other Notes, and no portion of any Mortgage Loan has priority or preference over any portion of any other Mortgage Loan. If for any reason the funds available in the Pledged Collateral Account are insufficient to satisfy all obligations then due under each of the Notes and the Defeasance Documents (including payments of each of the Mortgage Loans in full on the Final Payment Date), then any payment, whether principal or interest, under any of the Notes and any proceeds from the sale of the Pledged Collateral will be applied to the Mortgage Loans on a pro rata basis, based on the outstanding principal balance of each of the Mortgage Loans at the time such insufficiency occurs. Notwithstanding the foregoing, nothing in this **Section 22** modifies any of Successor Borrower's obligations under the Defeasance Documents, including Successor Borrower's obligations under **Section 24** of the Pledge Agreement.

[Signatures on Following Pages]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first above written.

ORIGINAL BORROWER:

IONIS GAZELLE, LLC,
a Delaware limited liability company

By: Ionis Pharmaceuticals, Inc.,
a Delaware corporation, its Sole Member

By: /s/Elizabeth L. Hougen
Elizabeth L. Hougen
Executive Vice President & Chief Financial Officer

INTERMEDIARY:

U.S. BANK TRUST COMPANY, NATIONAL ASSOCIATION, a national banking association

By: /s/Linda Riley
Name: Linda Riley
Title: Vice President

Signature page for Ionis Gazelle
Defeasance Account Agreement

LENDER:

WELLS FARGO BANK, NATIONAL ASSOCIATION, AS TRUSTEE FOR THE BENEFIT OF THE REGISTERED HOLDERS OF UBS COMMERCIAL MORTGAGE TRUST 2017-C3, COMMERCIAL MORTGAGE PASS-THROUGH CERTIFICATES, SERIES 2017-C3

By: Midland Loan Services, a division of PNC Bank, National Association, Servicer and Attorney-in-Fact

By: /s/Wm. Dugger Schwartz
Name: Wm. Dugger Schwartz
Title: Senior Vice President Servicing Officer

SERVICER:

MIDLAND LOAN SERVICES,
a division of PNC Bank, National Association,
as Servicer

By: /s/Wm. Dugger Schwartz
Name: Wm. Dugger Schwartz
Title: Senior Vice President Servicing Officer

EXHIBIT A-1

DESCRIPTION OF COLLECTION ACCOUNT

PNC Bank, N.A.
ABA No.: **[***]**
Account No.: **[***]**
Account Name: Midland Loan Services, a division of PNC Bank, National Association
RE: Ionis Gazelle Defeasance
Loan No.: **[***]**

EXHIBIT A-2

DESCRIPTION OF COLLECTION ACCOUNT

PNC Bank, N.A.
ABA No.: **[***]**
Account No.: **[***]**
Account Name: Midland Loan Services, a division of PNC Bank, National Association
RE: Ionis Gazelle Defeasance
Loan No.: **[***]**

EXHIBIT A-3

DESCRIPTION OF COLLECTION ACCOUNT

PNC Bank, N.A.
ABA No.: **[***]**
Account No.: **[***]**
Account Name: Midland Loan Services, a division of PNC Bank, National Association
RE: Ionis Gazelle Defeasance
Loan No.: **[***]**

ADDENDUM 1

Account Bank Control Agreement

U.S. BANK NATIONAL ASSOCIATION, a national banking association ("**Account Bank**"), hereby joins in the execution of this Defeasance Account Agreement (the "**Agreement**") and agrees to this Account Bank Control Agreement as follows:

1. All defined terms used in this **Addendum 1** have the meaning set forth in the Agreement and this **Addendum 1** is hereby made a part thereof and Account Bank a party thereto;

2. Account Bank is an Eligible Institution;

3. Account Bank has opened and will maintain the Pledged Collateral Account and the Pledged Collateral in accordance with the terms and provisions of the Agreement and the Security Agreement and each of Account Bank and Intermediary will indicate by book-entry on their respective books and records that the Securities have been credited to the Pledged Collateral Account;

4. The Pledged Collateral Account shall be maintained as a securities account in the name of Lender, as entitlement holder. To the extent the Intermediary is deemed to have control of the Pledged Collateral Account, the Intermediary acknowledges and agrees that it has such control on behalf of the Lender;

5. Lender is the person entitled to exercise any and all rights that comprise the Pledged Collateral credited to the Pledged Collateral Account as set forth in the Agreement and the Security Agreement;

6. Account Bank hereby acknowledges and agrees to the terms and provisions of the Agreement and Sections 6(a)(viii), 7, 8, 9(b), 12, 14, 15, 16, 22, 25 and 26 of the Security Agreement; and

7. Account Bank agrees that this Security Agreement and the Account Bank Control Agreement (Addendum 1) grant Lender "control" of the Pledged Collateral Account within the meaning of Section 8-106 of the UCC.

ACCOUNT BANK:

U.S. BANK NATIONAL ASSOCIATION,
a national banking association

By: /s/Linda Riley
Name: Linda Riley
Title: Vice President

Exhibit 10.80

CERTAIN CONFIDENTIAL PORTIONS OF THIS EXHIBIT HAVE BEEN OMITTED AND REPLACED WITH "[***]". SUCH IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THIS EXHIBIT BECAUSE IT IS BOTH (I) NOT MATERIAL AND (II) IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL.

COLLABORATION AND LICENSE AGREEMENT

BETWEEN

METAGENOMI, INC.

AND

IONIS PHARMACEUTICALS, INC.

DATED NOVEMBER 10, 2022

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Schedules:

COLLABORATION AND LICENSE AGREEMENT

This **COLLABORATION AND LICENSE AGREEMENT** (this "**Agreement**") is entered into as of November 10, 2022 (the "**Effective Date**"), by and between Ionis Pharmaceuticals, Inc., a Delaware corporation, having its principal place of business at 2855 Gazelle Court, Carlsbad, CA 92010 ("**Ionis**"), and Metagenomi, Inc., a Delaware corporation, having its principal place of business at 1545 Park Avenue, Emeryville, CA 94608 ("**Metagenomi**"). Metagenomi and Ionis are sometimes referred to herein individually as a "**Party**" and collectively as the "**Parties**."

WHEREAS, Metagenomi is a biopharmaceutical company that controls certain patent rights, know-how, technology, and expertise with respect to gene editing;

WHEREAS, Ionis is a biopharmaceutical company focused on developing and commercializing pharmaceutical and biopharmaceutical products;

WHEREAS, Metagenomi and Ionis desire to enter into a collaboration to utilize Metagenomi's and Ionis' expertise and each Party's platform to perform research services and other activities focused on the (a) discovery and development of therapeutics, and (b) advancing certain gene editing technologies to enable improved performance, novel mechanisms, and novel delivery strategies; and

WHEREAS, Metagenomi desires to grant to Ionis, and Ionis desires to receive from Metagenomi, an exclusive license under the Licensed Technology to Exploit Licensed Systems and Licensed Products under the terms and conditions set forth herein.

NOW, THEREFORE, the Parties agree as follows:

Article 1
Overview

The Parties intend to undertake a strategic research collaboration under this Agreement, consisting of drug discovery and exploratory research activities to advance new medicines using gene editing strategies, with the goal of discovering novel medicines for Ionis to Develop and Commercialize on its own or to co-Develop and co-Commercialize with Metagenomi.

1.1. **Drug Discovery Program**. The Parties intend that, under this Agreement, the Parties will seek to discover therapeutic products directed to specific genetic targets selected by Ionis under a Drug Discovery Program and pursuant to a Drug Discovery Plan for each specific genetic target, as permitted by this Agreement.

1.2. **Development and Commercialization**. For each Drug Discovery Program, once the Parties identify a candidate that is suitable for Development, as between the Parties, Ionis will be responsible for Development and Commercialization of products resulting from such Drug Discovery Program either on its own or, if Metagenomi exercises its option, together with Metagenomi.

1.3. **Co-Development and Co-Commercialization**. Metagenomi will have an exclusive option to co- Develop and co-Commercialize products with Ionis under a limited number of Drug Discovery Programs. For any such option exercised by Metagenomi, the Parties will enter into a separate Co- Development and Co-Commercialization Agreement, as set forth herein. Metagenomi will have a right to opt-out of such co-Development and co-Commercialization at specific times, as set forth herein.

1.4. **Exploratory Research**. The Parties will also conduct an Exploratory Research Program under this Agreement. The Parties intend that, under the Exploratory Research Program, the Parties will conduct collaborative research pursuant to an Exploratory Research Plan to jointly [***] and such other activities as agreed upon by the Joint Research Committee in accordance with this Agreement. Any such improvements resulting from the Parties' exploratory research under this Agreement will be incorporated into the Parties' drug discovery collaboration.

1.5. **Governance**. The Parties have agreed to form (a) a Joint Steering Committee to coordinate, oversee, and monitor the Parties' activities under this Agreement; and (b) a Joint Research Committee reporting to the JSC to coordinate, oversee, and monitor the Parties' research and drug discovery activities under this Agreement.

1.6. **Purpose**. The purpose of this Article 1 (Overview) is to provide a high-level overview of the roles, responsibilities, rights, and obligations of each Party under this Agreement, and therefore this Article 1 (Overview) is qualified in its entirety by the more detailed provisions of this Agreement set forth below.

Article 2
Collaboration

2.1. **Selection of Collaboration Targets**.

2.1.1. **Wave 1 Targets**.

(a) **Initial Wave 1 Target**. The first Collaboration Target will be [***], as set forth on Schedule 2.1.1(a) ([***]) ("[***]").

(b) **Second Wave 1 Target**. Within [***] of the Effective Date, the Parties will mutually agree on the second gene target as a Collaboration Target (the "**Second Wave 1 Target**"). The Second Wave 1 Target will be a target for which a Licensed Product would be delivered only to [***]. If the Parties do not agree on a Second Wave 1 Target within such [***] period, then the Parties will mutually agree on an additional period to determine a second gene target to be the Second Wave 1 Target.

(c) **Additional Wave 1 Target Selection**. At any time during the period commencing on the Effective Date and ending on the date that is [***] following the Effective Date ("**Additional Wave 1 Target Selection Period**"), Ionis may, in its sole discretion, but subject to Section 2.1.4 (Encumbrance Check), select up to two additional gene targets as proposed Collaboration Targets by providing written notice to Metagenomi (each such notice, the "**Additional Wave 1 Target Notice**"), which notice will identify the proposed target ("**Additional Wave 1 Target**"). The Additional Wave 1 Targets will be targets for which a Licensed Product would be delivered only to [***] or only to [***]; *provided* that [***].

2.1.2. **Wave 2 Target Options**. If, at any time during the Drug Discovery Term, (a) [***] or (b) the Parties achieve [***] under the Exploratory Research Activities (the "**Wave 2 Target Selection Period**"), then Ionis may, in its sole discretion, but subject to Section 2.1.4 (Encumbrance Check), select up to four additional gene targets as proposed Collaboration Targets by providing written notice to Metagenomi (each such notice, a "**Wave 2 Target Notice**"), which notice will identify the proposed target ("**Wave 2 Target**"). Each Wave 2 Target will be a target for which a Licensed Product would be delivered only to [***] or only to [***], or [***] that has, at the time of the Wave 2 Target Notice for such Wave 2 Target [***].

2.1.3. **Target Substitutions**. On a Drug Discovery Program-by-Drug Discovery Program basis, Ionis will have the right to substitute the Collaboration Target for a Drug Discovery Program in accordance with this Section 2.1.3 (Target Substitutions).

(a) **Discretionary Substitutions**. At any time before [***] (the "**Target Substitution Period**"), Ionis may, in its sole discretion, but subject to Section 2.1.4 (Encumbrance Check), replace the Collaboration Target for such Drug Discovery Program by providing written notice to Metagenomi, which notice will identify the proposed replacement gene target. Ionis may substitute (i) up to [***] and (ii) up to [***], in each case ((i) and (ii)), for any reason. Any Collaboration Target that is substituted out pursuant to this Section 2.1.3(a) (Discretionary Substitutions) will [***].

(b) **Substitutions for Technological Infeasibility**. If the JSC determines that it is technologically infeasible to Develop a Development Candidate for a Collaboration Target ("**Technological Infeasibility**"), then Ionis may, in its sole discretion, but subject to Section 2.1.4 (Encumbrance Check), substitute such Collaboration Target by providing written notice to Metagenomi, which notice will identify the proposed replacement gene target. [***] and any substitutions that are for Technological Infeasibility will [***]. Any Collaboration Target that is substituted out pursuant to this Section 2.1.3(b) (Substitutions for Technological Infeasibility) will [***].

(c) **Substitution After Resolution of Technological Infeasibility**. If a Collaboration Target is substituted out for Technological Infeasibility pursuant to Section 2.1.3(b) (Substitutions for Technological Infeasibility) and, [***], then Metagenomi will notify Ionis, which notice will include [***]. Subject to clauses (i) and (ii) of Section 2.1.4(a) (Encumbered Targets), Ionis will have the right to substitute a current Collaboration Target for such previous Collaboration Target by providing written notice to Metagenomi within [***] of receipt of notice from Metagenomi that [***]. [***] and any substitutions that are as a result of resolution of a Technological Infeasibility will [***].

(d) **Substitution Procedure**. Any written notice provided by Ionis to Metagenomi pursuant to Section 2.1.3(a) (Discretionary Substitutions), Section 2.1.3(b) (Substitutions for Technological Infeasibility), or Section 2.1.3(c) (Substitutions After Resolution of Technological Infeasibility) will be a "**Replacement Target Notice**" and the proposed replacement gene target identified in any Replacement Target Notice will be a "**Proposed Replacement Target**". Each Replacement Target Notice will specify which current Collaboration Target should be removed as a result of such replacement, and, unless otherwise agreed by the Parties, each Proposed Replacement Target will [***]. Promptly after such Proposed Replacement Target becomes a Collaboration Target pursuant to Section 2.1.4(c) (Effects if a Proposed Target is Available), Metagenomi will [***] after such Proposed Replacement Target becomes a Collaboration Target pursuant to Section 2.1.4(c) (Effects if a Proposed Target is Available).

2.1.4. Encumbrance Check.

(a) **Encumbered Targets**. Metagenomi will notify Ionis within [***] after Metagenomi's receipt of an Additional Wave 1 Target Notice, a Wave 2 Target Notice, or a Replacement Target Notice if, at the time of receipt of such notice, (i) Metagenomi is [***], (ii) Metagenomi is [***], or (iii) the Proposed Target is [***], pursuant to which Metagenomi has [***] (each of (i) through (iii), a "**Pre-Existing Restriction**" and such Proposed Target, an "**Encumbered Target**"). Notwithstanding the foregoing, a Collaboration Target that has been substituted out for Technological Infeasibility but for which Ionis later selects as a Proposed Replacement Target pursuant to Section 2.1.3(c) (Substitutions After Resolution of Technological Infeasibility) will only be an Encumbered Target if the foregoing clause (i) or clause (ii) applies with respect to such Proposed Replacement Target. If Metagenomi does not notify Ionis within such [***] period that the [***]. If Metagenomi (x) notifies Ionis that a Proposed Target is Available or (y) does not provide notice that a Proposed Target is an Encumbered Target within the [***], then, in either case ((x) or (y)), such Proposed Target will be deemed to be Available, at which point Section 2.1.4(c) (Effects if a Proposed Target is Available) will apply. If a Proposed Target is an Encumbered Target, then Ionis may select another Proposed Target (and another if such other Proposed Target is an Encumbered Target and so on) until such time that Ionis selects a Proposed Target that is Available, at which point Section 2.1.4(c) (Effects if a Proposed Target is Available) will apply.

(b) **Expiration of Pre-Existing Restrictions**. On [***], Ionis will [***], to facilitate its activities pursuant to Section 4.1.5(b) (Specific Responsibilities of the JSC), [***]. If at any time during the Additional Wave 1 Target Selection Period, the Wave 2 Target Selection Period, or the Target Substitution Period, as applicable, any Pre-Existing Restriction that precluded Ionis from selecting a Proposed Target as a Collaboration Target later expires, terminates, or is otherwise modified such that such Proposed Target would no longer be an Encumbered Target, and at such time (i) Ionis has not [***] as permitted under this Agreement, or (ii) Ionis has designated all Collaboration Targets as permitted under this Agreement, but Ionis has not exhausted its right to substitute existing Collaboration Targets as permitted under Section 2.1.3(a) (Discretionary Substitutions), Section 2.1.3(b) (Substitutions for Technological Infeasibility), or Section 2.1.3(c) (Substitution After Resolution of Technological Infeasibility) (such time period prior to the occurrence of both (i) and (ii), the "**Target Selection and Substitution Period**"), then Metagenomi will notify Ionis of such expiration, termination, or modification unless Ionis has notified the JSC that it is no longer interested in pursuing that Encumbered Target as a Collaboration Target.

(c) **Effects if a Proposed Target is Available**. If Ionis confirms in writing to Metagenomi that a Proposed Target should be deemed to be a "Collaboration Target" under this Agreement within [***] of a Proposed Target being deemed Available pursuant to Section 2.1.4(a) (Encumbered Targets), then (i) such Proposed Target will be deemed a "Collaboration Target" as of the date of such notice, (ii) the Parties, through the JRC, will develop a Drug Discovery Plan for such Collaboration Target in accordance with Section 2.2.2 (Additional Drug Discovery Plans), (iii) if the Proposed Target was [***] in accordance with Section 9.2 ([***]) and, if applicable, the Drug Discovery Term will be extended pursuant to Section 2.2.7 (Drug Discovery Term), and (iv) if the Proposed Target was a Proposed Replacement Target, then the Collaboration Target that was substituted out will no longer be a "Collaboration Target". If Ionis does not respond within [***] of a Proposed Target being deemed Available pursuant to Section 2.1.4(a) (Encumbered Targets), then such Proposed Target will not be deemed a "Collaboration Target".

2.2. Drug Discovery Program.

2.2.1. Initial Drug Discovery Plan. The principal Development objectives for each Drug Discovery Program will be set forth in a written plan that includes: (a) the specific activities to be performed by each Party through selection of a Development Candidate for such Drug Discovery Program, including the Gene Editing modality within the Field for such Development Candidate, (b) the estimated timelines for the performance of such activities, and (c) the Development Candidate selection criteria (each such plan, as may be updated from time to time, a "**Drug Discovery Plan**" and the activities to be performed by the Parties thereunder, the "**Drug Discovery Activities**"). In addition, each Drug Discovery Plan will include a written budget pursuant to which Metagenomi will perform the Drug Discovery Activities allocated to Metagenomi under such Drug Discovery Plan, which budget will include (i) [***], and (ii) [***] (each such budget, a "**Drug Discovery Budget**"). The initial Drug Discovery Plan agreed to by the Parties for [***] is attached hereto as Schedule 2.2 ([***] Drug Discovery Plan).

2.2.2. Additional Drug Discovery Plans. No later than [***] after (a) the Parties agree on the Second Wave 1 Target pursuant to Section 2.1.1(b) (Second Wave 1 Target) or (b) a Proposed Target is deemed a Collaboration Target under this Agreement pursuant to Section 2.1.4(c) (Effects if a Proposed Target is Available), which period shall be appropriately extended for the Parties to undertake the process described in Section 2.2.4 ([***] for Additional Drug Discovery Plans), if applicable, in each case, the Parties will develop, through the JRC, a Drug Discovery Plan for such Collaboration Target (an "**Additional Drug Discovery Plan**") in accordance with this Section 2.2.2 (Additional Drug Discovery Plans). The JRC will submit each proposed Additional Drug Discovery Plan to the JSC for the JSC to review, discuss, and determine whether to approve. Unless otherwise agreed by the Parties, the content of each Additional Drug Discovery Plan will be consistent in scale and scope to that set forth in the Drug Discovery Plan for [***] attached hereto as Schedule 2.2 ([***] Drug Discovery Plan).

2.2.3. Amendments to the Drug Discovery Plans. At least [***] during the Drug Discovery Term, or upon either Party's request, the JRC will develop and propose updates to each Drug Discovery Plan; *provided* that [***]. Any proposed updates to a Drug Discovery Plan will be submitted to the JSC for approval. The JSC will review, discuss, and determine whether to approve any such proposed update to a Drug Discovery Plan. Each such update to a Drug Discovery Plan will become effective and will supersede the previous Drug Discovery Plan for the applicable Drug Discovery Program upon approval thereof by the JSC.

2.2.4. [***] for Additional Drug Discovery Plans.

(a) **New** [***]. At each JSC meeting during the Target Selection and Substitution Period, Metagenomi will [***]. In addition, [***].

(b) **Selection of** [***]. The JSC will discuss and determine [***] under this Agreement pursuant to Section 2.1.4(c) (Effects if a Proposed Target is Available) from the [***] will be set forth in the applicable Additional Drug Discovery Plan determined pursuant to Section 2.2.2 (Additional Drug Discovery Plans). For clarity, if the JSC [***].

(c) **Incremental Development Costs**. If, [***].

2.2.5. Development of [***] **for a Drug Discovery Program**. If either Party wishes to Develop a Licensed Product comprising a [***] that is not already set forth in the Drug Discovery Plan for such Drug Discovery Program, then such Party may propose such additional activities to the other Party and the Parties will discuss whether to amend such Drug Discovery Plan or create a separate Drug Discovery Program for such [***]. If the Parties agree to include the additional [***] in the Drug Discovery Program, then the Parties will enter into a mutually acceptable amended Drug Discovery Plan that includes the additional [***]. For clarity, neither Party will have any obligation to agree to amend a Drug Discovery Plan to include any additional [***] that were not set forth in the initial Drug Discovery Plan for the applicable Drug Discovery Program.

2.2.6. Delivery of Development Candidate; Development Candidate Report. The objective of each Drug Discovery Plan will be to identify both a lead and a backup candidate for development that each meet the development candidate criteria set forth in such Drug Discovery Plan. No later than [***] after completion by the Parties of all Drug Discovery Activities set forth under the applicable Drug Discovery Plan with respect to each Collaboration Target, or such earlier time mutually agreed upon by the Parties, each Party will deliver to the JSC a report summarizing all results, information, and data that were generated in connection with the performance of the Drug Discovery Activities under such Drug Discovery Plan, including information regarding any therapeutic agents that meet the development candidate criteria (each, a "**Development Candidate Report**"). Following receipt of the Development Candidate Reports, and at such earlier times that the Parties have exchanged data and results regarding any therapeutic agent that meets the development candidate criteria set forth in the applicable Drug Discovery Plan, the JSC will review and discuss such Development Candidate Reports and other data and results, and Ionis may, in its sole discretion, elect to designate one or more such therapeutic agents as Development Candidates hereunder (regardless of whether any such therapeutic agents meet the development candidate criteria).

2.2.7. Drug Discovery Term. On a Drug Discovery Program-by-Drug Discovery Program basis, the Drug Discovery Activities for a Drug Discovery Program will be performed by or on behalf of the Parties during the period commencing on the selection of a Collaboration Target for such Drug Discovery Program and, unless this Agreement is earlier terminated with respect to such Collaboration Target, expiring upon the earlier of (a) completion of all Drug Discovery Activities set forth in the Drug Discovery Plan for such Drug Discovery Program and presentation to the JSC of such Drug Discovery Activities, (b) the [***] anniversary of the Effective Date, and (c) selection of a Development Candidate for such Drug Discovery Program (the "**Drug Discovery Term**"); *provided* that [***], the [***] anniversary of the Effective Date.

2.3. Exploratory Research Program.

2.3.1. Exploratory Research Plan. The [***], and any other Development activities that the JRC agrees to include pursuant to any amendment under Section 2.3.2 (Amendments to the Exploratory Research Plan) (the "**Exploratory Research Program**") will be set forth in a written plan that includes: (a) the specific activities to be performed by each Party and (b) the estimated timelines for the performance of such activities (such plan, as may be updated from time to time, the "**Exploratory Research Plan**" and the activities to be performed by the Parties thereunder, the "**Exploratory Research Activities**"). In addition, the Exploratory Research Plan will include a written budget pursuant to which Metagenomi will perform the Exploratory Research Activities allocated to Metagenomi under such Exploratory Research Plan, which budget will include (i) [***], and (ii) [***] (the "**Exploratory Research Budget**"). The initial Exploratory Research Plan is set forth on Schedule 2.3.1 (Exploratory Research Plan).

2.3.2. Amendments to the Exploratory Research Plan. At least annually during the Exploratory Research Term no later than [***] of each Calendar Year, or upon either Party's request, the JRC will develop and propose updates to the Exploratory Research Plan or Exploratory Research Budget for the next fiscal year, or such other period as the Parties may mutually agree, and will submit any such proposed change to the JSC. Additionally, at any time during the Exploratory Research Term, the JRC may develop and propose *ad hoc* updates to the Exploratory Research Plan or Exploratory Research Budget based on the then-current results and data. The JSC will review, discuss, and determine whether to approve any such proposed change to the Exploratory Research Plan or Exploratory Research Budget. Each such update to the Exploratory Research Plan or Exploratory Research Budget will become effective and will supersede the previous Exploratory Research Plan or Exploratory Research Budget upon approval thereof by the JSC.

2.3.3. Exploratory Research Term. The Exploratory Research Activities will be performed by or on behalf of the Parties during the period commencing on the Effective Date and, unless this Agreement is earlier terminated with respect to the Exploratory Research Program, expiring upon the earlier of (a) [***], and (b) the [***] anniversary of the Effective Date (the "**Exploratory Research Term**").

2.4. **Conduct of Collaboration Activities**. Each Party, directly or through its Affiliates or, subject to Section 3.3 (Subcontractors), Subcontractors, will use Commercially Reasonable Efforts to conduct the Drug Discovery Activities and Exploratory Research Activities (collectively, the "**Collaboration Activities**") assigned to it under the applicable Drug Discovery Plan or Exploratory Research Plan (collectively, the "**Collaboration Program Plans**") and in a professional and timely manner. Each Party will, and will require its Affiliates and Subcontractors to, perform its obligations under the Collaboration Program Plans in compliance with Applicable Law.

2.5. **Cost of Collaboration Activities**.

2.5.1. **Reimbursement by Ionis**. Ionis will reimburse Metagenomi for all (a) [***] and (b) [***], in each case ((a) and (b)), actually incurred by Metagenomi in the performance of the Exploratory Research Activities during the Exploratory Research Term to the extent in compliance with both the Exploratory Research Plan and the amounts budgeted therefor in the Exploratory Research Budget [***] (such amount, the "**Metagenomi Exploratory Research Costs**") up to $[***] in the aggregate (the "**Reimbursement Cap**"). If the aggregated Metagenomi Exploratory Research Costs during the Exploratory Research Term are *less* than the Reimbursement Cap, then Ionis will also reimburse Metagenomi for all (1) [***] and (2) [***], in each case ((1) and (2)), actually incurred by Metagenomi in the performance of the Drug Discovery Activities during the Exploratory Research Term to the extent in compliance with both the applicable Drug Discovery Plans and the amounts budgeted therefor in the applicable Drug Discovery Budgets [***] ("**Metagenomi Drug Discovery Costs**") up to [***]. In each Calendar Quarter during the Exploratory Research Term, unless and until Ionis' aggregated payments under this Section 2.5.1 (Reimbursement by Ionis) reach the Reimbursement Cap, Ionis will pay Metagenomi $[***] to cover the Metagenomi Exploratory Research Costs and, if applicable, the Metagenomi Drug Discovery Costs for such Calendar Quarter (such amount, the "**Quarterly Reimbursement Payments**"), within [***] following receipt of an invoice from Metagenomi therefor. No later than [***] following the conclusion of each [***] during the Exploratory Research Term, Metagenomi will provide to Ionis a written report of all Metagenomi Exploratory Research Costs and Metagenomi Drug Discovery Costs incurred by or on behalf of Metagenomi during the applicable [***] (such reports, the "**Metagenomi Collaboration Cost Reports**"). If the amount set forth in the Metagenomi Collaboration Cost Report for a [***] $[***], then no further action is required by the Parties, except that [***]. If the amount set forth in the Metagenomi Collaboration Cost Report for a [***], then [***] under this Section 2.5.1 (Reimbursement by Ionis). For clarity, Ionis will have the right to [***].

2.5.2. **Cost of Other Collaboration Activities**. Except with respect to amounts reimbursed by Ionis pursuant to Section 2.5.1 (Reimbursement by Ionis), Metagenomi will be responsible for all costs and expenses incurred by or on behalf of Metagenomi in the performance of the Collaboration Activities allocated to Metagenomi in the applicable Collaboration Program Plans, including in the performance of all Drug Discovery Activities after the expiration of the Exploratory Research Term. In addition, Ionis will be responsible for all costs and expenses incurred by or on behalf of Ionis in the performance of the Collaboration Activities allocated to Ionis in the applicable Collaboration Program Plans.

2.6. Collaboration Program Records and Reports.

2.6.1. Records. Each Party will maintain, or cause to be maintained, records of its Collaboration Activities in sufficient detail and in a good scientific manner appropriate for scientific, patent, and regulatory purposes, which records will reasonably reflect the work performed by such Party under each Collaboration Program Plan.

2.6.2. Collaboration Program Reports. During the Collaboration Term, in advance of each meeting of the JSC (unless otherwise agreed by the JSC), each Party will submit to the JSC for its review and discussion written materials that include a reasonably detailed summary of the Collaboration Activities performed by or on behalf of such Party during the most recently completed Calendar Quarter, which summary will include [***] (each, a "**Collaboration Program Report**").

2.7. Ionis Proprietary Toolbox of Chemical Modifications.

2.7.1. Option Grant. If any Ionis Proprietary Toolbox of Chemical Modifications is necessary or reasonably useful for Metagenomi to practice any Metagenomi Collaboration Technology or Joint Collaboration Technology (such Intellectual Property Rights, "**Ionis Background Technology**"), then Metagenomi will have an option to obtain the license set forth in Section 3.2.3(a) (Ionis Background Technology License Grant) to Exploit up to [***] Metagenomi Products in the Field ("**Ionis IP Option**"). [***]

2.7.2. Option Exercise. Metagenomi may exercise an Ionis IP Option by providing written notice to Ionis ("**Option Exercise Notice**") at any time during the period commencing on [***] and ending on the date that is [***] after the expiration of the [***] anniversary of the Effective Date (the "**Option Term**"), which notice will identify one or more targets that Metagenomi proposes to designate as Metagenomi Targets to which the applicable Metagenomi Product will be directed (each, a "**Proposed Metagenomi Target**" and such notice, a "**Proposed Metagenomi Target Notice**").

2.7.3. Encumbrance Check.

(a) **Encumbered Targets**. Ionis will notify Metagenomi within [***] after Ionis' receipt of a Proposed Metagenomi Target Notice if, at the time of receipt of such notice, (i) [***], (ii) [***], or (iii) [***] (each of (i) through (iii), a "**Pre-Existing Ionis Restriction**" and such Proposed Metagenomi Target, an "**Encumbered Proposed Metagenomi Target**").

(b) **Effects if a Proposed Metagenomi Target is not an Encumbered Proposed Metagenomi Target**. If Ionis does not notify Metagenomi within [***] after Ionis' receipt of a Proposed Metagenomi Target Notice that the applicable Proposed Metagenomi Target is an Encumbered Proposed Metagenomi Target, then Metagenomi may provide a second notice to Ionis indicating that the Proposed Metagenomi Target will be deemed a "Metagenomi Target" if Ionis does not respond to such second notice within [***]. If Ionis (i) notifies Metagenomi that a Proposed Metagenomi Target is not an Encumbered Proposed Metagenomi Target or (ii) does not provide notice that a Proposed Metagenomi Target is an Encumbered Proposed Metagenomi Target within the original [***] period or within [***] after Metagenomi's second notice (such date, the "**Ionis IP Option Effective Date**"), then, in either case, (A) the Proposed Metagenomi Target will automatically be deemed to be a "Metagenomi Target" under this Agreement with no further action by the Parties, and (B) the license to Metagenomi under Section 3.2.3(a) (Ionis Background Technology License Grant) will be effective with respect to Metagenomi Products for such Metagenomi Target.

2.7.4. **Ionis Background Technology Transfer**. On a Metagenomi Target-by-Metagenomi Target basis, no later than [***] after the Ionis IP Option Effective Date for each Metagenomi Target, Ionis will transfer to Metagenomi all Ionis Background Technology that is [***], for Metagenomi to Exploit the applicable Metagenomi Product for such Metagenomi Target in the Field.

Article 3
Licenses; Exclusivity

3.1. **License Grants to Ionis**.

3.1.1. **Collaboration Activities License**.

(a) **Collaboration Activities License Grant**. Subject to the terms of this Agreement, Metagenomi hereby grants to Ionis and its Affiliates a non-exclusive, royalty-free license, with the right to sublicense through multiple tiers (subject to Section 3.1.1(b) (Sublicensing by Ionis)), under the Licensed Technology to perform (or have performed in accordance with this Agreement) all Collaboration Activities allocated to Ionis under each Collaboration Program Plan during the Collaboration Term.

(b) **Sublicensing by Ionis**. Ionis may grant sublicenses of any rights granted by Metagenomi under Section 3.1.1(a) (Collaboration Activities License Grant) through multiple tiers to any of its Affiliates or to one or more Subcontractors that are not [***]. Each such sublicense will be consistent with the terms of this Agreement and will require such Sublicensee to comply with all applicable terms of this Agreement. Ionis will remain responsible for its Sublicensees' compliance with the applicable terms of this Agreement.

3.1.2. **Exclusive Exploitation License**.

(a) **Exclusive Exploitation License Grant**. Subject to the terms of this Agreement, Metagenomi hereby grants to Ionis and its Affiliates an exclusive, royalty-bearing license, with the right to sublicense through multiple tiers (subject to Section 3.1.2(c) (Sublicensing by Ionis)), under the Licensed Technology to Exploit all Licensed Systems and Licensed Products solely in the Field in the Territory.

(b) **Limitations**. Notwithstanding the license granted to Ionis pursuant to Section 3.1.1(a) (Collaboration Activities License Grant) and Section 3.1.2(a) (Exclusive Exploitation License Grant), subject to the terms of this Agreement, Metagenomi will retain non-exclusive rights under the Licensed Technology in the Field in the Territory for the sole purpose of performing the Metagenomi Activities or fulfilling its obligations under this Agreement, in each case, either itself or through its Affiliates, or Subcontractors. For clarity, Metagenomi will retain all rights under the Licensed Technology and Licensed Systems for use outside of the Field.

(c) **Sublicensing by Ionis**. Ionis may grant sublicenses of any rights granted by Metagenomi under Section 3.1.2(a) (Exclusive Exploitation License Grant) through multiple tiers to any of its Affiliates or to one or more Sublicensees without the consent of Metagenomi; *provided* that such Sublicensees are not [***]. Each such sublicense will be consistent with the terms of this Agreement and will require such Sublicensee to comply with all applicable terms of this Agreement. Ionis will remain responsible for its Sublicensees' compliance with the applicable terms of this Agreement. Promptly following Ionis' grant of a sublicense to a Sublicensee, Ionis will notify Metagenomi of such sublicense. Upon Metagenomi's written request, Ionis will provide Metagenomi with a fully-executed copy of any agreement reflecting any such sublicense (excluding any sublicense with an Affiliate of Ionis' or any Third Party acting on Ionis' behalf), which may be reasonably redacted to exclude Ionis' proprietary information, other competitively sensitive information, or any other information not necessary for Metagenomi to verify compliance with the preceding sentence, which copy will be treated as Ionis' Confidential Information.

3.1.3. Unblocking License.

(a) **Unblocking License Grant**. Subject to the terms of this Agreement, including the license granted pursuant to Section 3.1.2(a) (Exclusive Exploitation License Grant), Metagenomi hereby grants to Ionis and its Affiliates a [***] non-exclusive license, with the right to sublicense through multiple tiers (subject to Section 3.1.3(b) (Sublicensing by Ionis)), under Metagenomi's interest in the Joint Collaboration Technology [***] in the Unblocking Field in the Territory.

(b) **Sublicensing by Ionis**. Ionis may grant sublicenses of any rights granted by Metagenomi under Section 3.1.3(a) (Unblocking License Grant) through multiple tiers to any of its Affiliates or to one or more Sublicensees to which Ionis grants a license to [***]. Each such sublicense will be consistent with the terms of this Agreement and will require such Sublicensee to comply with all applicable terms of this Agreement. Ionis will remain responsible for its Sublicensees' compliance with the applicable terms of this Agreement.

3.2. License Grants to Metagenomi.

3.2.1. Metagenomi Activities License.

(a) **Metagenomi Activities License Grant**. Subject to the terms of this Agreement, Ionis hereby grants to Metagenomi a non-exclusive, royalty-free license, with the right to sublicense through multiple tiers (subject to the provisions of Section 3.2.1(b) (Sublicensing by Metagenomi)), under the Ionis Licensed Technology solely to perform the Collaboration Activities assigned to Metagenomi under the Collaboration Program Plans (the "**Metagenomi Activities**").

(b) **Sublicensing by Metagenomi**. Metagenomi may grant sublicenses of any rights granted by Ionis under Section 3.2.1(a) (Metagenomi Activities License Grant) through multiple tiers to any of its Affiliates or to one or more Subcontractors that are not [***]. Each such sublicense will be consistent with the terms of this Agreement and will require such Sublicensee to comply with all applicable terms of this Agreement. Metagenomi will remain responsible for each Sublicensee's compliance with the applicable terms of this Agreement.

3.2.2. Unblocking License.

(a) **Unblocking License Grant**. Subject to the terms of this Agreement, Ionis hereby grants to Metagenomi and its Affiliates a [***] non-exclusive license, with the right to sublicense through multiple tiers (subject to Section 3.2.2(b) (Sublicensing by Metagenomi)), under Ionis' interest in the Joint Collaboration Technology [***] in the Unblocking Field in the Territory.

(b) **Sublicensing by Metagenomi**. Metagenomi may grant sublicenses of any rights granted by Ionis under Section 3.2.2(a) (Unblocking License Grant) through multiple tiers to any of its Affiliates or to one or more Sublicensees to which Metagenomi grants a license to [***]. Each such sublicense will be consistent with the terms of this Agreement and will require such Sublicensee to comply with all applicable terms of this Agreement. Metagenomi will remain responsible for its Sublicensees' compliance with the applicable terms of this Agreement.

3.2.3. Ionis Background Technology License.

(a) **Ionis Background Technology License Grant**. Subject to Section 2.7 (Ionis Proprietary Toolbox of Chemical Modifications), effective upon the Ionis IP Option Effective Date for a Metagenomi Target, Ionis hereby grants to Metagenomi a non-exclusive, royalty-bearing license with the right to grant sublicenses through multiple tiers (subject to Section 3.2.3(b) (Sublicensing by Metagenomi)) under the Ionis Background Technology solely to Exploit Metagenomi Products for such Metagenomi Target in the Field.

(b) **Sublicensing by Metagenomi**. Metagenomi may grant sublicenses of any rights granted by Ionis under Section 3.2.3(a) (Ionis Background Technology License Grant) through multiple tiers to any of its Affiliates or to one or more Sublicensees to which Metagenomi grants a license to Exploit the Metagenomi Products; *provided* that such Sublicensees are not [***]. Each such sublicense will be consistent with the terms of this Agreement and will require such Sublicensee to comply with all applicable terms of this Agreement. Metagenomi will remain responsible for its Sublicensees' compliance with the applicable terms of this Agreement. Promptly following Metagenomi's grant of a sublicense to a Sublicensee, Metagenomi will notify Ionis of such sublicense. Upon Ionis' written request, Metagenomi will provide Ionis with a fully-executed copy of any agreement reflecting any such sublicense (excluding any sublicense with an Affiliate of Metagenomi), which may be reasonably redacted to exclude Metagenomi's proprietary information, other competitively sensitive information, or any other information not necessary for Ionis to verify compliance with the preceding sentence, which copy will be treated as Metagenomi's Confidential Information.

3.3. **Subcontractors**. Each Party and its Affiliates may perform any of its obligations under this Agreement through one or more Subcontractors; *provided* that (a) neither Party nor its Affiliates will engage any subcontractor that has been debarred by any Regulatory Authority; (b) the subcontracting Party remains fully responsible for the work allocated to, and payment to, such subcontractors to the same extent it would if it had done such work itself; (c) the subcontractor undertakes in writing obligations of confidentiality and non-use applicable to the Confidential Information that are at least as stringent as those set forth in Article 11 (Confidentiality) other than the term of any such confidentiality obligation, which will be customary for the nature of the Subcontractor; (d) require such Subcontractor and its personnel to assign (or, if such Party, after using Commercially Reasonable Efforts, cannot obtain an assignment, then to grant a perpetual license) to such Party of all rights, title, and interests in and to any Patent Rights or Know-How created, conceived, or developed in connection with the performance of subcontracted activities; *provided* that such Subcontractor and its personnel will not be required to assign its rights, title, and interests to any of its background intellectual property or improvements thereto; (e) the subcontracting Party will be liable for any act or omission of any Subcontractor that is a breach of any of the subcontracting Party's obligations under this Agreement as though the same were a breach by the subcontracting Party; (f) each Party will use good faith efforts to identify in writing to the other Party any Subcontractor that it engages to perform Collaboration Activities and will only engage Subcontractors to perform the Collaboration Activities to the extent and in a manner consistent with such Party's engagement of subcontractors for other internal Development programs; (g) Ionis [***]; and (h) Metagenomi [***].

3.4. **Technology Transfer**.

3.4.1. **Initial Transfers**. On a Collaboration Target-by-Collaboration Target basis, no later than (a) for [***], [***] after the Effective Date and (b) for each new Collaboration Target, [***] after the applicable target becomes a Collaboration Target pursuant to Section 2.1.1(b) (Second Wave 1 Target) or Section 2.1.4(c) (Effects if a Proposed Target is Available), each Party will transfer to the other Party all Ionis Licensed Technology or Licensed Technology (as applicable), with respect to [***], as of the Effective Date, or, with respect to Collaboration Targets that become such after the Effective Date, at the time that a target becomes a Collaboration Target, in each case, that is [***] to perform the activities allocated to the non-transferring Party under the Drug Discovery Plan for the applicable Collaboration Target. In addition, each Party will transfer to the other Party all Ionis Licensed Technology or Licensed Technology (as applicable) that is [***] for the non-transferring Party to perform the activities allocated to the non-transferring Party under the Exploratory Research Plan no later than [***] after the Effective Date.

3.4.2. **Additional Transfers**. Following the initial transfers described in Section 3.4.1 (Initial Transfers), (a) promptly after [***] and (b) at least [***], Metagenomi will provide prompt updates to Ionis regarding any Licensed Know-How not previously transferred to Ionis that is [***] Ionis to continue Exploiting the Licensed Systems and Licensed Products[***], that relate to the Development Candidates being Exploited, or that Ionis, at such time, intends to Exploit, under this Agreement. During the Term, as reasonably requested by Ionis, Metagenomi will promptly provide Ionis with any information specifically identified by Ionis and included in the Licensed Technology that is [***] for Ionis to Exploit the Licensed Systems or Licensed Products that relate to the Development Candidates being Exploited, or that Ionis, at such time, intends to Exploit, and has not previously been transferred to Ionis under this Agreement. Metagenomi will provide such information to Ionis within [***] after Ionis' request.

3.4.3. **Assistance by Metagenomi Personnel**. To assist with the transfer of Licensed Know-How under this Section 3.4 (Technology Transfer) and Ionis' Exploitation thereof in accordance with the terms of this Agreement during the Term, Metagenomi will make its personnel reasonably available to Ionis during normal business hours to transfer such Licensed Know-How to Ionis and respond to Ionis' reasonable inquiries with respect thereto.

3.4.4. **Costs of Support**. On a Collaboration Program-by-Collaboration Program basis, Metagenomi will provide the first [***] FTE hours of technology transfer, or technical or regulatory assistance under this Section 3.4 (Technology Transfer), Section 7.2.2 (Assistance; Support) and Section 7.3 (Regulatory Support) for a Collaboration Program at Metagenomi's cost and expense. On a Collaboration Program-by-Collaboration Program basis, for any such assistance in excess of [***] FTE hours for a Collaboration Program, Ionis will reimburse Metagenomi for [***] with respect thereto within [***] of receipt of a reasonably detailed invoice therefor.

3.5. **No Implied Licenses**. Except as expressly provided in this Agreement, neither Party will be deemed to have granted the other Party any license or other right with respect to any Intellectual Property Rights of such Party.

3.6. **Exclusivity**.

3.6.1. **Exclusivity Obligations**. Subject to Section 3.6.2 (Acquisition of Distracting Product) and Section 3.6.3 (Change of Control), except in the performance of its obligations or exercise of its rights under this Agreement, neither Party nor any of its Affiliates will work independently or for or with any Third Party (including the grant of any license to any Third Party) to:

(a) on a Drug Discovery Program-by-Drug Discovery Program basis, (i) during the Drug Discovery Term for a Drug Discovery Program, Develop or Commercialize any product that targets the Collaboration Target in the Exclusivity Field, and (ii) until the earlier of the (1) [***] period after the expiration of the Drug Discovery Term for a Drug Discovery Program or (2) [***] period after the Effective Date, clinically Develop or Commercialize any product that targets a Collaboration Target in the Exclusivity Field that is actively being Developed by Ionis under this Agreement for such Drug Discovery Program; and

(b) on a Co-Co Program-by-Co-Co Program basis, during the period commencing on the date [***] and expiring upon [***] for such Co-Co Program, Develop or Commercialize any product that targets the Collaboration Target for such Co-Co Program in the Exclusivity Field.

For clarity, the limitations set forth in this Section 3.6.1 (Exclusivity Obligations) will not apply to any Collaboration Target that is substituted out in accordance with Section 2.1.3 (Target Substitutions).

3.6.2. **Acquisition of Distracting Product**. Notwithstanding the provisions of Section 3.6.1 (Exclusivity Obligations), if a Party or any of its Affiliates (such Party, the "**Distracted Party**") acquires rights to Develop or Commercialize a product in the Field as the result of a merger, acquisition, or combination with or of a Third Party (where such Party is not the acquired entity) other than a Change of Control (each, an "**Acquisition Transaction**") and, on the date of the closing of such Acquisition Transaction, such product is being Developed or Commercialized and such activities would, but for the provisions of this Section 3.6.2 (Acquisition of Distracting Product), constitute a breach of Section 3.6.1 (Exclusivity Obligations) (such product, a "**Distracting Product**"), then the Distracted Party or such Affiliate will, within [***] after the closing of such Acquisition Transaction notify the other Party in writing of such acquisition and either:

(a) request that such Distracting Product be included in this Agreement on terms to be negotiated, in which case, the Parties will discuss the matter in good faith for a period of no less than [***] (or such longer period as may be agreed by the Parties) and, if the Parties are unable to reach agreement on the terms on which such Distracting Product would be included hereunder within such period, then the Distracted Party will elect to take the action specified in either Section 3.6.2(b) or Section 3.6.2(c) below; *provided* that the time periods specified in such clauses will be tolled for so long as the Parties are engaged in good faith discussion under this Section 3.6.2(a);

(b) notify the other Party in writing that the Distracted Party or its Affiliate will [***], in which case, within [***] after the closing of the Acquisition Transaction, the Distracted Party or its Affiliate will [***]; or

(c) notify the other Party in writing that it [***], in which case, within [***] after the other Party's receipt of such notice, the Distracted Party and its Affiliates will [***].

During the discussion period under Section 3.6.2(a), prior to the time of [***] pursuant to Section 3.6.2(b), or prior to the [***] pursuant to Section 3.6.2(c), as applicable, the Distracted Party and its Affiliates will segregate all activities relating to the Distracting Product from the Exploitation of the Licensed Systems or Licensed Products under this Agreement, including ensuring that (i) no personnel involved in performing Development or Commercialization activities with respect to such Distracting Product have access to non-public plans or information relating to the Development or Commercialization of Licensed Systems or Licensed Products under this Agreement (except that [***]), and (ii) no personnel involved in performing Development or Commercialization activities with respect to Licensed Systems or Licensed Products under this Agreement have access to non-public plans or information relating to the Development or Commercialization of such Distracting Product (except that [***]). The procedures set forth in clauses (i) and (ii) above will be referred to as "**Firewall Procedures**" for the purposes of this Agreement.

3.6.3. **Change of Control**. If there is a Change of Control involving a Party (where such Party is the acquired entity), then:

(a) the obligations of Section 3.6.1 (Exclusivity Obligations) will not apply to any product that is controlled by the relevant acquirer or its Affiliates and that exists prior to the closing of such Change of Control; *provided* that (i) the acquired Party and the acquirer and its Affiliates existing immediately prior to the effective date of such Change of Control [***], (ii) the acquirer and its Affiliates existing immediately prior to the effective date of such Change of Control [***], and (iii) no personnel who were employees or consultants of the acquired Party or its Affiliates at any time prior to or after the Change of Control will [***];

(b) if Ionis is the acquired entity and the acquiring entity is [***], then Ionis will ensure that the acquiring entity establishes and implements Firewall Procedures to segregate and protect Confidential Information related to the Licensed Systems and Licensed Products from access to or use by the acquiring party other than as permitted by this Agreement; and

(c) if Metagenomi is the acquired entity and the acquiring entity is [***], then Metagenomi will ensure that the acquiring entity establishes and implements Firewall Procedures to segregate and protect Confidential Information related to the Licensed Systems, Licensed Products, and Ionis Background Technology from access to or use by the acquiring party other than as permitted by this Agreement.

Article 4
Governance

4.1. Joint Steering Committee.

4.1.1. Formation and Purpose of the JSC. Promptly, but no later than [***] after the Effective Date, the Parties will establish a Joint Steering Committee ("**JSC**"), which JSC will coordinate, oversee, and monitor the Parties' activities hereunder in accordance with this Section 4.1 (Joint Steering Committee). The JSC will have the responsibilities set forth herein and will have no further responsibilities (a) with respect to the Exploratory Research Program, upon the expiration of the Exploratory Research Term, and (b) with respect to any Drug Discovery Program, upon the expiration of the Drug Discovery Term for such Drug Discovery Program. Upon the latest to occur of (a)-(b), the JSC will be dissolved.

4.1.2. Membership. Each Party will designate [***] representatives with appropriate expertise and seniority to serve as members of the JSC, and who have the authority to bind such Party with respect to matters within the purview of the JSC. Each Party may replace its JSC representatives at any time upon written notice to the other Party. Metagenomi will designate one of its JSC members as one of the co-chairpersons of the JSC and Ionis will designate one of its members as the other co-chairperson of the JSC. Every [***] the co-chairpersons will alternate serving in the role of "lead co-chairperson." The lead co- chairperson or his or her designee, in collaboration with the Alliance Managers, will be responsible for calling meetings, preparing and circulating an agenda in advance of each meeting, and preparing and issuing minutes of each meeting within [***] thereafter. Such minutes will be deemed finalized unless any JSC member objects to the accuracy of such minutes no later than [***] after receipt of such minutes.

4.1.3. Meetings. The JSC will meet in person, by videoconference, or by teleconference at least once each [***], unless otherwise agreed by the Parties, on such dates and at such times and places as agreed to by the members of the JSC. The Alliance Manager of each Party will attend each meeting of the JSC as a non-voting participant. Each Party will be responsible for all of its own expenses in participating in any JSC meeting.

4.1.4. Meeting Agendas. Each Party will disclose to the other Party the proposed agenda items at least [***] in advance of each meeting of the JSC. Notwithstanding the foregoing, under exigent circumstances requiring JSC input, a Party may provide its agenda items to the other Party within a lesser period of time in advance of the meeting, or may propose that there not be a specific agenda for a particular meeting, so long as such other Party consents to such later addition of such agenda items or the absence of a specific agenda for such JSC meeting.

4.1.5. Specific Responsibilities of the JSC. The responsibilities of the JSC will be to:

(a) oversee the overall strategic relationship between the Parties;

(b) review, discuss, and determine whether it is technologically infeasible to Develop a Development Candidate for a given Collaboration Target, as described in Section 2.1.3(b) (Substitutions for Technological Infeasibility);

(c) review, discuss, and determine whether to approve each Drug Discovery Plan, and any updates thereto, pursuant to Section 2.2.2 (Additional Drug Discovery Plans) and Section 2.2.3 (Amendments to the Drug Discovery Plans);

(d) discuss and determine the [***] for the Second Wave 1 Target and each Proposed Target that is deemed a Collaboration Target under this Agreement pursuant to Section 2.1.4(c) (Effects if a Proposed Target is Available), as described in Section 2.2.4(b) (Selection of Gene Editing Modalities);

(e) review and discuss each Development Candidate Report and any other data or results provided by Metagenomi regarding therapeutic agents that meet the development candidate criteria set forth in a Drug Discovery Plan, pursuant to Section 2.2.6 (Delivery of Development Candidate; Development Candidate Report);

(f) review, discuss, and determine whether to approve any updates to the Exploratory Research Plan or Exploratory Research Budget, pursuant to Section 2.3.2 (Amendments to the Exploratory Research Plan);

(g) review and discuss each Collaboration Program Report, pursuant to Section 2.6.2 (Collaboration Program Reports);

(h) review and discuss the Regulatory Strategy for each Licensed Product, as described in Section 7.1 (Regulatory Responsibility);

(i) coordinate the wind-down of any Terminated Products in the Terminated Countries to the extent the JSC is still in effect at the time of the applicable termination notice, pursuant to Section 14.3.1 (Wind-Down); and

(j) perform such other functions as appropriate to further the purposes of this Agreement as determined by the Parties.

4.2. **Subcommittees**. From time to time, the JSC may establish and delegate duties, including any responsibilities of the JSC set forth in Section 4.1.5 (Specific Responsibilities of the JSC), to operational subcommittees (each, a "**Subcommittee**") on an "as-needed" basis to oversee particular projects or activities, which delegations will be reflected in the minutes of the meetings of the JSC. Such Subcommittees may be established on an *ad hoc* basis for purposes of a specific project, for the life of a Licensed Product, or on such other basis as the JSC may determine, and will be constituted and will operate as the JSC may determine; *provided* that each Subcommittee will have equal representation from each Party and decision making will be by consensus, with each Party's representatives on the applicable Subcommittee collectively having one vote on all matters brought before the Subcommittee. Each Subcommittee and its activities will be subject to the direction, review, and approval of, and, unless otherwise determined by the JSC, will report to, the JSC. For each Subcommittee, Ionis will designate one of its Subcommittee members to serve as the chairperson of such Subcommittee. The chairperson or his or her designee, in collaboration with the Alliance Managers, will be responsible for calling meetings, preparing and circulating an agenda in advance of each meeting, and preparing and issuing minutes of each meeting within [***] thereafter. Such minutes will not be finalized until all Subcommittee members have had an adequate opportunity to review and confirm the accuracy of such minutes. Each Party may replace its representatives on each such Subcommittee at any time upon written notice to the other Party. The Alliance Manager of each Party (or his or her designee) will attend each meeting of each Subcommittee as a non-voting participant. Each Subcommittee and its activities will be subject to the oversight of, and will report to, the JSC. Any disagreement between the representatives of the Parties on a Subcommittee will be referred to the JSC for resolution in accordance with Section 4.6 (Decision-Making).

4.3. **Joint Research Committee**.

4.3.1. **Formation and Purpose of the JRC**. Promptly, but no later than [***] after the creation of the JSC, the Parties will establish a Joint Research Committee ("**JRC**"), which JRC will coordinate, oversee, and monitor the Parties' research activities hereunder in accordance with this Section 4.3 (Joint Research Committee). The JRC will be deemed a "Subcommittee" as described in Section 4.2 (Subcommittees). The JRC will have the responsibilities set forth herein and will dissolve upon the earlier of (a) the dissolution of the JSC, (b) the expiration of the Collaboration Term, or (c) by mutual agreement between the Parties.

4.3.2. **Membership**. Each Party will designate [***] representatives with appropriate expertise and seniority to serve as members of the JRC, and who have the authority to bind such Party with respect to matters within the purview of the JRC.

4.3.3. **Specific Responsibilities of the JRC**. The responsibilities of the JRC will be to:

(a) coordinate the Collaboration Activities;

(b) develop, discuss, and submit to the JSC to further review, discuss, and determine whether to approve each Drug Discovery Plan, and any updates thereto, pursuant to Section 2.2.2 (Additional Drug Discovery Plans) and Section 2.2.3 (Amendments to the Drug Discovery Plans);

(c) develop, discuss, and submit to the JSC to further review, discuss, and determine whether to approve any updates to the Exploratory Research Plan or Exploratory Research Budget, pursuant to Section 2.3.2 (Amendments to the Exploratory Research Plan); and

(d) perform such other functions as determined by the JSC.

4.4. **Alliance Managers**. Each of the Parties will appoint a single individual to coordinate communications regarding the activities under this Agreement (each, an "**Alliance Manager**"). The role of the Alliance Manager is to act as a single point of contact between the Parties to ensure a successful relationship under this Agreement. The Alliance Managers will attend any JSC meetings. Alliance Managers will be non-voting participants in all JSC meetings that they attend; *provided*, *however*, that an Alliance Manager may bring any matter to the attention of the JSC if such Alliance Manager reasonably believes that such matter warrants such attention. Each Party will designate its initial Alliance Manager promptly after the Effective Date and each Party may change its designated Alliance Manager at any time upon written notice to the other Party. Any Alliance Manager may designate a substitute to temporarily perform the functions of that Alliance Manager by written notice to the other Party. Each Alliance Manager may also: (a) be the point of first referral in all matters of conflict resolution; (b) provide a single point of communication for seeking consensus between the Parties regarding key strategy and plan issues; (c) identify and bring disputes to the attention of the JSC in a timely manner; and (d) plan and coordinate cooperative efforts.

4.5. **Additional Participants**. Other employees of either Party or any of its Affiliates may attend meetings of the JSC or any Subcommittees as non-voting participants with prior written notice to the other Party (including via email notification). In addition, with the consent of each Party, consultants, representatives, or advisors may attend meetings of the JSC or any Subcommittees as non-voting observers; *provided*, *however*, that such Third Party participants and observers are under written obligations of confidentiality and non-use applicable to the Confidential Information of each Party that are at least as stringent as those set forth in Article 11 (Confidentiality).

4.6. **Decision-Making**.

4.6.1. **Committee Decisions**. Each Party's representatives on the JSC will, collectively, have one vote (the "**Party Vote**") on all matters brought before such committee for a decision by consensus. The JSC will make decisions as to matters within its jurisdiction by unanimous Party Vote, which Party Vote will be reflected in the minutes of the committee meeting. No vote will be binding on either Party unless each Party has at least one representative in attendance.

4.6.2. **Scope of Committee Authority**. For the avoidance of doubt, matters that are specified in this Article 4 (Governance) only to be reviewed and discussed (as opposed to reviewed, discussed, and approved) do not require any agreement or decision by either Party and are not subject to the voting and decision-making procedures set forth in this Section 4.6 (Decision-Making).

4.6.3. **Escalation**. If the representatives of Metagenomi and Ionis are unable to agree on or resolve any matter requiring the approval of the JSC after the use of good faith efforts, within [***] after the JSC first considers such matter then, at the election of either Party, such Party may refer such matter to the Party's respective Executive Officer. The Executive Officers will use good faith efforts to resolve any such disagreement so referred to them as soon as practicable, and any final decision that the Executive Officers agree to in writing will be conclusive and binding on the Parties. If the Executive Officers are unable to resolve any such disagreement so referred to them within [***] following such referral (or such longer period as the Executive Officers may agree upon), then:

(a) **Ionis Final Decision-Making Authority**. Ionis will have the right to make the final decision regarding [***].

(b) **Resolution by Baseball Arbitration**. Except for those matters set forth in Section 4.6.3(a) (Ionis Final Decision-Making Authority), either Party may refer the matter for resolution pursuant to Section 15.1.3 (Expedited Dispute Resolution).

4.6.4. **General Authority**. The JSC and any Subcommittees will have solely the powers expressly assigned to them in this Article 4 (Governance) and elsewhere in this Agreement. In conducting themselves on the JSC, any Subcommittees, and as Alliance Managers, and in exercising their rights under this Article 4 (Governance), all representatives of each Party will consider diligently, reasonably, and in good faith all input received from the other Party, and will use good faith efforts to reach unanimity, where required, on all matters before them. Notwithstanding anything to the contrary set forth in this Agreement, the JSC, and any Subcommittees will not have the right to make any decisions: (a) to amend, modify, or waive compliance with any term or condition of this Agreement; (b) in a manner that negates any consent right or other right specifically allocated to a Party under this Agreement; (c) to resolve any dispute involving the breach or alleged breach of this Agreement; (d) to resolve a matter if the provisions of this Agreement specify that agreement of the Parties, including consent of each Party, is required for such matter; (e) in a manner that a Party reasonably believes would require it to perform any act that would cause such Party to violate any Applicable Law or the requirements of any Regulatory Authority, or otherwise breach any of its obligations hereunder; or (f) that otherwise expand the rights or reduce the obligations of either Party under this Agreement.

Article 5
Co-Development and Co-Commercialization Options

5.1. Co-Development and Co-Commercialization Options.

5.1.1. Option Grant. Ionis hereby grants to Metagenomi the exclusive option to co-Develop and co-Commercialize with Ionis the Licensed Products under a Drug Discovery Program (a "**Co-Co Option**"), which Co-Co Option may be exercised for (a) [***], (b) no more than [***] of the other [***] Drug Discovery Programs for the Wave 1 Targets, and (c) no more than [***] Drug Discovery Programs for the Wave 2 Targets that become Collaboration Targets.

5.1.2. Option Period. On a Drug Discovery Program-by-Drug Discovery Program basis, Metagenomi may exercise a Co-Co Option for a Drug Discovery Program by delivering written notice to Ionis of such exercise at any time during the [***] period after the selection of [***] for such Drug Discovery Program (such notice, the "**Co-Co Option Notice**", and such [***] period, the "**Co-Co Option Period**"). Notwithstanding the foregoing, Metagenomi may terminate the Co-Co Option Period for a Drug Discovery Program early by providing written notice to Ionis at any time during such [***] period that Metagenomi does not elect to exercise its Co-Co Option for such Drug Discovery Program and, upon Ionis' receipt of any such written notice the Co-Co Option Period for such Drug Discovery Program, the Co-Co Option Period for such Drug Discovery Program will be deemed to have expired and Metagenomi may not thereafter exercise the Co-Co Option for such Drug Discovery Program. No more than [***] at Metagenomi's request during the Co-Co Option Period for a Drug Discovery Program, Ionis will provide Metagenomi with [***] ("**Option Package**"). For clarity, Ionis will not be required to generate any additional data or information that is not in existence as of the date of Metagenomi's request for an Option Package.

5.1.3. Option Exercise. If Metagenomi decides to exercise the Co-Co Option for a particular Drug Discovery Program, then it will deliver written notice to Ionis of such determination during the applicable Co-Co Option Period, which notice will indicate the Drug Discovery Program for which Metagenomi elects to exercise the Co-Co Option, and (a) the Drug Discovery Program for which Metagenomi is exercising its Co-Co Option will automatically be deemed a "Co-Co Program" and all Licensed Products under such Drug Discovery Program will automatically be deemed "Co-Co Products," (b) Metagenomi will pay Ionis the Option Exercise Fee for such Co-Co Program pursuant to Section 9.3 (Option Exercise Fee), and (c) the Parties will enter into a Co-Development and Co- Commercialization Agreement for such Co-Co Program in accordance with Section 5.2 (Development and Commercialization of the Co-Co Products; Opt-Down Right). Any Drug Discovery Program for which Metagenomi does not exercise a Co-Co Option prior to the expiration of the applicable Co-Co Option Period will automatically be deemed an "Ionis Program" and all Licensed Products under such Drug Discovery Program will automatically be deemed "Ionis Products" and Ionis will have sole control under the Development and Commercialization of such Ionis Products in accordance with Article 6 (Development and Commercialization of the Ionis Products).

5.2. **Development and Commercialization of the Co-Co Products; Opt-Down Right**. On a Co-Co Program-by-Co-Co Program basis, promptly after Metagenomi exercises a Co-Co Option for a Co- Co Program, the Parties will negotiate in good faith the terms of a worldwide, co-exclusive (with Ionis) co-Development and co-Commercialization agreement (the "**Co-Development and Co- Commercialization Agreement**"), which terms and conditions will be reasonable and customary for agreements of this type and will include a requirement that the Parties share all future Development, Commercialization, and other Exploitation costs and all future profits with respect to the applicable Co-Co Products, with the Parties bearing the share of such costs [***] and Ionis being responsible for booking and recording revenue and on terms to be specified in the Co- Development and Co-Commercialization Agreement; *provided*, that [***]. Each Co-Development and Co-Commercialization Agreement will include: (i) the right for Metagenomi to, upon written notice to Ionis, reduce its share of any costs borne under the applicable Co-Co Program from [***]% to any percentage between [***]% and [***]% and Ionis' share of such costs will increase accordingly (such option, the "**Opt-Down Right**"); *provided* that Metagenomi will continue to bear [***]% of the costs of [***], (ii) each Party will receive a share of profits equal to the percentage of costs funded by such Party following the exercise of the Opt-Down Right based on the percentage of costs that Metagenomi commits to funding in its notice of exercise of its Opt-Down Right, and (iii) Metagenomi may only exercise the Opt-Down Right during the period beginning no earlier than [***] and no later than [***] prior to the [***]. Until the Parties execute the Co-Development and Co-Commercialization Agreement, Ionis will continue to conduct and will be solely responsible for, and continue to have sole and exclusive control over, the Development and Manufacture of the applicable Co-Co Products.

5.3. **Escalation Procedure**. If the Parties, despite their good faith negotiations, are unable to agree on the terms and conditions of any Co-Development and Co-Commercialization Agreement within [***] of the date of the applicable Co-Co Option Notice (or such longer time as mutually agreed by the Parties), then either Party may refer those terms and conditions to which they have not mutually agreed to the Executive Officers, who will use reasonable efforts to reach agreement on such terms and conditions. If such Executive Officers are unable to reach consensus with respect to such terms and conditions within [***] after such referral, then either Party may notify the other Party of its intent to invoke dispute resolution under Section 15.1.3 (Expedited Dispute Resolution).

5.4. **Metagenomi Opt-Out**. On a Co-Co Program-by-Co-Co Program basis, Metagenomi will have the right to opt-out of its rights and obligations under this Agreement to the extent related to the Exploitation of the Co-Co Products under such Co-Co Program and the applicable Co- Development and Co-Commercialization Agreement for a Co-Co Program (each such right, an "**Opt-Out Right**"). Metagenomi may exercise the Opt-Out Right for a Co-Co Program by providing written notice to Ionis of such election no later than [***] after [***] (the "**Opt-Out Period**"). If Metagenomi exercises the Opt-Out Right for a Co-Co Program during the applicable Opt-Out Period pursuant to this Section 5.4 (Metagenomi Opt-Out), then from and after the date that is the later of (a) [***] or (b) [***] (the "**Opt-Out Date**"), (i) the applicable Co-Development and Co- Commercialization Agreement will terminate and Ionis will have sole control over, and sole decision-making authority with respect to, at its cost and expense, the Development, Commercialization, and other Exploitation of the Licensed Products under such Drug Discovery Program, (ii) the Licensed Products under such Drug Discovery Program will be deemed to be "Ionis Products" and such Drug Discovery Program will be deemed to be an "Ionis Program", in each case, from and after the Opt-Out Date, (iii) [***], (iv) Ionis will [***], and (v) Metagenomi will [***].

Article 6
Development and Commercialization of the Ionis Products

6.1. **Development**.

6.1.1. **General**. On an Ionis Program-by-Ionis Program basis, from and after expiration of the Drug Discovery Term for an Ionis Product, Ionis will have sole control over, and sole decision-making authority with respect to, at its cost and expense, the Development of, and the performance of all Medical Affairs with respect to, such Ionis Product in the Field in the Territory.

6.1.2. **Reporting for the Ionis Products**. On an Ionis Program-by-Ionis Program basis, during the period after [***], [***] per [***], Ionis will provide Metagenomi with a reasonably detailed report regarding the status of Ionis' Development of the Ionis Products for such Ionis Program. At Metagenomi's reasonable request, no more than [***] per [***], the Parties will meet to discuss the Development of the Ionis Products.

6.1.3. **Development Diligence for the Ionis Products**. Ionis (acting directly or through one or more Affiliates or Sublicensees) will use Commercially Reasonable Efforts to Develop and seek Regulatory Approval for [***].

6.2. **Commercialization**.

6.2.1. **General**. Ionis will have sole control over, and sole decision-making authority with respect to, at its cost and expense, the Commercialization of the Ionis Products in the Field in the Territory.

6.2.2. **Commercialization Diligence for the Ionis Products**. Following receipt by or on behalf of Ionis of Regulatory Approval for an Ionis Product in a country, Ionis (acting directly or through one or more Affiliates or Sublicensees) will use Commercially Reasonable Efforts to Commercialize such Ionis Product in such country.

Article 7
Regulatory Affairs

7.1. **Regulatory Responsibility**. From and after the Effective Date, as between the Parties, Ionis will be responsible for the preparation and submission of all Regulatory Submissions (including all meetings with Regulatory Authorities in connection with the same) for all Licensed Products, but, for clarity, not including Regulatory Submissions that relate to proprietary Metagenomi components of Licensed Products to which Ionis will have a right of reference pursuant to Section 7.2 (Right of Reference), [***]; *provided* that Metagenomi will assist Ionis or any of its Affiliates or Sublicensees in its efforts to prepare and submit any such Regulatory Submissions in accordance with this Article 7 (Regulatory Affairs). Ionis or any of its Affiliates or Sublicensees may file all such applications in its own name (or in the name of its designee) and will own and control all such applications. On a Drug Discovery Program-by-Drug Discovery Program basis, at Ionis' request at any time after a Development Candidate is selected for a Drug Discovery Program, the JSC will discuss a high-level regulatory strategy for such Drug Discovery Program ("**Regulatory Strategy**"), which strategy will leverage Metagenomi's expertise with Regulatory Submissions for products that are similar to the Licensed Product. For clarity, the JSC will not have any approval rights with respect to the Regulatory Strategy for any Drug Discovery Program and Ionis will have sole control over, and sole decision-making authority with respect to, the Regulatory Submissions for the Licensed Products. Notwithstanding the foregoing, if Metagenomi exercises the Co-Co Option for one or more Drug Discovery Programs in accordance with Section 5.1 (Co-Development and Co-Commercialization Options), then all Regulatory Submissions with respect to any Co-Co Product will be prepared in accordance with the terms set forth in the applicable Co-Development and Co-Commercialization Agreement.

7.2. Right of Reference.

7.2.1. Grant. Metagenomi will grant, and hereby does grant, to Ionis and its Affiliates and Sublicensees a "Right of Reference," as that term is defined in 21 C.F.R. § 314.3(b) (or any successor rule or analogous Applicable Law recognized outside of the United States), to all Regulatory Submissions (including any drug master files) submitted by or on behalf of and Controlled by Metagenomi or any of its Affiliates that are necessary or reasonably useful to support any Regulatory Submissions for a Licensed Product to be made by Ionis, its Affiliates, or Sublicensees in the Field in the Territory.

7.2.2. Assistance; Cooperation. Ionis and its Affiliates and Sublicensees may use such right of reference solely for the purpose of seeking, obtaining, supporting, and maintaining Regulatory Approval for the Licensed Products in the Field in the Territory. Metagenomi will use Commercially Reasonable Efforts to take such actions as may be reasonably requested by Ionis to give effect to the intent of this Section 7.2 (Right of Reference), including, if requested by Ionis, (a) [***], and (b) [***]. [***] incurred by Metagenomi in performing any activities requested by Ionis pursuant to this Section 7.2.2 (Assistance; Cooperation) will be reimbursed in accordance with Section 3.4.4 (Costs of Support).

7.3. Regulatory Support.

7.3.1. Access to Data. Metagenomi will use Commercially Reasonable Efforts to assist Ionis or any of its Affiliates or Sublicensees in its efforts to prepare and submit any Regulatory Submissions to obtain, support, or maintain Regulatory Approvals for all Licensed Products in the Field in the Territory, including by providing Ionis with all data, written reports, and other documentation generated by or on behalf of Metagenomi under the Drug Discovery Programs that is necessary or reasonably useful to support any Regulatory Submissions for a Licensed Product, as well as any necessary samples and materials. Unless otherwise noted in the Development Supply Agreement or the Commercial Supply Agreement, the costs of Metagenomi providing such support will be reimbursed in accordance with Section 3.4.4 (Costs of Support).

7.3.2. Review of Regulatory Submissions. Ionis may (but, for clarity, is not required to) provide drafts of any INDs or other Regulatory Submissions for the Licensed Products to Metagenomi prior to submission to the applicable Regulatory Authority for Metagenomi to review and provide comments. Metagenomi will use Commercially Reasonable Efforts to review and provide any such requested comments in a timely manner and the costs of such support will be reimbursed in accordance with Section 3.4.4 (Costs of Support).

Article 8
Manufacturing

8.1. **Metagenomi Manufacturing Responsibilities**.

8.1.1. **Metagenomi Supply Term**. Subject to Section 8.4 (Ionis' Assumption of Manufacturing Responsibilities), on a Drug Discovery Program-by-Drug Discovery Program basis, commencing on [***] and continuing until [***], or such other period as mutually agreed upon by the Parties (the "**Metagenomi Supply Term**"), Metagenomi will Manufacture (a) [***] (collectively, the "**MG Manufactured Components**"), in each case, that are needed by Ionis for use in its Development activities pursuant to the terms of a development supply agreement (the "**Development Supply Agreement**") to be entered into between the Parties and (b) [***] MG Manufactured Components needed by Ionis for use in its Commercialization activities pursuant to the terms of a commercial supply agreement (the "**Commercial Supply Agreement**") to be entered into between the Parties. Under the Development Supply Agreement and the Commercial Supply Agreement, Metagenomi will provide the MG Manufactured Components at [***] (the "**Supply Price**").

8.1.2. **Requested CMO**. If Metagenomi is, at any point during the Metagenomi Supply Term, Manufacturing any MG Manufactured Components without engaging a CMO, then Ionis may, upon written notice to Metagenomi, require Metagenomi to engage a CMO mutually agreeable to the Parties to conduct Manufacturing under this Agreement (such CMO, the "**Requested CMO**"). Within [***] of Metagenomi's receipt of such notice requesting Metagenomi engage a Requested CMO, Metagenomi will in good faith negotiate and enter into a written agreement with such Requested CMO for the purposes of Manufacturing the MG Manufactured Components (such agreement, the "**Requested CMO Contract**") and conduct a transfer of the Manufacturing Know-How to such Requested CMO and otherwise facilitate implementation of such Manufacturing Know-How, in each case, in a manner consistent with Metagenomi's rights and obligations with respect to the Manufacturing Technology Transfer described in Section 8.5 (Manufacturing After the Metagenomi Supply Term). Metagenomi will ensure that the Requested CMO Contract is expressly and freely assignable to and assumable by Ionis without the consent of the Requested CMO. Metagenomi will provide a draft of the Requested CMO Contract to Ionis prior to executing such Requested CMO Contract for review and comment and will incorporate Ionis' reasonable comments. If Metagenomi does not engage the Requested CMO within [***] of its receipt of notice requiring the engagement of such Requested CMO, then Ionis may terminate the Metagenomi Supply Term and assume all Manufacturing responsibilities for the MG Manufactured Components.

8.2. **Development Supply Agreement**. At such time as directed by the JSC, the Parties will negotiate in good faith the terms of the Development Supply Agreement, and a related quality agreement, which agreements will govern the terms and conditions of the Manufacturing of the MG Manufactured Components for Development purposes; *provided* that if Ionis needs any MG Manufactured Components for its Development activities prior to the Parties entering into the Development Supply Agreement, then Metagenomi will supply such MG Manufactured Components on a per-batch basis and Ionis will pay Metagenomi on a per-batch basis at the Supply Price for each such batch. The Development Supply Agreement and the related quality agreement will include terms and conditions consistent with the principles set forth on Schedule 8.2 (Development Supply Agreement Key Terms).

8.3. **Commercial Supply Agreement**. At such time as directed by the JSC, the Parties will negotiate in good faith the terms of the Commercial Supply Agreement, and a related quality agreement, which agreements will govern the terms and conditions of the Manufacturing of the MG Manufactured Components for Commercialization purposes. The Commercial Supply Agreement and the related quality agreement will include terms and conditions consistent with the principles set forth on Schedule 8.2 (Development Supply Agreement Key Terms), with such modifications that are reasonable and appropriate for a commercial supply.

8.4. [***] **Manufacturing Responsibilities**. If, (a) [***], or (b) [***], then, in either case, [***]. For clarity, [***].

8.5. **Manufacturing After the Metagenomi Supply Term**. If Ionis assumes all Manufacturing responsibilities for the MG Manufactured Components [***] or the Metagenomi Supply Term otherwise expires, then from and after such date, Ionis will have sole control over and sole decision-making authority with respect to, at its cost and expense, all Manufacturing activities for the MG Manufactured Components; *provided* that, at Ionis' request, Metagenomi will continue to Manufacture and supply MG Manufactured Components to Ionis pursuant to the Development Supply Agreement or Commercial Supply Agreement (as applicable) until the earlier of [***] or [***]. Promptly upon Ionis' request after expiration of the Metagenomi Supply Term, Metagenomi will, if and as requested, assign the Requested CMO Contract to Ionis and effect a transfer to Ionis or its designee(s) (which designee may be an Affiliate or a Third Party manufacturer, and which Third Party manufacturer may be a primary, backup, or second manufacturer of such MG Manufactured Component) of all Licensed Know-How that is necessary or reasonably useful to enable the Manufacture of each MG Manufactured Component (the "**Manufacturing Know-How**") and to facilitate implementation of the Manufacturing Know-How at facilities designated by Ionis (such transfer and implementation, as more fully described in this Section 8.5 (Manufacturing After the Metagenomi Supply Period), the "**Manufacturing Technology Transfer**"). Metagenomi will provide all reasonable assistance requested by Ionis to enable Ionis (or its Affiliate or designated Third Party manufacturer, as applicable) to implement the Manufacturing Know-How at the facilities designated by Ionis. If reasonably requested by Ionis, such assistance will include [***]. Without limiting the foregoing, in connection with the Manufacturing Technology Transfer, Metagenomi will cause all appropriate employees and representatives of Metagenomi and its Affiliates to meet with employees or representatives of Ionis (or its Affiliate or designated Third Party manufacturer, as applicable) at the applicable manufacturing facility at mutually convenient times to assist with the working up and use of the Manufacturing Know-How and with the training of the personnel of Ionis (or its Affiliate or designated Third Party manufacturer(s), as applicable) to the extent reasonably necessary to enable Ionis (or its Affiliate or designated Third Party manufacturer(s), as applicable) to use and practice the Manufacturing Know-How. Each Party will be responsible for its own costs and expenses incurred in conducting the Manufacturing Technology Transfer.

Article 9
Consideration; Financial Terms

9.1. **Upfront Payment**. Ionis will pay Metagenomi a one-time upfront payment of $80,000,000 (the "**Upfront Payment**") no later than [***] after the Effective Date. The Upfront Payment is non- creditable and non-refundable.

9.2. [***]. On a [***] Target-by-[***] Target basis, promptly following [***] in accordance with Section 2.1.4(c) (Effects if a Proposed Target is Available), Metagenomi will invoice Ionis for the applicable amount set forth in Table 9.2, which amount will be based on [***] (each such payment, a "[***]"). Ionis will pay such [***] no later than [***] after receipt of such invoice. For clarity, each [***] is only payable once for each [***].

Table 9.2 – [***]

[***]	[***]
[***]	$[***]
[***]	$[***]
[***]	$[***]

In order for [***] of Table 9.2 to apply, Metagenomi must (a) [***] and (b) [***].

9.3. **Option Exercise Fee**. On a Drug Discovery Program-by-Drug Discovery Program basis, if Metagenomi exercises a Co-Co Option for a Drug Discovery Program during the applicable Co- Co Option Period in accordance with Section 5.1.3 (Option Exercise), then Metagenomi will [***] in accordance with the terms set forth in this Section 9.3 (Option Exercise Fee), [***] (such amount, the "**Option Exercise Fee**" for such Drug Discovery Program). No later than [***] after the date on which Metagenomi exercises a Co-Co Option for a Drug Discovery Program, each Party will [***], Ionis will invoice Metagenomi for the Option Exercise Fee [***] and Metagenomi will pay the Option Exercise Fee no later than [***] after receipt of Ionis' invoice.

9.4. **Ionis Product Milestone Payments**.

9.4.1. **Ionis Product Development Milestone Payments**. Subject to the terms and conditions of this Agreement, including Section 9.5 (Ionis Products for [***] Target Populations), (a) with respect to the [***] set forth below, on an Ionis Program-by-Ionis Program basis and (b) with respect to the [***] set forth below, on an Ionis Product-by-Ionis Product basis, Ionis will pay one-time milestone payments to Metagenomi of the amounts set forth in Table 9.4.1 (each, an "**Ionis Product Development Milestone Payment**") upon the first achievement by Ionis or any of its Affiliates or Sublicensees of each of the development milestone events set forth in Table 9.4.1 (each, an "**Ionis Product Development Milestone Event**") for each Ionis Program or Ionis Product (as applicable); *provided* that, with respect to the [***] set forth below, on an Ionis Program-by-Ionis Program basis, if more than one Ionis Product for the same Ionis Program achieve an Ionis Product Development Milestone Event, then [***]. Each Ionis Product Development Milestone Payment is payable only once for each Ionis Program or Ionis Product (as applicable), regardless of the number of times the corresponding Ionis Product Development Milestone Event is achieved for such Ionis Program or Ionis Product (as applicable). If Ionis or its Affiliates or Sublicensees achieve all of the Ionis Product Development Milestone Events for an Ionis Product, then the Ionis Product Development Milestone Payments payable by Ionis under this Section 9.4.1 (Ionis Product Development Milestone Payments) for such Ionis Product will not exceed $[***].

Table 9.4.1 – Ionis Product Development Milestones	
Ionis Product Development Milestone Event	**Ionis Product Development Milestone Payment**
1. [***]	$[***]
2. [***]	$[***]
3. [***]	$[***]

9.4.2. **Ionis Product Regulatory Milestone Payments**. Subject to the terms and conditions of this Agreement, including Section 9.5 (Ionis Products for [***] Target Populations), on an Ionis Product-by-Ionis Product basis, Ionis will pay one-time milestone payments to Metagenomi of the amounts set forth in Table 9.4.2 (each, an "**Ionis Product Regulatory Milestone Payment**") upon the first achievement by Ionis or any its Affiliates or Sublicensees of each of the regulatory milestone events set forth in Table 9.4.2 (each, an "**Ionis Product Regulatory Milestone Event**") by an Ionis Product. Each Ionis Product Regulatory Milestone Payment is payable only once for each Ionis Product, regardless of the number of times the corresponding Ionis Product Regulatory Milestone Event is achieved for an Ionis Product. If Ionis or its Affiliates or Sublicensees achieve all of the Ionis Product Regulatory Milestone Events for an Ionis Product, then the Ionis Product Regulatory Milestone Payments payable by Ionis under this Section 9.4.2 (Ionis Product Regulatory Milestone Payments) for such Ionis Product will not exceed $[***].

Table 9.4.2 – Ionis Product Regulatory Milestones	
Ionis Product Regulatory Milestone Event	**Ionis Product Regulatory Milestone Payment**
1. [***]	$[***]
2. [***]	$[***]

9.4.3. **Ionis Product Sales Milestone Payments**. Subject to the terms and conditions of this Agreement, including Section 9.5 (Ionis Products for [***] Target Populations), on an Ionis Product-by-Ionis Product basis, Ionis will pay one-time milestone payments to Metagenomi of the amounts set forth in Table 9.4.3 (each, an "**Ionis Product Sales Milestone Payment**") upon the first achievement by Ionis or any of its Affiliates or Sublicensees of each of the sales milestone events set forth in Table 9.4.3 (each, an "**Ionis Product Sales Milestone Event**") for an Ionis Product. Each Ionis Product Sales Milestone Payment is payable only once for each Ionis Product, regardless of the number of times the corresponding Ionis Product Sales Milestone Event is achieved for an Ionis Product. If Ionis or its Affiliates or Sublicensees achieve all of the Ionis Product Sales Milestone Events for an Ionis Product, then the Ionis Product Sales Milestone Payments payable by Ionis under this Section 9.4.3 (Ionis Product Sales Milestone Payments) for such Ionis Product will not exceed $[***].

Table 9.4.3 – Ionis Product Sales Milestones

Ionis Product Sales Milestone Event	Ionis Product Sales Milestone Payment
1. The first Calendar Year in which the aggregate Net Sales for an Ionis Product exceed $[***]	$[***]
2. The first Calendar Year in which the aggregate Net Sales for an Ionis Product exceed $[***]	$[***]
3. The first Calendar Year in which the aggregate Net Sales for an Ionis Product exceed $[***]	$[***]
4. The first Calendar Year in which the aggregate Net Sales for an Ionis Product exceed $[***]	$[***]

9.4.4. **Notice; Payment; Skipped Milestones**. Ionis will provide Metagenomi with written notice upon the achievement of each Ionis Product Development Milestone Event, Ionis Product Regulatory Milestone Event, and Ionis Product Sales Milestone Event, such written notice to be provided (a) with respect to any Ionis Product Development Milestone Event or Ionis Product Regulatory Milestone Event within [***] after such achievement and (b) with respect to any Ionis Product Sales Milestone Event, on or prior to the date of delivery of the Ionis Royalty Report under Section 9.6.4 (Ionis Royalty Reports) for the Calendar Year in which such milestone event is first achieved. Following receipt of such written notice, Metagenomi will promptly invoice Ionis for the applicable milestone payment and Ionis will make the appropriate milestone payment within [***] after receipt of such invoice; *provided* that with respect to the first Ionis Product Development Milestone Event (for selection of the first Development Candidate for an Ionis Program), Metagenomi may only invoice Ionis after [***], and Ionis will have no obligation to make any payment with respect to such Ionis Product Development Milestone Event unless [***] and Metagenomi provides Ionis with an invoice for the applicable amount. Each Ionis Product Development Milestone Event is intended to be successive. If any Ionis Product Development Milestone Event does not occur with respect to an Ionis Product for an Ionis Program, then such skipped milestone event will be deemed to have been achieved upon the achievement of the next successive milestone event with respect to an Ionis Product for such Ionis Program. Payment for any such skipped milestone that is owed in accordance with the provisions of the foregoing sentence will be due concurrently with the payment for the next successive Ionis Product Development Milestone Event. If more than one Ionis Product Sales Milestone Event occurs with respect to an Ionis Product in the same Calendar Year, then payments with respect to all applicable Ionis Product Sales Milestone Events will be paid for such Calendar Year.

9.5. **Ionis Products for** [***] **Target Populations**. If an Ionis Product is intended to treat target populations with [***] (each such population, [***] "[***] **Target Population**"), then Ionis will notify Metagenomi and [***], in each case, for such Ionis Product, which [***].

9.6. **Ionis Product Royalty Payments**.

9.6.1. **Ionis Royalty Rates**. Subject to the terms and conditions of this Agreement, including the provisions of Section 9.6.2. (Adjustments to Ionis Royalties), on an Ionis Product-by-Ionis Product basis, Ionis will pay Metagenomi royalties based on the aggregate Annual Net Sales of each Ionis Product at the rates set forth in Table 9.6.1. On an Ionis Product-by- Ionis Product and country-by-county basis such royalties will be payable until the expiration of the applicable Royalty Term for each Ionis Product in such country. The royalty payments made pursuant to this Section 9.6.1 (Ionis Royalty Rates), the "**Ionis Royalties**" and the rates set forth in Table 9.6.1, the "**Ionis Royalty Rates**."

Table 9.6.1 – Royalty Rates for Ionis Products

Annual Net Sales of an Ionis Product in the Territory	**Royalty Rate as a Percentage of Net Sales**
Portion of Annual Net Sales of each Ionis Product that is less than or equal to $[***]	[***]%
Portion of Annual Net Sales of each Ionis Product that is greater than $[***], and less than or equal to $[***]	[***]%
Portion of Annual Net Sales for each Ionis Product that is greater than $[***], and less than or equal to $[***]	[***]%
Portion of Annual Net Sales of each Ionis Product that is greater than $[***]	[***]%

By way of example only, if the Annual Net Sales for an Ionis Product are $[***] for a given Calendar Year, then the Ionis Royalties payable with respect to such Annual Net Sales for such Ionis Product in such Calendar Year, subject to adjustment as set forth in Section 9.6.2 (Adjustment to Ionis Royalties) would be: [***]. For the avoidance of doubt, the obligation to pay Ionis Royalties will be imposed only once with respect to the same unit of an Ionis Product.

9.6.2. **Adjustments to Ionis Royalties**.

(a) **Expiration of Valid Claims**. Subject to Section 9.6.3 (Cumulative Effect of Ionis Royalty Reductions), on an Ionis Product-by-Ionis Product and country-by- country basis in the Territory, if during the Royalty Term for an Ionis Product in a given country there is no Valid Claim of a Royalty Bearing Patent Right Covering such Ionis Product in such country, then commencing in the first Calendar Quarter after the date on which this Section 9.6.2(a) (Expiration of Valid Claims) applies and for the remainder of the Royalty Term for such Ionis Product in such country, the Annual Net Sales for such Ionis Product in such country will be reduced by [***]% for purposes of calculating the Ionis Royalties owed under Section 9.6.1 (Ionis Royalty Rates).

(b) **Biosimilar Product**. Subject to Section 9.6.3 (Cumulative Effect of Ionis Royalty Reductions), if, on an Ionis Product-by-Ionis Product and country-by-country basis, a Biosimilar Product with respect to an Ionis Product is approved for sale in a country, then commencing in the Calendar Quarter in which such approval was obtained and continuing for the remainder of the Royalty Term for such Ionis Product in such country, the Annual Net Sales for such Ionis Product in such country will be reduced by [***]% for purposes of calculating the Ionis Royalties owed under Section 9.6.1 (Ionis Royalty Rates).

(c) **Third Party Payments**. Subject to Section 9.6.3 (Cumulative Effect of Ionis Royalty Reductions), Ionis will be entitled to credit against the Ionis Royalties due to Metagenomi in a given Calendar Quarter [***]% of (i) [***] that are actually paid by Ionis or any of its Affiliates or Sublicensees to any Third Party in consideration for rights under any Patent Right, Know-How, or other intellectual property owned or controlled by such Third Party (whether by acquisition or license) (such rights, "**Third Party IP**") that is acquired or licensed by Ionis or any of its Affiliates or Sublicensees after the Effective Date, and [***] for Ionis or any of its Affiliates or Sublicensees to Exploit a Development Candidate as such Development Candidate exists as of the date of expiration of the Drug Discovery Term for the applicable Drug Discovery Program, and (ii) [***] (such amount in (i) or (ii), the "**Third Party Payment**"). Notwithstanding the foregoing, Third Party Payment shall exclude [***].

9.6.3. Cumulative Effect of Ionis Royalty Reductions. In no event will the royalty reductions for Ionis Products permitted under Section 9.6.2(a) (Expiration of Valid Claims), Section 9.6.2(b) (Biosimilar Product), or Section 9.6.2(c) (Third Party Payments), alone or together, reduce the Ionis Royalties due to Metagenomi for an Ionis Product in a given Calendar Quarter by more than [***]% of the applicable Ionis Royalties that would otherwise be owed on the Annual Net Sales of such Ionis Product. If Ionis would, but for the restriction set forth in this Section 9.6.3 (Cumulative Effect of Ionis Royalty Reductions), have the right to reduce the Ionis Royalties due to Metagenomi by more than [***]%, then [***].

9.6.4. Ionis Royalty Reports. Commencing on the First Commercial Sale of an Ionis Product and for so long as Ionis Royalties are due under this Agreement, no later than (a) [***] prior to the start of each Calendar Year, Ionis will deliver a written good faith non-binding estimate to Metagenomi of the projected Net Sales for the upcoming Calendar Year, (b) [***] after the end of each Calendar Quarter, Ionis will deliver a written good faith non- binding estimate to Metagenomi of the Net Sales in the relevant Calendar Quarter and the Ionis Royalties payable on such Net Sales, and (c) [***] after the end of each Calendar Quarter, Ionis will deliver a written report (each, an "**Ionis Royalty Report**") to Metagenomi specifying on an Ionis Product-by-Ionis Product and country-by-country basis: (i) Net Sales in the relevant Calendar Quarter; (ii) to the extent such Net Sales include sales not denoted in US Dollars, a summary of the then-current exchange rate methodology(ies) used for the calculation of Net Sales in accordance with Section 9.14 (Currency of Payment; Non-Refundable Payments); (iii) the Ionis Royalties payable on such Net Sales; and (iv) if applicable, the Ionis Product Sales Milestone Payments owed to Metagenomi in the relevant Calendar Quarter. All Ionis Royalty Reports will be the Confidential Information of Ionis. Ionis will pay the Ionis Royalties for each Calendar Quarter no later than [***] after receipt of an invoice from Metagenomi, which invoice will be provided promptly following Metagenomi's receipt of each Ionis Royalty Report from Ionis pursuant to this Section 9.6.4 (Ionis Royalty Reports). For clarity, the submission by Metagenomi of an invoice to Ionis based on an Ionis Royalty Report will be without prejudice to Metagenomi's right to dispute an Ionis Royalty Report or to audit an Ionis Royalty Report pursuant to Section 9.13 (Records and Audits).

9.7. Existing In-License Agreements.

9.7.1. Effective Date Licensed Technology; Existing Metagenomi In-License Agreements. Metagenomi hereby represents and warrants that none of the Licensed Technology Controlled by Metagenomi as of the Effective Date is in-licensed or acquired by Metagenomi under agreements with Third Party licensors or sellers. On a Collaboration Target-by-Collaboration Target basis, if any Patent Rights or Know-How, as of the date a Proposed Target becoming a Collaboration Target pursuant to Section 2.1.4(c) (Effects if a Proposed Target is Available), have been acquired or in-licensed by Metagenomi and if solely owned by Metagenomi without any encumbrance or restriction on licensing, would constitute Licensed Technology as a result of such Proposed Target becoming a Collaboration Target pursuant to Section 2.1.4(c) (Effects if a Proposed Target is Available) (any such agreement, an "**Existing Potential Metagenomi In-License Agreement**"), then Metagenomi will, within [***] of the applicable Proposed Target becoming a Collaboration Target, provide Ionis with (a) notice and a copy of such Existing Potential Metagenomi In-License Agreements (which may be redacted to exclude provisions thereof that would not be applicable to Ionis as a licensee or sublicensee (as the case may be)), and (b) any disclosures that would be made against the representations and warranties in Section 12.2 (Additional Representations of Metagenomi) if such Existing Potential Metagenomi In-License Agreements were to become Metagenomi In-License Agreements. If Ionis provides written notice, within [***] of receipt of such information from Metagenomi, that it would like to have any such Existing Potential Metagenomi In- License Agreement included in the licenses granted under this Agreement and be subject to the terms of such Existing Potential Metagenomi In-License Agreement that are applicable to a licensee or sublicensee (as the case may be) thereunder, then such intellectual property rights described in such notice will automatically be deemed included in the Licensed Technology, and such Existing Potential Metagenomi In-License Agreement will be considered a Metagenomi In-License Agreement. Except as otherwise provided in this Agreement, as between the Parties, [***] will be responsible for all payments that arise under any license or other agreement to which Metagenomi or its Affiliate is a party, including any Metagenomi In-License Agreement, in connection with this Agreement, including with respect to the Development, Manufacture, and Commercialization of Licensed Products.

9.7.2. Existing Potential Ionis In-License Agreements. With respect to any Patent Rights or Know-How that are the subject of an Ionis IP Option and are in-licensed or acquired by Ionis from any Third Party as of the applicable Ionis IP Option Effective Date (any such agreement, an "**Existing Potential Ionis In-License Agreement**"), Ionis will, within [***] of the applicable Ionis IP Option Effective Date, provide Metagenomi with notice and a copy of each such Existing Potential Ionis In-License Agreement (which may be redacted to exclude provisions thereof that would not be applicable to Metagenomi as a licensee or sublicensee (as the case may be)). If Metagenomi provides written notice, within [***] of receipt of such information from Ionis, that it would like to have any such Existing Potential Ionis In-License Agreement included in the licenses granted under this Agreement and be subject to the terms of such Existing Potential Ionis In-License Agreement that are applicable to a licensee or sublicensee (as the case may be) thereunder, then such intellectual property rights described in such notice will automatically be deemed included in the Ionis Background Technology and such Existing Potential Ionis In-License Agreement will be considered an Ionis In-License Agreement.

9.8. New In-License Agreements.

9.8.1. Proposed New In-License Agreements. Either Party (an "**Acquiring Party**") may, during the Term, acquire or in-license rights to additional intellectual property from a Third Party that, if solely owned by such Party, without any encumbrance or restriction on licensing, would constitute Licensed Technology (if such Acquiring Party is Metagenomi) or Ionis Background Technology (if such Acquiring Party is Ionis) (any such agreement entered into by Metagenomi, a "**Proposed New Metagenomi In-License Agreement**," any such agreement entered into by Ionis, a "**Proposed New Ionis In-License Agreement**," and any Proposed New Metagenomi In-License Agreements or Proposed New Ionis In-License Agreements, a "**Proposed New In-License Agreement**"). Any such Proposed New In- License Agreement will be freely licensable or sublicensable to the non-Acquiring Party to the same extent that Licensed Technology or Ionis Background Technology (as applicable) is licensed to the non-Acquiring Party hereunder (including the right to grant sublicenses through multiple tiers) and will not (a) impose any material restrictions or obligations on the non-Acquiring Party as a licensee or sublicensee or (b) disadvantage the non-Acquiring Party, in each case ((a) and (b)), as compared to any other potential licensee or sublicensee under such Proposed New In-License Agreement. The Acquiring Party will [***] include in any such Proposed New In-License Agreement that is an in-license a provision pursuant to which [***]. Promptly following execution of a Proposed New In-License Agreement, the Acquiring Party will provide the non- Acquiring Party with a copy of such Proposed New In-License Agreement (which may be redacted to exclude provisions thereof that would not be applicable to the non-Acquiring Party as a licensee or sublicensee (as the case may be)).

9.8.2. Acceptance of a Proposed In-License Agreement. If the non-Acquiring Party provides written notice, within [***] of receipt of a Proposed New In-License Agreement, that it would like to have such intellectual property rights included in the licenses granted under this Agreement and be subject to the terms of such Proposed New In-License Agreement that are applicable to a licensee or sublicensee (as the case may be) thereunder, then such intellectual property rights described in such notice will automatically be deemed included in the Licensed Technology (if such Acquiring Party is Metagenomi) or Ionis Background Technology (if such Acquiring Party is Ionis) (any such Proposed New Metagenomi In- License Agreement with respect to intellectual property rights that are included in the Licensed Technology pursuant to this sentence, a "**New Metagenomi In-License Agreement**," any such Proposed New Ionis In-License Agreement with respect to intellectual property rights that are included in the Ionis Background Technology pursuant to this sentence, a "**New Ionis In-License Agreement**" and any New Metagenomi In- License Agreement or New Ionis In-License Agreement, a "**New In-License Agreement**").

9.9. **Payment Obligations Under Certain In-License Agreements**. Any payment obligations arising under the Metagenomi In-License Agreements or the Ionis In-License Agreements that are directly a result of the Development, Manufacture, or Commercialization of a Licensed Product or Metagenomi Product (as applicable) in the Field by or on behalf of the non-Acquiring Party or any of its Affiliates or Sublicensees, after application of all available reductions to and deductions from such payment obligations under the applicable agreement (but, for the avoidance of doubt, excluding [***]), will be paid by [***] and reimbursed by [***] in accordance with this Section 9.9 (Payment Obligations Under Certain In-License Agreements), but, with respect to [***], subject to [***] pursuant to Section 9.6.2(c) (Third Party Payments). Except as set forth in the immediately preceding sentence, [***] will be responsible for [***] under such agreements (including [***]). [***] will provide [***] with a reasonably detailed invoice for any payments made by [***] under a Metagenomi In-License Agreement or Ionis In-License Agreement that are reimbursable by [***] pursuant to this Section 9.9 (Payment Obligations Under Certain In-License Agreements) within [***], and [***] will pay the undisputed portion of such invoices within [***] of receipt thereof. For clarity, [***] and its Affiliates will be obligated to [***] a given amount owed under a Metagenomi In-License Agreement or Ionis In-License Agreement one time only. Notwithstanding the foregoing, [***] may, in its sole discretion, notify [***] that it elects to abandon its payment obligations under this Section 9.9 (Payment Obligations Under Certain In-License Agreements) with respect to a Metagenomi In-License Agreement or Ionis In-License Agreements, whereupon such agreement will no longer be deemed to be a Metagenomi In-License Agreement or Ionis In-License Agreements under this Agreement (as applicable) and [***] will no longer be responsible for such payment obligations from and after the date of such notice.

9.10. **Metagenomi Product Economics**.

9.10.1. **Metagenomi Product Milestone Payments**. If Metagenomi exercises the Ionis IP Option in accordance with Section 2.7 (Ionis Proprietary Toolbox of Chemical Modifications), then, on a Metagenomi Product-by-Metagenomi Product basis, Metagenomi will pay one- time milestone payments to Ionis of the amounts set forth in Table 9.10.1 (each, a "**Metagenomi Product Milestone Event**") upon the first achievement by Metagenomi or any of its Affiliates or Sublicensees of each of the milestone events set forth in Table 9.10.1 (each, a "**Metagenomi Product Milestone Payment**") for a Metagenomi Product. Each Metagenomi Product Milestone Payment is payable only once for each Metagenomi Product, regardless of the number of times the corresponding Metagenomi Product Milestone Event is achieved for a Metagenomi Product. If Metagenomi or its Affiliates or Sublicensees achieve all of the Metagenomi Product Milestone Events for a Metagenomi Product, then the Metagenomi Product Milestone Payments payable by Metagenomi under this Section 9.10.1 (Metagenomi Product Milestone Payments) for such Metagenomi Product will not exceed $[***].

Table 9.10.1 – Metagenomi Product Milestones

Metagenomi Product Milestone Event	Metagenomi Product Milestone Payment
1. [***]	$[***]
2. [***]	$[***]
3. [***]	$[***]
4. [***]	$[***]

9.10.2. Notice; Payment; Skipped Milestones. Metagenomi will provide Ionis with written notice upon the achievement of each Metagenomi Product Milestone Event within [***] after such achievement and will pay Ionis within [***] after receipt of an invoice from Ionis. Each Metagenomi Product Milestone Event is intended to be successive. If any Metagenomi Product Milestone Event does not occur with respect to a Metagenomi Product, then such skipped milestone event will be deemed to have been achieved upon the achievement of the next successive milestone event with respect to such Metagenomi Product; *provided* that the [***] Metagenomi Product Milestone Event shall not be deemed to have been achieved upon the achievement of the [***] Metagenomi Product Milestone Event. Payment for any such skipped milestone that is owed in accordance with the provisions of the foregoing sentence will be due concurrently with the payment for the next successive Metagenomi Product Milestone Event.

9.10.3. Metagenomi Royalties.

(a) **Metagenomi Royalty Rates**. Subject to the terms and conditions of this Agreement, including the provisions of Section 9.10.3(b) (Adjustments to Metagenomi Royalties), on a Metagenomi Product-by-Metagenomi Product and country-by-country basis, Metagenomi will pay Ionis an amount equal to [***]% of the Net Sales of the applicable Metagenomi Product in a country in the Territory by Metagenomi and its Affiliates and its Sublicensees until the expiration of the applicable Metagenomi Royalty Term for such Metagenomi Product in such country. The royalty payments made pursuant to this Section 9.10.3(a) (Metagenomi Royalty Rates), the "**Metagenomi Royalties**" and the rate set forth in this Section 9.10.3(a) (Metagenomi Royalty Rates), the "**Metagenomi Royalty Rate**."

(b) **Adjustment to Metagenomi Royalties**. On a Metagenomi Product-by- Metagenomi Product and country-by-country basis in the Territory, if during the Metagenomi Royalty Term for a Metagenomi Product in a given country there is no Valid Claim of a Patent Right within the Ionis Background Technology Covering such Metagenomi Product in such country, then commencing in the first Calendar Quarter after the date on which this Section 9.10.3(b) (Adjustments to Metagenomi Royalties) applies and for the remainder of the Royalty Term for such Metagenomi Product in such country, the Net Sales for such Metagenomi Product in such country will be reduced by [***]% for purposes of calculating the Metagenomi Royalties owed under Section 9.10.3(a) (Metagenomi Royalty Rates).

9.10.4. **Metagenomi Royalty Reports**. Commencing on the First Commercial Sale (applied *mutatis mutandis*) of a Metagenomi Product and for so long as Metagenomi Royalties are due under this Agreement, no later than (a) [***] prior to the start of each Calendar Year, Metagenomi will deliver a written good faith non-binding estimate to Ionis of the projected Net Sales for the upcoming Calendar Year, (b) [***] after the end of each Calendar Quarter, Metagenomi will deliver a written good faith non-binding estimate to Ionis of the Net Sales in the relevant Calendar Quarter and the Metagenomi Royalties payable on such Net Sales, and (c) [***] after the end of each Calendar Quarter, Metagenomi will deliver a written report (each, a "**Metagenomi Royalty Report**") to Ionis specifying on a Metagenomi Product-by-Metagenomi Product and country-by-country basis: (i) Net Sales in the relevant Calendar Quarter; (ii) to the extent such Net Sales include sales not denoted in US Dollars, a summary of the then-current exchange rate methodology(ies) used for the calculation of Net Sales in accordance with Section 9.14 (Currency of Payment; Non- Refundable Payments); and (iii) the Metagenomi Royalties payable on such Net Sales. All Metagenomi Royalty Reports will be the Confidential Information of Metagenomi. Metagenomi will pay the Metagenomi Royalties for each Calendar Quarter no later than [***] after receipt of an invoice from Ionis, which invoice will be provided promptly following Ionis' receipt of each Metagenomi Royalty Report from Metagenomi pursuant to this Section 9.10.4 (Metagenomi Royalty Reports). For clarity, the submission by Ionis of an invoice to Metagenomi based on a Metagenomi Royalty Report will be without prejudice to Ionis' right to dispute a Metagenomi Royalty Report or to audit a Metagenomi Royalty Report pursuant to Section 9.13 (Records and Audits).

9.11. **Other Payments**. With respect to any amounts owed under this Agreement by one Party to the other for which no other invoicing and payment procedure is otherwise specified in this Agreement, a Party will provide an invoice, together with reasonable supporting documentation, to the other Party for such amounts. The owing Party will pay any undisputed amounts within [***] of receipt of the invoice, and any disputed amounts owed by a Party will be paid within [***] of resolution of the dispute in accordance with Section 15.1 (Dispute Resolution).

9.12. **Right to Offset**. Ionis will have the right to offset any amount owed by Metagenomi to Ionis that are (a) [***], or (b) [***], in each case, against any payments owed by Ionis to Metagenomi under this Agreement. Such offsets will be in addition to any other rights or remedies available under this Agreement and Applicable Law. For clarity, the foregoing right to offset will only apply to [***].

9.13. **Records and Audits**.

9.13.1. **Books and Records**. Each Party will keep (and will cause its Affiliates and Sublicensees to keep) complete and accurate books and records pertaining to (a) in the case of Ionis, all Internal Costs and Out-of-Pocket Costs incurred in connection with the performance of the Drug Discovery Activities, Net Sales of Ionis Products, any amounts paid under any Ionis In-License Agreement, and any costs shared by the Parties for the Co-Co Products pursuant to a Co-Development and Co-Commercialization Agreement (the "**Ionis Records**") and (b) in the case of Metagenomi, all Internal Costs and Out-of-Pocket Costs incurred in connection with the performance of the Collaboration Activities, Net Sales of the Metagenomi Products, any amounts paid under any Metagenomi In-License Agreement, and any costs shared by the Parties for the Co-Co Products pursuant to a Co-Development and Co-Commercialization Agreement (the "**Metagenomi Records**"), in each case ((a) and (b)), in reasonable detail to permit the other Party to confirm the accuracy of all payments or costs reported for at least the preceding [***]. During the Term and for a period of [***] thereafter, each Party (the "**Auditing Party**") may, upon written request and subject to this Section 9.13 (Records and Audits), cause a nationally-recognized independent accounting firm (the "**Auditor**"), that is reasonably acceptable to the other Party (the "**Audited Party**") to inspect the relevant records of such Audited Party and its Affiliates to verify the payments made and amounts reported by the Audited Party and the directly related reports, statements, and books of accounts, as applicable.

9.13.2. **Audit Procedure**. Before beginning its audit, the Auditor will execute a written agreement acceptable to the Audited Party by which the Auditor agrees to keep confidential all information reviewed during the audit, which agreement will contain terms of non- disclosure and non-use no less stringent than those set forth in this Agreement, but otherwise will be reasonable and customary for the purposes of an audit of this nature. The Auditor will have the right to disclose to the Auditing Party only its conclusions regarding any payments owed under this Agreement. Each Party and its Affiliates will make their records available for inspection by the Auditor during regular business hours at such place or places where such records are customarily kept, upon receipt of reasonable advance notice from the Auditing Party. The records will be reviewed solely to verify the Audited Party's compliance with the payment obligations and financial terms of this Agreement.

9.13.3. **Frequency; Overpayments and Underpayments**. Such inspection right will not be exercised more than [***] and not more frequently than [***] with respect to records covering any specific period of time. In addition, the Auditing Party will only be entitled to audit the books and records of the Audited Party for the [***] prior to the [***] in which the audit request is made. The Auditing Party agrees to hold in strict confidence all information received and all information learned in the course of any audit or inspection, except to the extent necessary to enforce its rights under this Agreement or to the extent required to comply with any Applicable Law or judicial order. The Auditor will provide its audit report and basis for any determination to the Audited Party at the time such report is provided to the Auditing Party before it is considered final. If the final result of the inspection reveals an underpayment or overpayment by either Party, then the underpaid or overpaid amount will be settled promptly plus interest due on any underpayments in accordance with Section 9.15 (Late Fees). The Auditing Party will pay for such inspections, as well as its expenses associated with enforcing its rights with respect to any payments hereunder; unless such audit reveals an underpayment of amounts owed to, or an overpayment of amounts owed by, the Auditing Party of more than [***]% of the amount that was owed by the Audited Party or owed to the Audited Party, as applicable, with respect to the relevant period, in which case, the Audited Party will reimburse the Auditing Party for the reasonable expense incurred by the Auditing Party in connection with the audit.

9.14. **Currency of Payment; Non-Refundable Payments**. All amounts to be paid pursuant to this Agreement will be made in United States Dollars and will be paid by wire transfer in immediately available funds to a bank account designated by the receiving Party. The rate of exchange to be used in computing the amount of currency equivalent in U.S. Dollars owed to a Party under this Agreement will be the paying Party's then-current standard exchange rate methodology employed for the translation of foreign currency sales into U.S. Dollars in accordance with its Accounting Standards and consistently applied during the period. Any provisions of this Agreement that describe a payment as non-refundable will be without prejudice to either Party's right to bring a claim for breach of this Agreement, misrepresentation, or any other claim permissible under Applicable Law, including seeking recovery of payments made and damages for loss.

9.15. **Late Fees**. If a Party does not receive payment of any undisputed sum due to it on or before the due date set forth under this Agreement, then simple interest will thereafter accrue on the sum due to such Party from the due date until the date of payment at a per-annum rate of [***] or the maximum rate allowable under Applicable Law, whichever is lower.

9.16. **Currency Restrictions**. If, by reason of Applicable Law in any country, it becomes impossible or illegal for a Party to transfer, or have transferred on its behalf, payments owed to the other Party hereunder, then such Party will promptly notify the other Party of the conditions preventing such transfer and such payments will be deposited in local currency in the relevant country to the credit of the other Party in a recognized banking institution designated by the other Party or, if none is designated by the other Party within a period of [***], in a recognized banking institution selected by the transferring Party, as the case may be, and identified in a written notice given to the other Party.

9.17. **Withholding Taxes**. Either Party (a "**Withholding Party**") may withhold from payments due to the other Party (a "**Non-Withholding Party**") amounts for payment of any withholding tax that is required by Applicable Law to be paid to any taxing authority with respect to such payments, which will be remitted in accordance with Applicable Law. The Withholding Party will provide to the Non-Withholding Party all relevant documents and correspondence, and will also provide to the Non-Withholding Party any other cooperation or assistance on a reasonable basis as may be necessary to enable the Non-Withholding Party to claim exemption from such withholding taxes and to receive a refund of such withholding tax or claim a foreign tax credit. The Withholding Party will give proper evidence from time to time as to the payment of any such tax. The Parties will cooperate with each other in seeking deductions under any double taxation or other similar treaty or agreement from time to time in force. Such cooperation may include the Withholding Party making payments from a single source in the U.S., where possible. Notwithstanding the foregoing, [***].

Article 10
Intellectual Property

10.1. **Ownership of Inventions**.

10.1.1. **Background Intellectual Property**. As between the Parties, and subject to the licenses granted under this Agreement, each Party retains all rights, title, and interests in and to all Intellectual Property Rights that such Party owns or Controls as of the Effective Date or that it develops or otherwise acquires after the Effective Date outside the performance of the activities under this Agreement.

10.1.2. **By Inventorship**. For purposes of determining ownership under this Section 10.1.2 (By Inventorship), inventorship will be determined in accordance with United States patent laws (regardless of where the applicable activities occurred).

(a) **Metagenomi Collaboration Technology**. Metagenomi will be the sole owner of any Know-How discovered, developed, invented, or created solely by Metagenomi or its Affiliates or Third Parties acting on its or their behalf, in each case, in the performance of activities under this Agreement ("**Metagenomi Collaboration Know-How**") and any Patent Rights that Cover the Metagenomi Collaboration Know-How ("**Metagenomi Collaboration Patent Rights**" and together with the Metagenomi Collaboration Know-How, the "**Metagenomi Collaboration Technology**"), and will retain all of its rights thereto, subject to any rights or licenses expressly granted by Metagenomi to Ionis under this Agreement.

(b) **Ionis Collaboration Technology**. Ionis will be the sole owner of any Know-How discovered, developed, invented, or created solely by Ionis or its Affiliates or Third Parties acting on its or their behalf, in each case, in the performance of activities under this Agreement ("**Ionis Collaboration Know-How**") and any Patent Rights that Cover the Ionis Collaboration Know-How ("**Ionis Collaboration Patent Rights**" and together with the Ionis Collaboration Know-How, the "**Ionis Collaboration Technology**"), and will retain all of its rights thereto, subject to any rights or licenses expressly granted by Ionis to Metagenomi under this Agreement.

(c) **Joint Collaboration Technology**. Any Know-How discovered, developed, invented, or created jointly by (i) Ionis, its Affiliates, or Third Parties acting on its or their behalf and (ii) Metagenomi, its Affiliates, or Third Parties acting on its or their behalf, in each case, in the performance of activities under this Agreement (including in any meeting of the JSC or any Subcommittee) (such Know-How, "**Joint Collaboration Know-How**"), and any Patent Rights that Cover such Joint Collaboration Know-How ("**Joint Collaboration Patent Rights**," and together with the Joint Collaboration Know-How, the "**Joint Collaboration Technology**"), will be owned jointly by Ionis and Metagenomi on an equal and undivided basis, including all rights thereto, subject to any rights or licenses expressly granted by one Party to the other Party under this Agreement. Except as expressly provided in this Agreement, neither Party will have any obligation to account to the other for profits with respect to, or to obtain any consent of the other Party to license or exploit, Joint Collaboration Technology by reason of joint ownership thereof, and each Party hereby waives any right it may have under the laws of any jurisdiction to require any such consent or accounting.

10.1.3. Disclosure. During the Term, (a) Ionis will promptly disclose to designated Metagenomi personnel (including Metagenomi scientific and intellectual property personnel) in writing, and will cause its Affiliates to so disclose, the discovery, development, invention, or creation of any Ionis Collaboration Know-How or Ionis Collaboration Patent Right and (b) Metagenomi will promptly disclose to designated Ionis personnel (including Ionis scientific and intellectual property personnel) in writing, and will cause its Affiliates to so disclose, the discovery, development, invention, or creation of any Metagenomi Collaboration Know-How or Metagenomi Collaboration Patent Rights.

10.2. Patent Prosecution.

10.2.1. Ionis-Prosecuted Patent Rights.

(a) As between the Parties, Ionis will have the first right, but not the obligation, to control the Prosecution and Maintenance of all Product-Specific Patent Rights, all Joint Collaboration Patent Rights, and all Ionis Collaboration Patent Rights ("**Ionis-Prosecuted Patent Rights**"). Ionis will be the "Prosecuting Party" with respect to all Ionis-Prosecuted Patent Rights. Ionis will be responsible for and pay all future costs and expenses incurred in connection with the Prosecution and Maintenance of the Ionis-Prosecuted Patent Rights. Ionis will keep Metagenomi reasonably informed as to material developments with respect to the Prosecution and Maintenance of the Ionis-Prosecuted Patent Rights and will provide Metagenomi a reasonable opportunity to review and comment on substantive communications from any patent authority in the Territory regarding the Ionis- Prosecuted Patent Rights, as well as drafts of any substantive filings or responses to be made to such patent authorities in advance of submitting such filings or responses. Ionis will consider Metagenomi's comments regarding such communications and drafts in good faith but is not required to implement such comments. In addition, Ionis will provide Metagenomi with (i) copies of all final substantive filings and responses made to any patent authority with respect to the Ionis-Prosecuted Patent Rights in a timely manner following submission thereof and (ii) notice in advance of abandoning any such Ionis-Prosecuted Patent Rights.

(b) If, during the Term, Ionis decides that it is no longer interested in the Prosecution and Maintenance of a particular Product-Specific Patent Right or Joint Collaboration Patent Right, then it will promptly provide written notice to Metagenomi of such decision; *provided* that any such notice will be at least [***] in advance of any time based deadlines by which an action must be taken to establish or preserve any such Patent Right. Unless Ionis decides to no longer Prosecute and Maintain a particular Product-Specific Patent Right or Joint Collaboration Patent Right for strategic reasons, Metagenomi may, upon written notice to Ionis, assume the Prosecution and Maintenance of such Patent Right at Metagenomi's sole cost and expense. In such event Metagenomi will be responsible for 100% of the costs and expenses of the Prosecution and Maintenance of such Patent Right, and Metagenomi will thereafter be the "Prosecuting Party" with respect thereto for all purposes under this Agreement.

10.2.2. **Metagenomi-Prosecuted Patent Rights**. As between the Parties, Metagenomi will have the sole right, but not the obligation, to control the Prosecution and Maintenance of the Licensed Patent Rights and Metagenomi Collaboration Patent Rights, in each case, that are not Product-Specific Patent Rights (such Patent Rights, the "**Metagenomi-Prosecuted Patent Rights**") in accordance with this Agreement. Metagenomi will be the "Prosecuting Party" with respect to all Metagenomi-Prosecuted Patent Rights. Metagenomi will be responsible for and pay all future costs and expenses incurred in connection with the Prosecution and Maintenance of the Metagenomi-Prosecuted Patent Rights. Metagenomi will keep Ionis reasonably informed as to material developments with respect to the Prosecution and Maintenance of the Metagenomi-Prosecuted Patent Rights and will provide Ionis a reasonable opportunity to review and comment on substantive communications from any patent authority in the Territory regarding the Metagenomi- Prosecuted Patent Rights, as well as drafts of any substantive filings or responses to be made to such patent authorities in advance of submitting such filings or responses. Metagenomi will consider Ionis' comments regarding such communications and drafts in good faith but is not required to implement such comments. In addition, Metagenomi will provide Ionis with (a) copies of all final substantive filings and responses made to any patent authority with respect to the Metagenomi-Prosecuted Patent Rights in a timely manner following submission thereof and (b) notice in advance of abandoning any such Metagenomi-Prosecuted Patent Rights.

10.2.3. **Cooperation**. The non-Prosecuting Party will (a) obtain and deliver to the Prosecuting Party any necessary documents for the Prosecuting Party to exercise its rights to prepare, prosecute, defend, and maintain all Patent Rights pursuant to this Section 10.2 (Patent Prosecution), (b) render all signatures that will be necessary in connection with all such patent filings, and (c) assist the Prosecuting Party in all other reasonable ways that are necessary for the issuance of those Patent Rights for which such Prosecuting Party is responsible, as well as for the Prosecution and Maintenance of such Patent Rights.

10.2.4. **Coordination in Prosecution**. Notwithstanding Metagenomi's right to Prosecute and Maintain the Metagenomi-Prosecuted Patent Rights, the Parties will, and will cause their Affiliates to, cooperate and implement reasonable patent filing and prosecution strategies (including filing divisionals, continuations or otherwise) so that, to the extent reasonably feasible, Product-Specific Patent Rights and other Licensed Patent Rights are pursued in mutually exclusive patent applications.

10.3. Patent Enforcement.

10.3.1. Notification. Each Party will use reasonable efforts to promptly notify the other in the event of any actual, likely, or suspected infringement of any Ionis-Prosecuted Patent Right or Metagenomi-Prosecuted Patent Right (an "**Infringement**"), including any Infringement that arises as a result of the making, using, offering to sell, selling, or importing of a product that would be competitive with a Licensed System or Licensed Product (a "**Competitive Infringement**").

10.3.2. Competitive Infringements.

(a) Ionis will have the first right, but not the obligation, to institute, prosecute, and control a Proceeding to enforce the Ionis-Prosecuted Patent Rights against any Competitive Infringement at its own expense. If Ionis fails to initiate a Proceeding within a period of 90 days after written notice of a Competitive Infringement is first provided by a Party under Section 10.3.1 (Notification), then Metagenomi will have the right to initiate and control a Proceeding to enforce the applicable Patent Right against such Competitive Infringement by counsel of its own choice; *provided* that if Ionis notifies Metagenomi during such 90-day period that it is electing in good faith not to institute any Proceeding to enforce Ionis-Prosecuted Patent Rights against such Competitive Infringement for strategic reasons, then Metagenomi will not have the right to initiate and control any Proceeding to enforce such Patent Rights against such Competitive Infringement.

(b) Metagenomi will have the first right, but not the obligation, to institute, prosecute, and control a Proceeding to enforce the Metagenomi-Prosecuted Patent Rights against any Competitive Infringement at its own expense. If Metagenomi fails to initiate a Proceeding within a period of 90 days after written notice of a Competitive Infringement is first provided by a Party under Section 10.3.1 (Notification), then Ionis will have the right to initiate and control a Proceeding to enforce the applicable Patent Right against such Competitive Infringement by counsel of its own choice; *provided* that if Metagenomi notifies Ionis during such 90-day period that it is electing in good faith not to institute any Proceeding to enforce Metagenomi-Prosecuted Patent Rights against such Competitive Infringement for strategic reasons, then Ionis will not have the right to initiate and control any Proceeding to enforce such Patent Rights against such Competitive Infringement.

10.3.3. Proceedings for Infringements other than Competitive Infringements. During the Term, (a) Metagenomi will have the sole right, but not the obligation, to initiate a Proceeding against any Infringement that is not a Competitive Infringement with respect to any Licensed Patent Rights, at Metagenomi's sole discretion and at Metagenomi's sole cost and expense and (b) the Parties will jointly agree upon any initiation of a Proceeding against any Infringement that is not a Competitive Infringement with respect to any Joint Collaboration Patent Right; *provided* that neither Party will unreasonably withhold its agreement to initiate any such Proceeding with respect to any Joint Collaboration Patent Right (as applicable) upon the reasonable request of the other Party.

10.3.4. **Collaboration**. Each Party will provide to the enforcing Party reasonable assistance in any Proceeding brought under this Section 10.3 (Patent Enforcement), at such enforcing Party's request and expense, including to be named in such action if required by Applicable Law to pursue such action. The enforcing Party will keep the other Party regularly informed of the status and progress of such enforcement efforts, will reasonably consider the other Party's comments on any such efforts, including determination of litigation strategy and filing of material papers to the competent court. The non-enforcing Party will be entitled to separate representation in such matter by counsel of its own choice and at its own expense, but such Party will at all times cooperate fully with the enforcing Party. The enforcing Party will not settle any Proceeding that it brought under Section 10.3.2 (Competitive Infringements) in any manner that would limit the rights of the other Party or impose any obligation on the other Party, without the prior written consent of the other Party, which consent will not be unreasonably withheld, conditioned, or delayed.

10.3.5. **Expenses and Recoveries**. Any amount recovered in any Proceeding under this Section 10.3 (Patent Enforcement), including any amount recovered in any settlement of such Proceeding, will first be used to [***] and will thereafter be for (a) with respect to any Competitive Infringement, the benefit of [***]; *provided*, *however*, that to the extent any such amount is [***], then such amount will, [***], and (b) with respect to any Infringement that is not a Competitive Infringement, for the benefit of [***].

10.4. **Defense of Claims Brought by Third Parties**. If any Third Party brings a claim or otherwise asserts that a Licensed Product or Licensed System infringes such Third Party's Patent Rights or misappropriates such Third Party's Know-How (each, a "**Third Party Infringement Claim**"), then the Party first having notice of the claim or assertion will promptly notify the other Party in writing. Subject to [***], [***] will have the sole right, but not the obligation, to undertake and control the defense or settlement of any Third Party Infringement Claim using counsel of its choice, at its cost and expense. If [***] is named as a defendant in such suit, [***] will have the right to participate in such defense and settlement with its own counsel, at its cost. [***] will not enter into any settlement of any Third Party Infringement Claim that is instituted or threatened to be instituted against [***] without [***] prior written consent, which will not be unreasonably withheld, conditioned, or delayed; except that such consent will not be required if such settlement includes a release of all liability in favor of [***] or an assumption of any unreleased liability by [***]. As requested by [***], [***] will provide reasonable cooperation and assistance to [***] in connection with [***] control of the defense or settlement of a Third Party Infringement Claim. Such cooperation and assistance will include executing all necessary and proper documents and taking such actions as will be appropriate to allow [***] to control the defense and settlement of such Third Party Infringement Claim. [***] will [***]; except that [***] will have no obligation to [***]. [***] will keep [***] reasonably informed of the progress of any Third Party Infringement Claim. To the extent reasonable, both Parties will cooperate in good faith to (a) ensure that [***] and (b) [***].

10.5. **Patent Listing**. Ionis will have the sole right, but not the obligation, to determine which Ionis- Prosecuted Patent Rights will be listed in connection with the Regulatory Approval for a Licensed Product pursuant to 21 U.S.C. § 355(b)(1)(G), any similar statutory or regulatory requirement enacted in the future regarding biologic products, or any similar statutory or regulatory requirement in any non-U.S. country or other regulatory jurisdiction. The Parties will discuss and mutually agree on which Metagenomi-Prosecuted Patent Rights will be listed in connection with the Regulatory Approval for a Licensed Product pursuant to 21 U.S.C. § 355(b)(1)(G), any similar statutory or regulatory requirement enacted in the future regarding biologic products, or any similar statutory or regulatory requirement in any non-U.S. country or other regulatory jurisdiction.

10.6. **Common Ownership Legislation**. Notwithstanding anything to the contrary in this Article 10 (Intellectual Property), neither Party will have the right to make an election under the Common Ownership Legislation when exercising its rights under this Article 10 (Intellectual Property) without the prior written consent of the other Party, which will not be unreasonably withheld, conditioned, or delayed. With respect to any such permitted election, the Parties will use reasonable efforts to cooperate and coordinate their activities with respect to any submissions, filings, or other activities in support thereof. The Parties acknowledge and agree that this Agreement is a "joint research agreement" as defined in the Common Ownership Legislation. Notwithstanding the foregoing, the other Party's consent under this Section 10.6 (Common Ownership Legislation) will not be required in connection with an obviousness-type double patenting rejection in any patent application claiming a Licensed System, Licensed Product, or uses thereof.

10.7. **Patent Term Extension**.

10.7.1. **Ionis-Prosecuted Patent Rights**. Ionis will be solely responsible for obtaining patent term restoration for the Ionis-Prosecuted Patent Rights in any country in the Territory under any statute or regulation equivalent or similar to 35 U.S.C. § 156, where applicable to a Licensed Product. Ionis will determine which relevant Ionis-Prosecuted Patent Rights will be extended (including by filing supplementary protection certificates and any other extensions that are now or in the future become available). Metagenomi will abide by Ionis' determination and cooperate, as reasonably requested by Ionis, in connection with the foregoing (including by providing appropriate information and executing appropriate documents).

10.7.2. **Metagenomi-Prosecuted Patent Rights**. The Parties will mutually agree on the strategy for obtaining patent term restoration for the Metagenomi-Prosecuted Patent Rights in any country in the Territory under any statute or regulation equivalent or similar to 35 U.S.C. § 156, where applicable to a Licensed Product. The Parties will mutually agree on which relevant Metagenomi-Prosecuted Patent Rights will be extended (including by filing supplementary protection certificates and any other extensions that are now or in the future become available) and will cooperate with each other in connection with the foregoing (including by providing appropriate information and executing appropriate documents).

10.8. **Recording**. If Ionis deems it necessary or desirable to register or record this Agreement or evidence of this Agreement with any patent office or other appropriate Governmental Authority in one or more jurisdictions in the Territory, then Metagenomi will reasonably cooperate to execute and deliver to Ionis any documents accurately reflecting or evidencing this Agreement that are necessary or desirable, in Ionis' reasonable judgment, to complete such registration or recordation. Ionis will [***] in complying with the provisions of this Section 10.8 (Recording).

10.9. **Unitary Patent System**. Ionis will have the exclusive right to opt-in or opt-out of the EU Unitary Patent System for all Licensed Patent Rights and Joint Collaboration Patent Rights. For clarity, "to opt-in or opt-out" refers to both the right to have a European patent application or an issued European patent registered to have unitary effect within the meaning of Regulation (EU) No 1257/2012 of December 17, 2012 as well as the Agreement on a Unified Patent Court as of February 19, 2013; and to the right to opt-in or opt-out from the exclusive competence of the Unified Patent Court in accordance with Article 83(3) of that Agreement on a Unified Patent Court. Without limiting the generality of the foregoing, unless a Party or its Affiliate has expressly opted-in to the EU Unitary Patent System with respect to a given Patent Right, the other Party will not initiate any action under the EU Unitary Patent System without such Party's prior written approval, such approval to be granted or withheld in such Party's sole discretion.

10.10. **Trademarks**. As between the Parties, all trademarks and trade dress rights used in connection with the Commercialization of the Licensed Products in the Field in the Territory will be owned exclusively by Ionis.

10.11. **Common Interest**. All information exchanged between the Parties regarding the Prosecution and Maintenance, and enforcement and defense, of the Patent Rights under this Article 10 (Intellectual Property) will be deemed Confidential Information of the disclosing Party. In addition, the Parties acknowledge and agree that, with regard to such Prosecution and Maintenance, and enforcement and defense of the Patent Rights under this Article 10 (Intellectual Property), the interests of the Parties as collaborators and licensor and licensee are to obtain the strongest patent protection possible, and as such, are aligned and are legal in nature. The Parties agree and acknowledge that they have not waived, and nothing in this Agreement constitutes a waiver of, any legal privilege concerning the Patent Rights under this Article 10 (Intellectual Property), including privilege under the common interest doctrine and similar or related doctrines. Notwithstanding anything to the contrary contained herein, to the extent a Party has a good faith belief that any information required to be disclosed by such Party to the other Party under this Article 10 (Intellectual Property) is protected by attorney-client privilege or any other applicable legal privilege or immunity, such Party will not be required to disclose such information and the Parties will in good faith cooperate to agree upon a procedure (including entering into a specific common interest agreement, disclosing such information on a "for counsel eyes only" basis or similar procedure) under which such information may be disclosed without waiving or breaching such privilege or immunity.

Article 11
Confidentiality

11.1. **Confidential Information**.

11.1.1. **General**. Each Party will maintain all Confidential Information disclosed to it or its representatives (the "**Receiving Party**") by or on behalf the other Party (the "**Disclosing Party**") in strict confidence during the Term of this Agreement and for a period of [***] after the expiration or termination of this Agreement; *provided* that any Confidential Information of either Party that constitutes a trade secret will continue to be subject to the terms of this Article 11 (Confidentiality) in perpetuity, so long as such information remains a trade secret. Each Party will use all such disclosed Confidential Information only to the extent necessary for purposes of this Agreement, including exercising the licenses and rights hereunder, and will not disclose such Confidential Information to any Third Party without the prior written consent of the Disclosing Party, except as permitted under this Agreement. Each Party will notify the other Party promptly on discovery of any unauthorized use or disclosure by a Party of the other Party's Confidential Information, including the other Party's trade secrets.

11.1.2. **Confidential Information of Each Party**. All information disclosed prior to the Effective Date pursuant to the Confidentiality Agreement between the Parties dated [***] (the "**Confidentiality Agreement**"), by Metagenomi to Ionis will be Confidential Information of Metagenomi and by Ionis to Metagenomi will be Confidential Information of Ionis. All Ionis Royalty Reports and reports identifying Ionis Product Development Milestone Events, Ionis Product Regulatory Milestone Events, and Ionis Product Sales Milestone Events will be considered Confidential Information of Ionis. All Metagenomi Royalty Reports and reports identifying Metagenomi Product Milestone Events will be the Confidential Information of Metagenomi. The Product-Specific Know-How, Joint Collaboration Know-How, and the non-disclosed terms of this Agreement will be the Confidential Information of each Party.

11.1.3. Exceptions to Confidentiality. The following information will not be Confidential Information of the Disclosing Party, and accordingly the obligations of each Receiving Party imposed by Section 11.1.1 (General) will not apply to any such information that: (a) was known to the Receiving Party without an obligation to keep such information confidential prior to the Effective Date other than as a result of disclosure under any other agreement between the Parties, including the Confidentiality Agreement (as demonstrated by documentary evidence); (b) is or becomes generally available to the public through means other than an unauthorized disclosure by the Receiving Party, its Affiliates, or any agents to whom it or they disclosed such information; (c) was or subsequently is disclosed to the Receiving Party without restriction by a Third Party having a *bona fide* right to disclose such Confidential Information without breaching any obligation to the Disclosing Party; or (d) is developed independently by the Receiving Party without benefit of or recourse to any of the Disclosing Party's Confidential Information (as demonstrated by documentary evidence). For clarity, (i) specific aspects or details of Confidential Information will not be deemed to be within the public domain or in the possession of the Receiving Party merely because the Confidential Information is embraced by more general information in the public domain or in the possession of the Receiving Party; and (ii) any combination of Confidential Information will not be considered in the public domain or in the possession of the Receiving Party merely because individual elements of such Confidential Information are in the public domain or in the possession of the Receiving Party unless the combination and its principles are in the public domain or in the possession of the Receiving Party.

11.1.4. Permitted Disclosures. The Receiving Party may disclose Confidential Information of the Disclosing Party to the extent (and solely to the extent) that such disclosure is reasonably necessary in the following instances:

(a) (i) the prosecution and maintenance of Licensed Patent Rights and Joint Collaboration Patent Rights, in each case, in accordance with the terms of this Agreement; or (ii) Regulatory Submissions and other filings with Governmental Authorities (including Regulatory Authorities), as necessary for the Exploitation of a Licensed Product;

(b) disclosure of the existence and applicable terms of this Agreement and the status and results of Exploitation of one or more Licensed Products to actual or *bona fide* potential investors, acquirors, Sublicensees, lenders, and other financial or commercial partners (including in connection with any royalty factoring transaction), and their respective attorneys, accountants, banks, investors, and advisors, solely for the purpose of evaluating or carrying out an actual or potential investment, acquisition, sublicense, debt transaction, or collaboration; *provided* that, in each such case, (i) such Persons are bound by obligations of confidentiality, non-disclosure, and non-use provisions at least as restrictive or protective of the Parties as those set forth in this Agreement or otherwise customary for such type and scope of disclosure, and (ii) that any such disclosure is limited to the maximum extent practicable for the particular context in which it is being disclosed; *provided* that in no event will a disclosure of Confidential Information under this Section 11.1.4(b) be made, with respect to Ionis as the Receiving Party, to [***] or with respect to Metagenomi as the Receiving Party, to [***], in each case, without the prior written consent of the other Party;

(c) to comply with Applicable Law (whether generally or in pursuit of an application for listing of securities) including the United States Securities and Exchange Commission or equivalent foreign agency or regulatory body, or otherwise required by judicial or administrative process; *provided* that in each such event, as promptly as reasonably practicable and to the extent not prohibited by Applicable Law or judicial or administrative process, such Party will notify the other Party of such required disclosure and provide a draft of the disclosure to the other Party reasonably in advance of such filing or disclosure for the other Party's review and comment. The non-disclosing Party will provide any comments as soon as practicable, and the disclosing Party will consider in good faith any timely comments provided by the non-disclosing Party; *provided* that the disclosing Party may or may not accept such comments in its sole discretion. Confidential Information that is disclosed in order to comply with Applicable Law or by judicial or administrative process pursuant to this Section 11.1.4(c), in each case, will remain otherwise subject to the confidentiality and non-use provisions of this Article 11 (Confidentiality) with respect to the Party disclosing such Confidential Information, and such Party will take all steps reasonably necessary, including seeking of confidential treatment or a protective order for a period of at least [***] (to the extent permitted by Applicable Law or Governmental Authority), to ensure the continued confidential treatment of such Confidential Information, and each Party will be responsible for its own legal and other external costs in connection with any such filing or disclosure pursuant to this Section 11.1.4(c);

(d) to prosecute or defend litigation so long as there is [***] prior written notice given by the Receiving Party before filing, and to enforce Patent Rights in connection with the Receiving Party's rights and obligations pursuant to this Agreement; and

(e) to allow the Receiving Party to exercise its rights and perform its obligations hereunder; *provided* that such disclosure is covered by terms of confidentiality and non-use at least as restrictive as those set forth herein.

If and whenever any Confidential Information is disclosed in accordance with this Section 11.1.4 (Permitted Disclosures), such disclosure will not cause any such information to cease to be Confidential Information except to the extent that such disclosure results in a public disclosure of such information (other than by breach of this Agreement).

11.2. **No Use of Name**. Neither Party will use the other Party's name, logo, or Trademarks in any promotional materials or advertising without the prior written consent of the other Party, except as provided under this Agreement or required by Applicable Law, in which case the Party disclosing such name, logo, or Trademarks will give advance notice of such use and otherwise comply with Section 11.1.4(c).

11.3. **Residual Knowledge**. Notwithstanding any provision to the contrary set forth in this Agreement, a Receiving Party will not be liable for the use of any knowledge, technique, experience, or Know- How that is retained in the unaided memory of any officers, directors, agents, contractors, or employees of such Receiving Party after having access to such Confidential Information ("**Residual Knowledge**"), *provided* that such officer, director, agent, contractor, or employee (a) has not intentionally memorized such Residual Knowledge, (b) is not aware at the time of use that such Residual Knowledge is the Confidential Information of the Disclosing Party, and (c) has not been directed or encouraged by the Receiving Party to memorize such Residual Knowledge. Any use made by the Receiving Party of any such Residual Knowledge is on an "as is, where is" basis, with all faults and all representations and warranties disclaimed and at its sole risk. For clarity, no license under any Patent Right is granted pursuant to this Section 11.3 (Residual Knowledge).

11.4. **Public Announcements and Subsequent Disclosures**. Except as may be expressly permitted under Section 11.1.4 (Permitted Disclosures), neither Party will make any public announcement regarding this Agreement without the prior written approval of the other Party, except for either Party's references to the other as the licensor or licensee (as applicable) or a collaboration partner under this Agreement. For clarity, Ionis may make scientific publications or public announcements concerning Ionis' Exploitation of any Licensed Product under this Agreement pursuant to Section 11.5.1 (Ionis Publications); *provided* that, except as permitted under Section 11.1.4 (Permitted Disclosures), Ionis will not disclose any of Metagenomi's Confidential Information in any such publication or announcement without obtaining Metagenomi's prior written consent to do so. The Parties may each issue, or, by agreement of the Parties, may jointly issue, a press release announcing the signing of this Agreement after the Effective Date. The press release(s) to be issued by the Parties on or after the Effective Date will be substantially in the form of the press release(s) attached hereto as Schedule 11.4 (Press Release(s)). After the issuance of any such press release or any other permitted public disclosure by a Party, each Party may make subsequent public disclosures reiterating such information without having to obtain the other Party's prior consent and approval so long as the information in such press release or other public announcement remains true, correct, and the most current information with respect to the subject matters set forth therein.

11.5. **Publications**.

11.5.1. **Ionis Publications**.

(a) During the Collaboration Term, Ionis will submit to Metagenomi for review any proposed academic, scientific, or medical publication or public presentation related to any Licensed System or Licensed Product or to any activities conducted pursuant to this Agreement. Metagenomi will review such publication or presentation for purposes of determining whether any portion of the proposed publication or presentation contains Metagenomi's Confidential Information. Ionis will submit written copies of such proposed publication or presentation to Metagenomi no later than [***] before submission for publication or presentation (or [***] in advance in the case of an abstract). Metagenomi will provide its comments with respect to such publications and presentations within [***] after its receipt of such written copy (or [***] in the case of an abstract). Metagenomi will have the right: (i) to require the removal of its Confidential Information from any such publication or presentation and (ii) to request a reasonable delay in publication or presentation in order to protect patentable information. If Metagenomi requests such a delay, then Ionis will delay submission or presentation for a period of [***] after its provision of the copy of the proposed publication or disclosure to enable patent applications protecting Metagenomi's rights in such information. Ionis will comply with standard academic practice regarding authorship of scientific publications and recognition of contribution of other parties in any publication.

(b) Unless otherwise agreed in a Co-Development and Co-Commercialization Agreement, after the Collaboration Term, Ionis will have the right upon at least [***] prior written notice to Metagenomi, without any required consent or review from Metagenomi but subject to this Article 11 (Confidentiality), to publish or publicly disclose the scientific results of any activities conducted with respect to any Licensed System or Licensed Product or any other activities conducted pursuant to this Agreement; *provided* that if Metagenomi reasonably believes that such disclosure would adversely affect the use of any Licensed System for applications outside of the Field, then Ionis will reasonably consider any comments to such disclosure provided by Metagenomi in such [***] period.

11.5.2. **Metagenomi Publications**. During the Term, Metagenomi will not publish or publicly disclose the scientific results of any activities it conducts that are specific to the Licensed System or Licensed Product in the Field, or any other activities conducted pursuant to this Agreement and exclusively licensed to Ionis, in each case, without the prior written consent of Ionis (such consent not to be unreasonably withheld, conditioned, or delayed).

Article 12
Representations, Warranties, and Covenants

12.1. **Mutual Representations and Warranties**. As of the Effective Date, Metagenomi and Ionis each hereby represents and warrants to the other as follows:

12.1.1. It is a corporation duly organized, validly existing, and in good standing under the laws of the jurisdiction of its organization, and has all requisite power and authority, corporate or otherwise, to execute, deliver, and perform this Agreement.

12.1.2. The execution and delivery of this Agreement and the performance by it of the transactions contemplated hereby have been duly authorized by all necessary corporate action and will not violate (a) such Party's certificate of incorporation or bylaws (or equivalent charter or organizational documents), (b) any agreement, instrument or contractual obligation to which such Party is bound, (c) any requirement of any Applicable Law, or (d) any order, writ, judgment, injunction, decree, determination, or award of any court or Governmental Authority presently in effect applicable to such Party.

12.1.3. It is not under any obligation, contractual or otherwise, to any Person that conflicts with or is inconsistent in any respect with the terms of this Agreement or that will impede the diligent and complete fulfillment of its obligations hereunder.

12.1.4. There is no action or proceeding pending or, to the knowledge of such Party, threatened that could reasonably be expected to impair or delay the ability of such Party to perform its obligations under this Agreement.

12.1.5. All consents, approvals, and authorizations from all Governmental Authorities or other Third Parties required to be obtained by such Party in connection with this Agreement, including the grant of any licenses, have been obtained.

12.2. **Additional Representations of Metagenomi**. As of the Effective Date and the date on which each new target becomes a Collaboration Target pursuant to Section 2.1.1(b) (Second Wave 1 Target) or Section 2.1.4(c) (Effects if a Proposed Target is Available) (unless otherwise noted below), Metagenomi further represents and warrants to Ionis, that, except as set forth on Schedule 12.2 (Metagenomi Disclosure Schedule) (which schedule may be updated each time a target becomes a Collaboration Target):

12.2.1. [***] Warranty Technology [***] Metagenomi Platform [***].

12.2.2. Metagenomi Controls all Patent Rights and Know-How owned or in-licensed by Metagenomi that are necessary to Exploit licensed systems discovered using the Metagenomi Platform in the Field. For purposes of this Section 12.2.2, "licensed systems" mean a Gene Editing protein and a Guide RNA that is designed to modulate a target.

12.2.3. Metagenomi is the sole and exclusive owner or, if applicable, exclusive licensee, of all Warranty Technology, all of which is free and clear of any liens, charges, restrictions, and encumbrances (other than licenses granted to Third Parties that are not inconsistent with the options, rights, and licenses granted to Ionis hereunder), and neither any assignment, license, sublicense, or other grant of any interest in or options to the Warranty Technology granted by Metagenomi or its Affiliates to any Third Party, nor any assignment, license, sublicense, or other grant of any interest in or options to the Warranty Technology granted by any Third Party to Metagenomi or its Affiliates conflicts with the options, rights, and licenses granted to Ionis hereunder, and Metagenomi is entitled to grant all rights and licenses under the Warranty Technology that it purports to grant to Ionis under this Agreement.

12.2.4. Schedule 1.146 (Licensed Patent Rights) sets forth a true, correct, and complete list of all Licensed Patent Rights as of the Effective Date. To the extent a Licensed Patent Right is omitted from Schedule 1.146 (Licensed Patent Rights) as of the Effective Date, Metagenomi agrees and covenants to add such omitted Licensed Patent Right to Schedule 1.146 (Licensed Patent Rights), and that any such added Licensed Patent Right is deemed included in the licenses granted to Ionis pursuant to Section 3.1 (License Grants to Ionis) as of the Effective Date; *provided* that, for clarity, any Patent Right that otherwise meets the definition of Licensed Patent Rights will be deemed a Licensed Patent Right and included in the licenses granted to Ionis pursuant to Section 3.1 (License Grants to Ionis) from the time such Patent Right existed whether or not it is included on Schedule 1.146 (Licensed Patent Rights).

12.2.5. All issued Patent Rights within the Warranty Technology are in full force and effect and, to Metagenomi's Knowledge, have been Prosecuted and Maintained from the respective patent offices in accordance with Applicable Law. [***].

12.2.6. With respect to the Patent Rights within the Warranty Technology, [***], Metagenomi has obtained assignments from any and all inventors of all inventorship rights relating to such Patent Rights, all such assignments of inventorship rights relating to such Patent Rights have been properly executed and recorded in the relevant U.S. and [***].

12.2.7. To Metagenomi's Knowledge, no circumstances or grounds exist that would invalidate, [***], the enforceability, validity or scope of any Patent Rights within the Warranty Technology.

12.2.8. [***], and no Third Party has any rights, title, or interests in or to, or any license under, any of the Licensed Technology.

12.2.9. [***].

12.2.10. Metagenomi and its Affiliates have taken commercially reasonable measures consistent with industry practices to protect the secrecy, confidentiality, and value of all Warranty Technology that constitutes trade secrets under Applicable Law [***] and, to Metagenomi's Knowledge, such Warranty Technology has not been used, disclosed to, or discovered by any Third Party except pursuant to such confidentiality agreements and to Metagenomi's Knowledge, [***].

12.2.11. The Warranty Technology have not been created pursuant to, and are not subject to, any funding agreement with any Governmental Authority or any Third Party, and are not subject to the requirements of the Bayh-Dole Act or any similar provision of any Applicable Law.

12.2.12. [***].

12.2.13. There are no judgments or settlements against Metagenomi or any of its Affiliates, any pending or, to Metagenomi's Knowledge, threatened claims or litigation in writing, or written offers for Metagenomi to acquire or license any Third Party Intellectual Property Rights, in each case, in connection with the Warranty Technology or the practice thereof, or relating to the transactions contemplated by this Agreement.

12.2.14. Metagenomi has not employed (and has not used a Subcontractor that has employed) any Person debarred by the FDA (or subject to a similar sanction of EMA or foreign equivalent), or any Person that is the subject of an FDA debarment investigation or proceeding (or similar proceeding of EMA or foreign equivalent), in any capacity in connection with this Agreement, the Warranty Technology, or the Metagenomi Platform.

12.3. **Covenants of Metagenomi**. Metagenomi covenants to Ionis as follows:

12.3.1. Metagenomi and its Affiliates will maintain Control of all Licensed Technology and Licensed Systems owned by Metagenomi or its Affiliates at any time during the Term.

12.3.2. Metagenomi and its Affiliates will not [***] with respect to any Licensed Technology which would adversely affect the rights granted to Ionis hereunder.

12.3.3. Neither Metagenomi nor any of its Affiliates will [***], in each case, in a manner that conflicts with or otherwise adversely affects the options, rights, and licenses granted to Ionis hereunder.

12.3.4. Metagenomi will maintain and not breach, and will cause its Affiliates to maintain and not breach, the Metagenomi In-License Agreements, if any, or any license agreements that come into effect after the Effective Date pursuant to which Ionis receives a sublicense hereunder.

12.3.5. [***].

12.3.6. [***].

12.3.7. Metagenomi will, and will ensure that its Affiliates, Sublicensees, and Subcontractors, obtain agreements from any and all Persons involved in or performing any Development by or on behalf of Metagenomi that assign such Persons' rights, title, and interests in and to any Licensed Technology to Metagenomi prior to any such person performing such activities.

12.3.8. Metagenomi will, and will ensure that its Affiliates, comply with Applicable Law in connection with the performance of its and its Affiliates' activities under this Agreement.

12.3.9. Metagenomi will not, and will ensure that its Affiliates will not, take any action or enter into any agreement with any Third Party that conflicts with or in any way relinquishes or otherwise diminishes the rights granted to Ionis under this Agreement.

12.3.10. In performing under this Agreement, Metagenomi and its Affiliates agree to comply with all applicable anti-corruption laws, including the Foreign Corrupt Practices Act of 1977, as amended from time-to-time; the anti-corruption laws of the Territory; and all laws enacted to implement the Organization for Economic Cooperation and Development Convention on Combating Bribery of Foreign Officials in International Business Transactions.

12.3.11. Metagenomi will not directly or indirectly offer or pay, or authorize such offer or payment of, any money, or transfer anything of value, to improperly seek to influence: (a) any elected or appointed government official (e.g., a member of a ministry of health); (b) any employee or person acting for or on behalf of a Governmental Authority; (c) any political party officer, employee, or person acting for or on behalf of a political party or candidate for public office; (d) an employee or person acting for or on behalf of a public international organization; or (e) any person otherwise categorized as a government official under local law.

12.3.12. Neither Metagenomi nor its Affiliates will export, transfer, or sell any Licensed Product to any country or territory except in compliance with Applicable Law.

12.3.13. Metagenomi will not, to Metagenomi's Knowledge, engage directly or indirectly, in any capacity in connection with this Agreement any Person who either has been debarred by the FDA, is the subject of a conviction described in Section 306 of the FD&C Act or is subject to any such similar sanction. Metagenomi will inform Ionis in writing promptly if it or any Person engaged by Metagenomi or any of its Affiliates who is performing services under this Agreement or any ancillary agreements is debarred or is the subject of a conviction described in Section 306 of the FD&C Act, or if any action, suit, claim, investigation or legal or administrative proceeding is pending or, to Metagenomi's Knowledge, is threatened, relating to the debarment or conviction of Metagenomi, any of its Affiliates or any such Person performing services hereunder or thereunder.

12.3.14. Metagenomi will not, and will cause its Affiliates and Sublicensees not to, use or practice the Ionis Background Technology, including the Ionis Proprietary Toolbox of Chemical Modifications, except in accordance with this Agreement.

12.4. **Additional Representations of Ionis**. As of each Ionis IP Option Effective Date, Ionis represents and warrants to Metagenomi that, except as set forth on Schedule 12.4 (Ionis Disclosure Schedule) (which schedule may be updated each time a Proposed Metagenomi Target becomes a Metagenomi Target):

12.4.1. To Ionis' Knowledge, the practice of the Ionis Background Technology as contemplated by this Agreement will not (a) constitute misappropriation of any Know-How of any Third Party, or (b) infringe any Patent Rights of any Third Party.

12.4.2. Ionis is the owner, or licensee, of all Ionis Background Technology, all of which is free and clear of any liens, charges, restrictions, and encumbrances (other than licenses granted to Third Parties that are not inconsistent with the options, rights, and licenses granted to Metagenomi hereunder), and neither any assignment, license, sublicense, or other grant of any interest in or options to the Ionis Background Technology granted by Ionis or its Affiliates to any Third Party, nor any assignment, license, sublicense, or other grant of any interest in or options to the Ionis Background Technology granted by any Third Party to Ionis or its Affiliates conflicts with the options, rights, and licenses granted to Metagenomi hereunder, and Ionis is entitled to grant all rights and licenses under the Ionis Background Technology that it purports to grant to Metagenomi under this Agreement.

12.4.3. The Ionis Background Technology have not been created pursuant to, and are not subject to, any funding agreement with any Governmental Authority or any Third Party, and are not subject to the requirements of the Bayh-Dole Act or any similar provision of any Applicable Law.

12.4.4. To Ionis' Knowledge, no Third Party has infringed, misappropriated, or otherwise violated, or is currently infringing, misappropriating, or otherwise violating any Ionis Background Technology in a manner that would be reasonably likely to adversely affect Metagenomi, and neither Ionis nor its Affiliates have brought any claim or sent any notice alleging any such infringement, misappropriation, or violation.

12.4.5. There are no judgments or settlements against Ionis or any of its Affiliates, any pending or, to Ionis' Knowledge, threatened claims or litigation in writing, or written offers for Ionis to acquire or license any Third Party Intellectual Property Rights, in each case, in connection with the Ionis Background Technology or the practice thereof, or relating to the transactions contemplated by this Agreement.

12.4.6. Ionis has not employed (and has not used a Subcontractor that has employed) any Person debarred by the FDA (or subject to a similar sanction of EMA or foreign equivalent), or any Person that is the subject of an FDA debarment investigation or proceeding (or similar proceeding of EMA or foreign equivalent), in any capacity in connection with this Agreement or the Ionis Background Technology.

12.5. **Covenants of Ionis**. Ionis covenants to Metagenomi as follows:

12.5.1. Neither Ionis nor any of its Affiliates will effect any corporate restructuring or enter into any new agreement or otherwise obligate itself to any Third Party, in each case, in a manner that conflicts with or otherwise adversely affects the options, rights, and licenses granted to Metagenomi hereunder.

12.5.2. Ionis will, and will ensure that its Affiliates, comply with all Applicable Law in connection with the performance of its and its Affiliates' activities under this Agreement.

12.5.3. Ionis will not, and will ensure that its Affiliates will not, take any action or enter into any agreement with any Third Party that conflicts with or in any way relinquishes or otherwise diminishes the rights granted to Metagenomi under this Agreement.

12.5.4. In performing under this Agreement, Ionis and its Affiliates agree to comply with all applicable anti-corruption laws, including the Foreign Corrupt Practices Act of 1977, as amended from time-to-time; the anti-corruption laws of the Territory; and all laws enacted to implement the Organization for Economic Cooperation and Development Convention on Combating Bribery of Foreign Officials in International Business Transactions.

12.5.5. Ionis will not directly or indirectly offer or pay, or authorize such offer or payment of, any money, or transfer anything of value, to improperly seek to influence: (a) any elected or appointed government official (e.g., a member of a ministry of health); (b) any employee or person acting for or on behalf of a Governmental Authority; (c) any political party officer, employee, or person acting for or on behalf of a political party or candidate for public office; (d) an employee or person acting for or on behalf of a public international organization; or (e) any person otherwise categorized as a government official under local law.

12.5.6. Neither Ionis nor its Affiliates will export, transfer, or sell any Licensed Product to any country or territory except in compliance with Applicable Law.

12.5.7. Ionis will not, to Ionis' Knowledge, engage directly or indirectly, in any capacity in connection with this Agreement any Person who either has been debarred by the FDA, is the subject of a conviction described in Section 306 of the FD&C Act or is subject to any such similar sanction. Ionis will inform Metagenomi in writing promptly if it or any Person engaged by Ionis or any of its Affiliates who is performing services under this Agreement or any ancillary agreements is debarred or is the subject of a conviction described in Section 306 of the FD&C Act, or if any action, suit, claim, investigation or legal or administrative proceeding is pending or, to Ionis' Knowledge, is threatened, relating to the debarment or conviction of Ionis, any of its Affiliates or any such Person performing services hereunder or thereunder.

12.5.8. Ionis will not, and will cause its Affiliates not to, use or practice the Licensed Technology, except in accordance with this Agreement.

12.6. **Warranty Disclaimer**. EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER PARTY MAKES ANY REPRESENTATION OR EXTENDS ANY WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. IN PARTICULAR, IONIS DOES NOT MAKE ANY REPRESENTATION OR EXTEND ANY WARRANTY THAT THE LICENSED SYSTEMS OR LICENSED PRODUCTS WILL BE SUCCESSFULLY DEVELOPED OR COMMERCIALIZED HEREUNDER.

Article 13
Indemnification; Limitation of Liability; Insurance

13.1. **Indemnification of Metagenomi by Ionis**. Subject to Section 13.4 (Conditions to Indemnification), Ionis will defend, indemnify, and hold harmless Metagenomi and its Affiliates, Sublicensees, Subcontractors, and their respective employees, officers, and directors ("**Metagenomi Indemnitees**") from and against any and all liability, damage, loss, cost, or expense of any nature (including reasonable attorney's fees and litigation expenses) ("**Losses**") incurred or imposed upon the Metagenomi Indemnitees in connection with any claims, suits, actions, demands, proceedings, causes of action, or judgments resulting from a Third Party claim ("**Third Party Claims**") arising out of or relating to:

13.1.1. the Exploitation of any Licensed System or Licensed Product by or on behalf of any Ionis Indemnitee other than (a) claims by one or more Third Parties relating to patent infringement arising out of the practice of the Licensed Patent Rights in accordance with this Agreement, (b) claims by Third Parties relating to misappropriation of trade secrets or other Intellectual Property Rights arising out of the practice of the Licensed Know-How in accordance with this Agreement, or (c) Losses shared pursuant to Section 13.3 (Losses for the Co-Co Products);

13.1.2. the breach by any Ionis Indemnitee of any term of this Agreement; or

13.1.3. the negligence or willful misconduct of any Ionis Indemnitee except, in each case (Section 13.1.1 through Section 13.1.3), to the extent that any such claim results or arises from a matter for which Metagenomi is obligated to indemnify Ionis under Section 13.2 (Indemnification of Ionis by Metagenomi).

13.2. **Indemnification of Ionis by Metagenomi**. Subject to Section 13.4 (Conditions to Indemnification), Metagenomi will defend, indemnify, and hold harmless Ionis and its Affiliates, Sublicensees, and Subcontractors, and their respective employees, officers, and directors ("**Ionis Indemnitees**") from and against any and all Losses incurred or imposed upon the Ionis Indemnitees or any one of them in connection with one or more Third Party Claims arising out of or relating to:

13.2.1. any claim that the composition of matter [***] of a Gene Editing protein to edit gene targets (but not to edit the Collaboration Targets specifically) infringes or misappropriates any issued Patent Right or other Intellectual Property Right owned or possessed by any Third Party;

13.2.2. the Exploitation of any Licensed System that is included within a Licensed Product by any Metagenomi Indemnitee, other than Losses shared pursuant to Section 13.3 (Losses for the Co-Co Products) and any amounts [***];

13.2.3. the Exploitation of any Licensed System or Licensed Product by or on behalf of any Metagenomi Indemnitee prior to the Effective Date and after termination of this Agreement;

13.2.4. the Exploitation of any Metagenomi Product by or on behalf of any Metagenomi Indemnitee;

13.2.5. the breach by any Metagenomi Indemnitee of any term of this Agreement; or

13.2.6. the negligence or willful misconduct of any Metagenomi Indemnitee except, in each case (Section 13.2.1 through Section 13.2.6), to the extent that any such claim results or arises from a matter for which Ionis is obligated to indemnify Metagenomi under Section 13.1 (Indemnification of Metagenomi by Ionis).

13.3. **Losses for the Co-Co Products**. All Losses incurred by either Party arising from any Third Party Claim relating to the Exploitation of the Co-Co Products will be shared by the Parties pursuant to the Co-Development and Co-Commercialization Agreement; *provided* that the Parties will not share Losses of a Party or its Affiliates to the extent such Losses are (a) caused by a breach of this Agreement by a Party or Affiliate or (b) caused by gross negligence or willful misconduct of a Party or its Affiliate. As will be further set forth in the applicable Co-Development and Co- Commercialization Agreement, if either Party learns of any Third Party Claim with respect to Losses covered by this Section 13.3 (Losses for the Co-Co Products), such Party will provide the other Party with prompt written notice thereof, and the Parties will confer with respect to how to respond to such Third Party Claim and how to handle such Third Party Claim in an efficient manner. In the absence of such an agreement, each Party will have the right to take such action as it deems appropriate.

13.4. **Conditions to Indemnification**. Any Person seeking indemnification under this Article 13 (Indemnification; Limitation Of Liability; Insurance) (the "**Indemnitee**") will give prompt written notice of the indemnity claim to the indemnifying Party and promptly provide a copy to the indemnifying Party of any complaint, summons, or other written or verbal notice that the Indemnitee receives in connection with any such claim. An Indemnitee's failure to deliver written notice will relieve the indemnifying Party of liability to the Indemnitee under this Article 13 (Indemnification; Limitation Of Liability; Insurance) only to the extent such delay is prejudicial to the indemnifying Party's ability to defend or settle such claim. The indemnifying Party will have the right to assume and control the defense of the indemnification claim at its own expense with counsel selected by the indemnifying Party and reasonably acceptable to the Indemnitee; *provided*, *however*, that an Indemnitee will have the right to retain its own counsel that is reasonably acceptable to the indemnifying Party, with the fees and expenses to be paid by the indemnifying Party, if representation of such Indemnitee by the counsel retained by the indemnifying Party would be inappropriate due to actual or potential differing interests between the Indemnitee and any other party represented by such counsel in such proceedings. The indemnifying Party will act reasonably and in good faith with respect to all matters relating to such claim. If the indemnifying Party does not assume the defense of the indemnification claim as described in this Section 13.4 (Conditions to Indemnification), then the Indemnitee may defend the indemnification claim but will have no obligation to do so. The Indemnitee will not settle or compromise the indemnification claim without the prior written consent of the indemnifying Party, and the indemnifying Party will not settle or compromise the indemnification claim in any manner which would have an adverse effect on the Indemnitee's interests (including any rights under this Agreement or the scope, validity, or enforceability of any Patent Rights, Confidential Information, or other rights licensed to Ionis by Metagenomi hereunder), without the prior written consent of the Indemnitee, which consent, in each case (by the indemnifying Party or the Indemnitee, as the case may be), will not be unreasonably withheld, conditioned, or delayed. The Indemnitee will reasonably cooperate with the indemnifying Party at the indemnifying Party's expense and will make available to the indemnifying Party all pertinent information under the control of the Indemnitee, which information will be subject to Article 11 (Confidentiality). The indemnifying Party will not be liable for any settlement or other disposition of the claims by the Indemnitee if such settlement is reached without the written consent of the indemnifying Party pursuant to this Section 13.4 (Conditions to Indemnification).

13.5. **Limited Liability**. NEITHER OF THE PARTIES NOR THEIR RESPECTIVE AFFILIATES OR SUBLICENSEES WILL BE ENTITLED TO RECOVER FROM THE OTHER PARTY OR ITS AFFILIATES OR SUBLICENSEES ANY SPECIAL, INCIDENTAL, INDIRECT, CONSEQUENTIAL, OR PUNITIVE DAMAGES OR DAMAGES FOR LOSS OF PROFIT, LOST OPPORTUNITY, LOST DATA OR COST OF PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES IN CONNECTION WITH THIS AGREEMENT, ITS PERFORMANCE OR LACK OF PERFORMANCE HEREUNDER, WHETHER LIABILITY IS ASSERTED IN CONTRACT, TORT (INCLUDING NEGLIGENCE AND STRICT PRODUCT LIABILITY), INDEMNITY OR CONTRIBUTION, AND IRRESPECTIVE OF WHETHER THAT PARTY OR ANY REPRESENTATIVE OF THAT PARTY HAS BEEN ADVISED OF, OR OTHERWISE MIGHT HAVE ANTICIPATED THE POSSIBILITY OF, ANY SUCH LOSS OR DAMAGE, OR ANY LICENSE GRANTED HEREUNDER, EXCEPT TO THE EXTENT THE DAMAGES RESULT FROM (A) A PARTY'S WILLFUL MISCONDUCT OR GROSS NEGLIGENCE UNDER THIS AGREEMENT, (B) A BREACH OF THE OBLIGATIONS OF A PARTY UNDER ARTICLE 11 (CONFIDENTIALITY) OR UNDER SECTION 3.6 (EXCLUSIVITY), OR (C) AMOUNTS REQUIRED TO BE PAID AS PART OF A CLAIM FOR WHICH A PARTY PROVIDES INDEMNIFICATION UNDER ARTICLE 13 (INDEMNIFICATION; LIMITATION OF LIABILITY; INSURANCE).

13.6. **Insurance Obligations**. Each Party will, at its own expense, procure and maintain during the Term and for a period of [***] thereafter, insurance policies, including product liability insurance when applicable, adequate to cover its obligations hereunder and that are consistent with normal business practices of prudent companies similarly situated. Such insurance will not be construed to create a limit of a Party's liability with respect to its indemnification obligations under this Article 13 (Indemnification; Limitation of Liability; Insurance). Each Party will provide the other Party with written evidence of such insurance. Notwithstanding any provision to the contrary set forth in this Agreement, Ionis may self-insure, in whole or in part, the insurance requirements described above.

Article 14
Term and Termination

14.1. **Term**. This Agreement will commence on the Effective Date and, unless otherwise terminated pursuant to Section 14.2 (Termination), will continue (a) with respect to the Ionis Programs, on an Ionis Product-by-Ionis Product and country-by-country basis until the expiration of all applicable Royalty Terms for an Ionis Product in a country, (b) with respect to the Co-Co Programs for which Metagenomi has not exercised its Opt-Out Right in accordance with Section 5.4 (Metagenomi Opt- Out), on a Co-Co Program-by-Co-Co Program basis until the Parties cease all Exploitation for the Co-Co Products that are the subject to such Co-Co Program, and (c) with respect to the Metagenomi Products, on a Metagenomi Product-by-Metagenomi Product and country-by-country basis until the expiration of the Metagenomi Royalty Term for a Metagenomi Product in a country (the "**Term**"). On a Licensed Product-by-Licensed Product and country-by-country basis, effective upon the expiration of the Royalty Term for a Licensed Product in a country (but not upon any earlier termination of this Agreement for any reason), the licenses granted to Ionis will each become fully paid-up, royalty-free, irrevocable, and perpetual in such country with respect to such Licensed Product. On a Metagenomi Product-by-Metagenomi Product and country-by-country basis, effective upon the expiration of the Metagenomi Royalty Term for a Metagenomi Product in a country (but not upon any earlier termination of this Agreement for any reason), the licenses granted to Metagenomi will each become fully paid-up, royalty-free, irrevocable, and perpetual in such country with respect to such Metagenomi Product.

14.2. **Termination**. This Agreement may be terminated as follows:

14.2.1. **Termination for Convenience by Ionis**. Ionis may terminate this Agreement (either in its entirety or on a Licensed Product-by-Licensed Product basis), for convenience by providing written notice of its intent to terminate to Metagenomi, in which case, such termination will be effective 90 days after Metagenomi's receipt of such written notice.

14.2.2. **Termination for Material Breach**.

(a) **Ionis' Right to Terminate**. If Metagenomi is in material breach of this Agreement, then Ionis may deliver written notice of such material breach to Metagenomi. If the breach is curable, then Metagenomi will have [***] following its receipt of such written notice to cure such breach (except to the extent such breach involves the failure to make a payment when due, in which case such breach must be cured within [***] following Metagenomi's receipt of such written notice). If Metagenomi fails to cure such breach within such [***] or [***] period, as applicable, or the breach is not subject to cure, then Ionis may terminate this Agreement solely with respect to those Licensed Products to which such material breach relates, or in its entirety if such material breach relates to all Licensed Products, by providing written notice to Metagenomi, in which case, this Agreement will terminate on the date on which Metagenomi receives such written notice; *provided*, *however*, that if (A) the relevant breach does not involve Metagenomi's failure to make a payment when due and is curable, but not reasonably curable within [***], and (B) Metagenomi is making a *bona fide* effort to cure such breach, then Ionis' right to terminate this Agreement on account of such breach will be suspended for up to an additional [***] so long as Metagenomi is continuing to make such *bona fide* effort to cure such breach. If such breach is successfully cured during the applicable cure period, then Ionis will no longer have the right to terminate this Agreement on account of such breach.

(b) **Metagenomi's Right to Terminate**. If Ionis is in material breach of this Agreement, then Metagenomi may deliver written notice of such material breach to Ionis. If the breach is curable, then Ionis will have [***] following its receipt of such written notice to cure such breach (except to the extent such breach involves the failure to make a payment when due, in which case such breach must be cured within [***] following Ionis' receipt of such written notice). If Ionis fails to cure such breach within the [***] or [***] period, as applicable, or the breach is not subject to cure, then Metagenomi may terminate this Agreement in its entirety by providing written notice to Ionis, in which case this Agreement will terminate on the date on which Ionis receives such written notice; *provided*, *however*, that if (i) the relevant breach does not involve Ionis' failure to make a payment when due and is curable, but not reasonably curable within [***], and Ionis is making a *bona fide* effort to cure such breach, then Metagenomi's right to terminate this Agreement on account of such breach will be suspended for up to an additional [***] so long as Ionis is continuing to make such *bona fide* effort to cure such breach. If such breach is successfully cured during the applicable cure period, then Metagenomi will no longer have the right to terminate this Agreement on account of such breach. Notwithstanding the foregoing, any license granted to Ionis under this Agreement may not be terminated under this Section 14.2.2(b) (Metagenomi's Right to Terminate) if (A) the material breach does not involve the failure to make any material and undisputed portion of a payment due to Metagenomi under Article 9 (Consideration; Financial Terms) and (B) such license is necessary to make, have made, use or sell a Licensed Product for which a Clinical Trial has been Initiated. Termination pursuant to this Section 14.2.2(b) (Metagenomi's Right to Terminate) will not relieve Ionis from liability and damages to Metagenomi for default, and the Parties agree that if monetary damages are available to Metagenomi as a reasonable remedy for any default hereunder, then such monetary remedy will constitute the exclusive remedy for such default in lieu of termination of this Agreement.

(c) **Disputes Regarding Material Breach**. Notwithstanding the foregoing, if the alleged breaching Party in Section 14.2.2(a) (Ionis' Right to Terminate) or Section 14.2.2(b) (Metagenomi's Right to Terminate) disputes in good faith the existence or materiality of any breach, or failure to cure any breach, and provides written notice to the non-breaching Party of such dispute within the relevant cure period, then the non-breaching Party will not have the right to terminate this Agreement in accordance with Section 14.2.2(a) (Ionis' Right to Terminate) or Section 14.2.2(b) (Metagenomi's Right to Terminate), as applicable, unless and until the relevant dispute has been resolved in accordance with Section 15.1 (Dispute Resolution). During the pendency of such dispute, all the terms of this Agreement will remain in effect and the Parties will continue to perform all of their respective obligations hereunder.

14.2.3. Termination for Insolvency. If Metagenomi makes an assignment for the benefit of creditors, appoints or suffers appointment of a receiver or trustee over all or substantially all of its property, files a petition under any bankruptcy or insolvency act, or has any such petition filed against it that is not discharged within [***] after the filing thereof (each, an "**Insolvency Event**"), then Ionis may terminate this Agreement in its entirety by providing written notice of its intent to terminate this Agreement to Metagenomi, in which case, this Agreement will terminate on the date on which Metagenomi receives such written notice.

14.3. Effects of Termination. In the event of any early termination of this Agreement by a Party pursuant to Section 14.2 (Termination), effective as of the effective date of termination, the following provisions will apply with respect to the Terminated Products in the Terminated Countries:

14.3.1. **Wind-Down**. During the applicable termination notice period, unless otherwise agreed by the Parties, the Parties will begin to wind-down their respective activities under this Agreement to the extent related to the Terminated Products in the Terminated Countries. The JSC will coordinate the wind-down of each Party's efforts under this Agreement with respect to the Terminated Products in the Terminated Countries, or, if the JSC has disbanded, then the Parties will establish an appropriate committee to coordinate such wind-down.

14.3.2. **Termination of Rights and Licenses**. Other than as expressly set forth herein, including those provisions that this Agreement expressly provides will survive such termination and subject to Section 14.3.8 (Sublicense Survival), all rights and licenses granted from one Party to the other hereunder will immediately terminate with respect to the Terminated Products in the Terminated Countries; *provided* that such licenses will continue as necessary for the Parties to complete the orderly wind-down of their activities under this Agreement in accordance with Applicable Law and as otherwise required in accordance with Section 14.3.1 (Wind-Down).

14.3.3. **Termination of Payment Obligations**. All payment obligations with respect to the Terminated Products in the Terminated Countries hereunder will terminate, other than those that are accrued and unpaid as of the effective date of such termination. For any payment obligations that are accrued and unpaid as of the effective date of termination, an invoice must be provided no later than [***] after the effective date of termination.

14.3.4. **Sell-Off Right**. For a period not to exceed [***] following the effective date of termination, Ionis will have the right to sell or otherwise dispose of the Terminated Products in the Terminated Countries on hand at the time of such termination or in the process of Manufacturing; *provided* that any revenue obtained from such disposal will be treated as Net Sales and the provisions of Article 9 (Consideration; Financial Terms) will apply to such Net Sales and, if such sales result in the achievement of any Ionis Product Sales Milestone Event, then the applicable Ionis Product Sales Milestone Payment will be payable.

14.3.5. **Assignment of Regulatory Submissions**. Except with respect to any termination by Ionis under Section 14.2.2(a) (Ionis' Right to Terminate), Ionis will, as promptly as practicable, transfer to Metagenomi possession and ownership of all Regulatory Approvals solely relating to the Exploitation of any Terminated Product in the Terminated Countries.

14.3.6. **Reversion for Terminated Products other than Combination Products**.

(a) **Reversion License Grant**. Upon Metagenomi's written request no later than [***] following the effective date of termination and agreement by the Parties of the applicable royalty rate pursuant to Section 14.3.6(c) (Reversion Royalties), Ionis will grant and agrees to grant to Metagenomi, an exclusive, royalty-bearing (solely as provided in Section 14.3.6(c) (Reversion Royalties)), right and license, with the right to grant sublicenses through multiple tiers, under Patent Rights and Know-How Controlled by Ionis or its Affiliates to the extent such Patent Rights or Know-How are actually being used on the date of such termination by the Parties in the Development, Commercialization, or other Exploitation of the Terminated Products in the Terminated Countries as such Terminated Products exist as of the effective date of termination, solely to Exploit such Terminated Products in the Terminated Countries; *provided* that, if any such Terminated Products are Combination Products, then such license will not include any license or other rights with respect to any Other Product that is Covered by Patent Rights Controlled by Ionis or any of its Affiliates and Metagenomi will not obtain a license to any such Other Product other than pursuant to Section 14.3.7 (Reversion for Certain Combination Products) (such license grant, the "**Reversion License**").

(b) **Third Party Reversion IP**. With respect to any Patent Rights or Know-How that are the subject of the Reversion License that are in-licensed by Ionis from Third Parties, Ionis will notify Metagenomi of such Patent Rights or Know-How that are sublicensable to Metagenomi under the Reversion License (which notice will describe the terms and conditions of any Third Party agreements that are applicable to the grant to Metagenomi of the Reversion Licenses under such Patent Rights or Know-How (any such agreement, a "**Reversion IP In-License Agreement**"), including applicable payment terms). If Metagenomi elects to receive a sublicense under any Reversion IP In-License Agreement, then Metagenomi will notify Ionis in writing and Metagenomi will be responsible for (i) making all payments (including royalties, milestones, and other amounts) that are payable by Ionis to the Third Parties under each Reversion IP In-License Agreement with respect to and allocable to the Patent Rights and Know-How that are the subject of the Reversion License and arising out of the Exploitation of the Terminated Products in the Terminated Countries by making such payments directly to Ionis and, in each instance, Metagenomi will make the requisite payments to Ionis and provide the necessary reporting information to Ionis in sufficient time to enable Ionis to comply with its obligations under each Reversion IP In-License Agreement, and (ii) complying with any other obligations included in each Reversion IP In-License Agreement that are applicable to the grant to Metagenomi of the Reversion License under the applicable Patent Rights or Know-How (*provided* that Ionis has notified Metagenomi of such obligations), and the granting by Metagenomi of a sublicense under the Reversion Licenses will not relieve Metagenomi of its obligations under subclauses (i) and (ii).

(c) **Reversion Royalties**. The licenses granted to Metagenomi in Section 14.3.6(a) (Reversion License Grant) will be royalty-bearing, and Metagenomi will pay Ionis, on a Calendar Quarter basis, the royalty rates that are agreed to by the Parties at the time of Metagenomi's written request delivered pursuant to Section 14.3.6(a) (Reversion License Grant). With respect to the royalty rates to be agreed to by the Parties pursuant to this Section 14.3.6(c) (Reversion Royalties), the Parties will take into account, among other things, (i) [***], (ii) [***], (iii) [***], and (iv) [***], and if the Parties have not reached agreement on such financial terms within [***] after such effective date of termination, then either Party may refer such matter for resolution pursuant to Section 15.1.3 (Expedited Dispute Resolution).

14.3.7. Reversion for Certain Combination Products. If (a) any of the Terminated Products are Combination Products that are required, by the approved labeling for such Terminated Product, to be promoted as a Combination Product and the Other Product for such Terminated Product is exclusively Controlled by Ionis, such that Metagenomi is not able to otherwise acquire such Other Product, and (b) there is no approved label regarding the promotion of the Terminated Product that is not a Combination Product (any such Terminated Product meeting the requirements of (a) and (b), a "**Terminated Combination Products**"), then upon Metagenomi's written request no later than [***] following the effective date of termination for such Terminated Combination Products, the Parties will enter into good faith negotiations for up to [***] regarding the grant of a non-exclusive, royalty-bearing right and license, with the right to grant sublicenses through multiple tiers, under Patent Rights and Know-How Controlled by Ionis or its Affiliates to the extent such Patent Rights or Know-How are actually being used on the date of such termination by the Parties in the Development, Commercialization, or other Exploitation of the Terminated Combination Products in the Terminated Countries as such Terminated Combination Products exist as of the effective date of termination, solely to Exploit such Terminated Combination Products in the Terminated Countries.

14.3.8. Sublicense Survival. Any sublicense granted hereunder by Ionis will, at the Sublicensee's option, survive such termination on the condition that the relevant Sublicensee is not in material breach of any of its obligations under such sublicense. In order to effect this provision, at the request of the Sublicensee, Metagenomi will enter into a direct license with the Sublicensee on terms that are substantially the same terms as the applicable terms of this Agreement; *provided* that Metagenomi will not be required to undertake obligations in addition to those required by this Agreement, and Metagenomi's rights under such direct license will be consistent with its rights under this Agreement, taking into account the scope of the license granted under such direct license.

14.4. Confidential Information. Upon the expiration or termination of this Agreement with respect to a Terminated Product in a Terminated Country, the Receiving Party will return (or, as directed by the Disclosing Party, destroy) all Confidential Information of the Disclosing Party related to such Terminated Product in such Terminated Country to the Disclosing Party that is in the Receiving Party's possession or control (other than any Confidential Information required to continue to exercise a Party's rights that survive such expiration or termination of this Agreement); *provided*, *however*, copies may be retained and stored solely for the purpose of determining a Party's obligations under this Agreement, subject to the non-disclosure and non-use obligation under Article 11 (Confidentiality). In addition, the Receiving Party will not be required to return or destroy Confidential Information contained in any computer system back-up records made in the ordinary course of business.

14.5. Surviving Provisions. Subject to the other terms and conditions regarding the termination and survival of obligations under this Agreement in the event of expiration or termination of this Agreement, upon expiration or termination of this Agreement, all provisions of this Agreement will cease to have any effect, except that the following provisions will survive any such expiration or termination for any reason for the period of time specified therein, or if not specified, then they will survive indefinitely: Section 2.5.1 (Reimbursement by Ionis) (solely with respect to obligations accrued, but not yet paid, as of the effective date of termination of this Agreement); Section 3.1.3 (Unblocking License); Section 3.2.2 (Unblocking License); Section 3.5 (No Implied Licenses); Section 9.4 (Ionis Product Milestone Payments), Section 9.6 (Ionis Product Royalty Payments), Section 9.9 (Payment Obligations Under Certain In-License Agreements), and Section 9.10 (Metagenomi Product Economics) (in each case, solely with respect to obligations accrued, but not yet paid, as of the effective date of expiration or termination of this Agreement); Section 9.11 (Other Payments); Section 9.12 (Right to Offset); Section 9.13 (Records and Audits) (solely for [***] after termination or expiration of this Agreement); Section 9.14 (Currency of Payment; Non- Refundable Payments) through Section 9.17 (Withholding Taxes); Section 10.1.1 (Background Intellectual Property); Section 10.1.2 (By Inventorship); Section 10.2 (Patent Prosecution) (solely with respect to Joint Collaboration Patent Rights); Section 10.3 (Patent Enforcement) (solely with respect to Joint Collaboration Patent Rights); Section 11.1 (Confidential Information) through Section 11.4 (Publication Announcements and Subsequent Disclosures); Section 12.6 (Warranty Disclaimer); Section 13.1 (Indemnification of Metagenomi by Ionis) through Section 13.5 (Limited Liability); Section 13.6 (Insurance Obligations) (solely for [***] after expiration or termination of this Agreement); Section 14.1 (Term) (solely in the event of expiration and with respect to the last two sentences); Section 14.3 (Effects of Termination); Section 14.4 (Confidential Information); this Section 14.5 (Surviving Provisions); Article 15 (Miscellaneous); and Appendix 1 (Definitions) (as applicable). Termination or expiration of this Agreement (either in its entirety or with respect to one or more Licensed Products) will not relieve either Party of any liability that accrued hereunder prior to the effective date of such termination or expiration, preclude either Party from pursuing all rights and remedies it may have hereunder or at law or in equity with respect to any breach of this Agreement nor prejudice any rights that will have accrued to the benefit of any Party prior to such termination or expiration. The remedies provided in this Article 14 (Term and Termination) are not exclusive of any other remedies a Party may have in law or equity.

Article 15
Miscellaneous

15.1. Dispute Resolution.

15.1.1. Escalation. In the event of any dispute, claim, controversy, or cause of action asserted by a Party against the other Party or by the Metagenomi Indemnitees against Ionis or by the Ionis Indemnitees against Metagenomi arising out of or related to this Agreement or performance of this Agreement (other than matters within the purview of the JSC, which will be resolved as set forth in Section 4.6 (Decision-Making)) (a "**Claim**"), including any alleged breach of this Agreement or claim for indemnification pursuant to Article 13 (Indemnification; Limitation Of Liability; Insurance), such Party may, by written notice to the other Party, refer such matter to the Parties' respective officers designated below for attempted resolution (each, an "**Executive Officer**"):

For Ionis: Chief Executive Officer (or such other senior executive designated by Ionis for such purpose)

For Metagenomi: Chief Executive Officer (or such other senior executive designated by Metagenomi for such purpose)

15.1.2. Arbitration. Except as otherwise expressly set forth in this Agreement, if such Executive Officers do not resolve the dispute within [***] after receipt of such request, then, either Party may at any time after such [***] period submit such Claim to be finally settled by arbitration administered in accordance with the procedural rules of the American Arbitration Association (the "**AAA**") in effect at the time of submission, as modified by this Section 15.1.2 (Arbitration) (the "**Arbitration**"). The Arbitration will be governed by the Applicable Law of the State of New York. The Arbitration will be heard and determined by three arbitrators who are retired judges or attorneys with at least 20 years of relevant experience, each of whom will be impartial and independent and will not have worked for or on behalf of either Party for at least [***]. Each Party will appoint one arbitrator and the third arbitrator will be selected by the two Party-appointed arbitrators, or, failing agreement within [***] following appointment of the second arbitrator, by the AAA. Such Arbitration will take place in New York, NY. The Arbitration award so given will, absent an appealable error under applicable AAA procedural rules, be a final and binding determination of the Claim, will be fully enforceable in any court of competent jurisdiction, and will not include any damages expressly prohibited by Section 13.5 (Limited Liability). Ionis will pay the fees, costs, and expenses for the arbitrator it chooses, Metagenomi will pay the fees, costs, and expenses for the arbitrator it chooses, and the Parties will share payment of the fees, costs and expenses for the third arbitrator. Except in a proceeding to enforce the results of the Arbitration or as otherwise required by Applicable Law or securities exchange, neither Party nor any arbitrator may disclose the existence, content, or results of any Arbitration hereunder without the prior written consent of both Parties. The Parties will instruct the arbitrators to complete the Arbitration within [***] after selection of the first arbitrator by a Party and each Party will use reasonable efforts to complete such arbitration proceedings within such time period.

15.1.3. Expedited Dispute Resolution. If the Executive Officers fail to reach agreement on any Expedited Dispute within [***] of submission of such Expedited Dispute to the Executive Officers, then either Party may notify the other Party of its intent to invoke dispute resolution under this Section 15.1.3 (Expedited Dispute Resolution) and such Expedited Dispute will be resolved by binding arbitration in accordance with this Section 15.1.3 (Expedited Dispute Resolution) except that the procedures for the conduct of such arbitration will be modified as follows:

(a) The arbitration will be conducted by a single neutral arbitrator selected by the Parties or, failing agreement by the Parties, by the AAA in accordance with the procedural rules of the AAA. Such arbitrator will be a retired judge or attorney with at least 20 years of relevant experience, who will be impartial and independent and will not have worked for or on behalf of either Party for at least [***]. The arbitrator will have the authority to engage one or more Third Party experts who are expert in the subject matter of the dispute to advise the arbitrator in rendering his or her decision (each, a "**Third Party Expert**"), and the costs of such Third Party Expert(s) will be included in the costs of the arbitration. The arbitrator will seek to obtain the mutual agreement of the Parties regarding such Third Party Expert(s), but absent such agreement, such Third Party Expert(s) will be selected by the arbitrator. Each Third Party Expert will be a disinterested individual who is not affiliated with either Party or its Affiliates or a Sublicensee and who has expertise and experience with respect to the subject matter of the Expedited Dispute, as determined by the arbitrator. Neither the Third Party Expert nor any of the Third Party Expert's former employers will be or have been at any time an Affiliate, employee, officer or director of, or a consultant for, either Party or any of its Affiliates or a Sublicensee.

(b) Within [***] of appointment of the arbitrator (and selection of the Third Party Expert(s)) in accordance with this Section 15.1.3 (Expedited Dispute Resolution), the Parties will submit their written positions regarding the Expedited Dispute to the other Party and the arbitrator. Each Party may submit a revised written position to the arbitrator within [***] of receiving the other Party's written position. If so requested by the arbitrator, each Party will make oral or other written submissions to the arbitrator in accordance with procedures to be established by the arbitrator; *provided* that the other Party will have the right to be present during any oral submissions.

(c) The arbitrator will render a decision in writing within [***] (or such other time period as the Parties may agree) after receipt of the last Party's written position, which decision will be in accordance with the applicable provisions of this Agreement, and such decision will be conclusive and binding on the Parties.

(d) Notwithstanding anything to the contrary herein, the arbitration under this Section 15.1.3 (Expedited Dispute Resolution) will be conducted as a "baseball arbitration" type proceeding. The arbitrator will select one of the Party's position as his or her decision, based on what is most reasonable and equitable to each of the Parties under the circumstances and in light of the terms set forth in this Agreement, and will not have the authority to render any substantive decision other than to so select one Party's position as initially submitted, or as revised in accordance with the foregoing, as applicable. The arbitrator may fashion such detailed procedures as the arbitrator considers appropriate to implement this intent.

(e) The Parties will instruct the arbitrator to complete all arbitration proceedings within [***] after selection of the arbitrator and each Party will use reasonable efforts to complete such arbitration proceedings within such time period.

15.1.4. **Tolling**. The Parties agree that all applicable statutes of limitation and time-based defenses (such as estoppel and laches), as well as all time periods in which a Party must exercise rights or perform obligation hereunder, will be tolled once the dispute resolution procedures set forth in this Section 15.1 (Dispute Resolution) have been initiated and for so long as they are pending, and the Parties will cooperate in taking all actions reasonably necessary to achieve such a result. In addition, during the pendency of any Claim under this Agreement initiated before the end of any applicable cure period, including under Section 14.2.2 (Termination for Material Breach), (a) this Agreement will remain in full force and effect, (b) the provisions of this Agreement relating to termination for material breach with respect to such Claim will not be effective, and (c) neither Party will issue a notice of termination pursuant to this Agreement based on the subject matter of the arbitration, until the arbitral tribunal has confirmed the material breach and the existence of the facts claimed by a Party to be the basis for the asserted material breach; *provided* that if such breach can be cured by (i) the payment of money, the defaulting Party will have an additional [***] within its receipt of the arbitral tribunal's decision to pay such amount (or such later date if specified in the arbitral tribunal's decision) or (ii) the taking of specific remedial actions, the defaulting Party will have a reasonably necessary period to diligently undertake and complete such remedial actions within such reasonably necessary period or any specific timeframe established by such arbitral tribunal's decision before any such notice of termination can be issued. Further, with respect to any time periods that have run during the pendency of the Claim, the applicable Party will have a reasonable period of time or any specific timeframe established by such arbitral tribunal's decision to exercise any rights or perform any obligations affected by the running of such time periods.

15.2. **Designation of Affiliates**. Each Party may discharge any obligations and exercise any rights under this Agreement through delegation of its obligations or rights to any of its Affiliates; *provided* that the delegating Party will remain primarily responsible for such obligation. Each Party hereby guarantees the performance by its Affiliates of such Party's obligations under this Agreement, and will cause its Affiliates to comply with the provisions of this Agreement in connection with such performance. Any breach by a Party's Affiliate of any of such Party's obligations under this Agreement will be a breach by such Party, and the other Party may proceed directly against such Party without any obligation to first proceed against such Party's Affiliate.

15.3. **Patent Disputes**. Notwithstanding Section 15.1.2 (Arbitration), if a dispute arises between the Parties under this Agreement with respect to the inventorship, interpretation, scope, validity, enforceability, applicability or term of any Patent Right, then such dispute will not be resolved pursuant to Section 15.1.2 (Arbitration), but instead may be brought by either Party in the federal courts in the State of New York.

15.4. **Injunctive Relief**. Notwithstanding anything to the contrary set forth in this Agreement, the Parties each stipulate and agree that (a) the other Party's Confidential Information includes highly sensitive trade secret information, (b) a breach of Section 3.6 (Exclusivity) or Article 11 (Confidentiality), in each case, may cause irrevocable harm for which monetary damages would not provide a sufficient remedy, and (c) in such case of a breach of Section 3.6 (Exclusivity) or Article 11 (Confidentiality), the non-breaching Party will be entitled to equitable relief (including temporary or permanent restraining orders, specific performance or other injunctive relief) from any court of competent jurisdiction. In addition, and notwithstanding anything to the contrary set forth in this Agreement, in the event of any other actual or threatened breach hereunder, the aggrieved Party may seek equitable relief (including temporary or permanent restraining orders, specific performance or other injunctive relief) from any court of competent jurisdiction without first submitting to the dispute resolution procedures set forth in Section 15.1 (Dispute Resolution).

15.5. **Governing Law**. This Agreement will be governed by and construed in accordance with the laws of the State of New York without taking into consideration any choice of law principles that would lead to the application of the laws of another jurisdiction.

15.6. **Cumulative Remedies**. The rights and remedies of the Parties under this Agreement are cumulative and not exclusive and, accordingly, are in addition to and not in lieu of any other rights and remedies of the Parties at law or in equity.

15.7. **Notices**. Any notice or report required or permitted to be given or made under this Agreement by either Party to the other will be in writing and delivered to the other Party at its address indicated below or to such other address as the addressee will have theretofore furnished in writing to the addressor by hand, courier or by registered or certified airmail (postage prepaid), in writing, by registered or certified airmail (postage prepaid):

If to Ionis: Ionis Pharmaceuticals, Inc.
2855 Gazelle Court
Carlsbad, CA 92010
Attention: Chief Business Officer

Copy to (which copy will not constitute notice):

[***]
Attention: General Counsel

If to Metagenomi: Metagenomi, Inc.
1545 Park Avenue
Emeryville CA 94608
Attention: [***]

Copy to (which copy will not constitute notice):

Attention: [***]
Copy to [***]

All notices will be deemed effective: (a) if by courier, on the Business Day of delivery as evidenced by the courier's receipt (or if delivered or sent on a non-Business Day, then on the next Business Day); or (b) if sent by registered or certified airmail, on the Business Day of receipt as evidenced on the return receipt.

15.8. **Amendment; Waiver**. This Agreement (including all exhibits and attachments to this Agreement except as set forth in Section 2.2.3 (Amendments to the Drug Discovery Plans) or Section 2.3.2 (Amendments to the Exploratory Research Plan)), may be amended, modified, superseded, or cancelled only by a written agreement between the Parties, and any of the terms of this Agreement may be waived only by a written instrument executed by each Party or, in the case of waiver, by the Party or Parties waiving compliance. The delay or failure of either Party at any time or times to require performance of any provisions will in no manner affect the rights at a later time to enforce the same. No waiver by either Party of any condition or of the breach of any term contained in this Agreement, whether by conduct, or otherwise, in any one or more instances, will be deemed to be, or considered as, a further or continuing waiver of any such condition or of the breach of such term or any other term of this Agreement.

15.9. **Assignment and Successors**. Neither Party may assign or transfer this Agreement in whole or in part or the licenses granted under this Agreement without the other Party's prior written consent *unless* such assignment is to (a) a Third Party successor or purchaser of all or substantially all of the assets or businesses to which this Agreement relates whether pursuant to a sale of assets, merger, or other transaction, in which case the assigning Party will provide prior written notice to the other Party and need not obtain the other Party's consent or (b) an Affiliate of such Party, in which case the assigning Party will provide prior written notice to the other Party and need not obtain the other Party's consent; *provided* that, in either case, the assigning Party remains fully liable for the performance of its obligations hereunder by such assignee. Each Party will also have the right to sell, assign, and convey its rights to receive royalties from Net Sales of Licensed Product (with respect to Metagenomi) and Metagenomi Products (with respect to Ionis) and related rights to receive royalty reports and conduct audits of the other Party, its Affiliates and Sublicensees to Third Party purchasers of royalty interests. Any other assignment of this Agreement by a Party requires the prior written consent of the other Party. An assignment to an Affiliate will terminate, and all rights so assigned will revert to the assigning Party, if and when such Affiliate ceases to be an Affiliate of the assigning Party. For clarity, any assignment in violation of this Section 15.9 (Assignment and Successors) will be null, void, and of no legal effect. This Agreement will be binding upon and inure to the benefit of the Parties and their respective legal representatives, successors and permitted assigns.

15.10. **Rights in Bankruptcy**.

15.10.1. All rights and licenses now or hereafter granted by one Party to the other Party under or pursuant to this Agreement, including, for the avoidance of doubt, the licenses granted to Ionis pursuant to Section 3.1 (License Grant to Ionis), are, for all purposes of Section 365(n) of the U.S. Bankruptcy Code, licenses of rights to "intellectual property" as defined in the U.S. Bankruptcy Code. Upon the occurrence of any Insolvency Event with respect to a Party granting a license (the "**Licensing Party**"), the Licensing Party agrees that the other Party (the "**Licensee**"), as licensee of such rights under this Agreement, will retain and may fully exercise all of its rights and elections under the U.S. Bankruptcy Code. Without limiting the generality of the foregoing, the Parties intend and agree that any sale of a Licensing Party's assets under Section 363 of the U.S. Bankruptcy Code will be subject to Ionis' rights under Section 365(n), that the Licensee cannot be compelled to accept a money satisfaction of its interests in the intellectual property licensed pursuant to this Agreement, and that any such sale therefore may not be made to a purchaser "free and clear" of the Licensee's rights under this Agreement and Section 365(n) without the express, contemporaneous consent of the Licensee. The Licensing Party will, during the Term, create and maintain current copies or, if not amenable to copying, detailed descriptions or other appropriate embodiments, to the extent feasible, of all intellectual property licensed under this Agreement. Each Party acknowledges and agrees that "embodiments" of intellectual property within the meaning of Section 365(n) include laboratory notes and notebooks, cell lines, laboratory samples, product samples and inventory, research studies and data, all Regulatory Approvals (and all applications for Regulatory Approval) and rights of reference therein, marketing advertising and promotional materials, the Licensed Technology, and all information related to the Licensed Technology. If (a) a case under the U.S. Bankruptcy Code is commenced by or against a Licensing Party, (b) this Agreement is rejected as provided in the U.S. Bankruptcy Code, and (c) the Licensee elects to retain its rights hereunder as provided in Section 365(n) of the U.S. Bankruptcy Code, the Licensing Party (in any capacity, including debtor-in-possession) and its successors and assigns (including a trustee) will:

(a) provide the Licensee with all such intellectual property (including all embodiments thereof) held by the Licensing Party and such successors and assigns, or otherwise available to them, immediately upon Ionis' written request. Whenever the Licensee or any of its successors or assigns provides to Ionis any of the intellectual property licensed hereunder (or any embodiment thereof) pursuant to this Section 15.10.1, the Licensee will have the right to perform the Licensing Party's obligations hereunder with respect to such intellectual property, but neither such provision nor such performance by the Licensee will release the Licensing Party from liability resulting from rejection of the license or the failure to perform such obligations; and

(b) not interfere with the Licensee's rights under this Agreement, or any agreement supplemental hereto, to such intellectual property (including such embodiments), including any right to obtain such intellectual property (or such embodiments) from another entity, to the extent provided in Section 365(n) of the U.S. Bankruptcy Code.

15.10.2. All rights, powers and remedies of the Licensee provided herein are in addition to and not in substitution for any other rights, powers, and remedies now or hereafter existing at law or in equity (including the U.S. Bankruptcy Code) in the event of the commencement of a case under the U.S. Bankruptcy Code with respect to the Licensing Party. The Parties intend the following rights to extend to the maximum extent permitted by Applicable Law, and to be enforceable under U.S. Bankruptcy Code Section 365(n):

(a) the right of access to any intellectual property rights (including all embodiments thereof) of the Licensing Party, or any Third Party with whom the Licensing Party contracts to perform an obligation of the Licensing Party under this Agreement, and, in the case of any such Third Party, which is necessary for the Manufacture, use, sale, import, or export of Licensed Systems and Licensed Products; and

(b) the right to contract directly with any Third Party to complete the contracted work.

15.11. **Force Majeure**. Neither Party will be held liable or responsible to the other Party nor be deemed to be in default under, or in breach of any provision of, this Agreement for failure or delay in fulfilling or performing any obligation (other than a payment obligation) of this Agreement to the extent such failure or delay is due to force majeure. For purposes of this Agreement, "**Force Majeure**" is defined as any cause beyond the reasonable control of the affected Party and without the fault or negligence of such Party, which may include acts of God; material changes in Applicable Law; war; civil commotion; destruction of production facilities or materials by fire, flood, earthquake, explosion or storm; labor disturbances; epidemic; pandemic; quarantine; and failure of public utilities or common carriers. The Parties agree the effects of the COVID-19 pandemic that is ongoing as of the Effective Date (including related government orders) may be invoked as a Force Majeure for the purposes of this Agreement, even though the pandemic is ongoing, only to the extent those effects are not reasonably foreseeable by the Parties as of the Effective Date. Notwithstanding the foregoing, a Party will not be excused from making payments owed hereunder due to any Force Majeure circumstances affecting such Party. In the case of a Force Majeure, the Party affected by such Force Majeure will immediately notify the other Party of such inability and of the period for which such inability is expected to continue. The Party giving such notice will thereupon be excused from such of its obligations under this Agreement as it is thereby disabled from performing for so long as it is so disabled for up to a maximum of [***], after which time the Parties will promptly meet to discuss in good faith how to best proceed in a manner that maintains and abides by the Agreement. To the extent possible, the Party affected by such Force Majeure will use reasonable efforts to minimize the duration of any Force Majeure.

15.12. **Interpretation**. The Parties acknowledge and agree that: (a) each Party and its counsel reviewed and negotiated the terms and provisions of this Agreement and have contributed to its revision; (b) the rule of construction to the effect that any ambiguities are resolved against the drafting Party will not be employed in the interpretation of this Agreement; and (c) the terms and provisions of this Agreement will be construed fairly as to each Party and not in a favor of or against either Party, regardless of which Party was generally responsible for the preparation of this Agreement. In addition, except as otherwise explicitly specified to the contrary, (i) references to a section, schedule or exhibit means a section of, or schedule or exhibit to this Agreement, unless another agreement is specified, (ii) the word "including" (in its various forms) means "including without limitation," (iii) the words "shall" and "will" have the same meaning, (iv) references to a particular statute or regulation include all rules and regulations thereunder and any predecessor or successor statute, rules or regulations, in each case as amended or otherwise modified from time-to-time, (v) words in the singular will be held to include the plural and vice versa, and words of one gender will be held to include all genders as the context requires, (vi) references to a particular Person include such Person's successors and assigns to the extent not prohibited by this Agreement, (vii) references to "days" will mean calendar days, unless otherwise specified, (viii) the word "or" will not be exclusive, unless the context otherwise requires, (ix) the titles and headings contained in this Agreement are for reference purposes only and will not affect in any way the meaning or interpretation of this Agreement, (x) the terms "hereof," "hereby," "hereto," and derivative or similar words refer to this entire Agreement, including any schedules or exhibits hereto, and (xi) unless otherwise specified, "$" is in reference to United States Dollars.

15.13. **Integration**. This Agreement, together with all exhibits and schedules attached hereto and each Co-Development and Co-Commercialization Agreement, any Development Supply Agreement, and any Commercial Supply Agreement, sets forth the entire agreement with respect to the subject matter hereof and thereof and supersedes all other agreements and understandings between the Parties with respect to such subject matter, including the Confidentiality Agreement.

15.14. **Severability**. Each Party hereby agrees that it does not intend to violate any public policy, statutory or common laws, rules, regulations, treaty, or decision of any government agency or executive body thereof of any country or community or association of countries. If one or more provisions of this Agreement be or become invalid, then the Parties will substitute, by written agreement, valid provisions for such invalid provisions, which valid provisions in their economic effect are sufficiently similar to the invalid provisions such that it can be reasonably assumed that the Parties would have entered into this Agreement with such valid provisions. If the Parties are unable to agree upon such alternative valid provision, then the invalidity of one or several provisions of this Agreement will not affect the validity of this Agreement as a whole, unless the invalid provisions are of such essential importance to this Agreement such that it is to be reasonably assumed that the Parties would not have entered into this Agreement without the invalid provisions.

15.15. **Further Assurances**. Each of Ionis and Metagenomi agrees to duly execute and deliver, or cause to be duly executed and delivered, such further instruments and do and cause to be done such further acts and things, including, the filing of such additional assignments, agreements, documents and instruments, as the other Party may at any time and from time-to-time reasonably request in connection with this Agreement or to carry out more effectively the provisions and purposes of, or to better assure and confirm unto such other Party its rights and remedies under, this Agreement.

15.16. **Counterparts**. This Agreement may be executed in counterparts, all of which taken together will be regarded as one and the same instrument. Counterparts may be delivered via electronic mail, including Adobe™ Portable Document Format (PDF) or any electronic signature complying with the U.S. Federal ESIGN Act of 2000, and any counterpart so delivered will be deemed to be original signatures, will be valid and binding upon the Parties, and, upon delivery, will constitute due execution of this Agreement.

15.17. **Relationship of the Parties**. In entering into this Agreement and performing their respective duties and obligations with respect to the Agreement, the Parties are acting, and intend to be treated, as independent entities, and the activities and resources of each Party will be managed by such Party, acting independently and in its individual capacity. The relationship between the Parties is that of independent contractors, and neither Party will have the power to bind or obligate the other Party in any manner. Nothing contained in this Agreement will be construed or implied to create an agency, partnership, joint venture, fiduciary, or employer-employee relationship between the Parties. Except as otherwise expressly provided in this Agreement, neither Party may make any representation, warranty or commitment, whether express or implied, on behalf of or incur any charges or expenses for or in the name of the other Party. Neither Party will hold itself out, or take any action, contrary to the terms of this Section 15.17 (Relationship of the Parties), and neither Party will become liable due to any such representation, warranty, commitment, act or omission made by the other Party contrary to the provisions of this Section 15.17 (Relationship of the Parties). Subject to the terms of this Agreement, the activities and resources of each Party will be managed by such Party, acting independently and in its individual capacity.

[Remainder of page intentionally left blank.]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives.

METAGENOMI, INC.

By: */s/ Brian Thomas*
Name: Brian Thomas
Title: Chief Executive Officer

IONIS PHARMACEUTICALS, INC.

By: */s/ Brett Monia*
Name: Brett Monia
Title: Chief Executive Officer

Appendix 1

Definitions

For purposes of this Agreement, whether used in the singular or plural, the following terms will have the meanings set forth below:

1.1. "**AAA**" has the meaning set forth in Section 15.1.2 (Arbitration).

1.2. "**Accounting Standards**" means United States Generally Accepted Accounting Principles, as generally and consistently applied throughout a Party's organization.

1.3. "**Acquiring Party**" has the meaning set forth in Section 9.8.1 (Proposed New In-License Agreement).

1.4. "**Acquisition Transaction**" has the meaning set forth in Section 3.6.2 (Acquisition of Distracting Product).

1.5. "**Additional Drug Discovery Plan**" has the meaning set forth in Section 2.2.2 (Additional Drug Discovery Plans).

1.6. "**Additional Wave 1 Target**" has the meaning set forth in Section 2.1.1(c) (Additional Wave 1 Target Selection).

1.7. "**Additional Wave 1 Target Notice**" has the meaning set forth in Section 2.1.1(c) (Additional Wave 1 Target Selection).

1.8. "**Additional Wave 1 Target Selection Period**" has the meaning set forth in Section 2.1.1(c) (Additional Wave 1 Target Selection).

1.9. "**Affiliate**" means, as of any point in time and for so long as such relationship continues to exist with respect to any Person, any other Person that controls, is controlled by, or is under common control with such Person. For purposes of this Section 1.9 (Affiliate), the term "control" (including, with correlative meaning, the terms "controlled by" and "under common control with"), means the possession, directly or indirectly, of more than 50% of the voting stock or other ownership interest of such Person, or the possession, directly or indirectly, of the power to direct or cause the direction of the affairs or management and policies of such Person or the power to elect or appoint more than 50% of the members of the governing body of such Person. The Parties acknowledge that in the case of certain entities organized under the laws of certain countries outside the United States, the maximum percentage ownership permitted by Applicable Law for a foreign investor may be less than 50%, and that in such case such lower percentage will be substituted in the preceding sentence; *provided* that such foreign investor has the power to direct the management and policies of such entity.

1.10. "**Agreement**" has the meaning set forth in the Preamble.

1.11. "**Alliance Manager**" has the meaning set forth in Section 4.4 (Alliance Managers).

1.12. "**[***]**" means any amount that is less than [***], on a year to date basis, set forth in the Exploratory Research Budget or a Drug Discovery Budget (as applicable) for such Calendar Year; *provided* that such amount is not incurred as a result of any breach by Metagenomi of this Agreement.

1.13. "**Annual Net Sales**" means, with respect to an Ionis Product, the aggregate Net Sales of such Ionis Product sold by Ionis, its Affiliates, or Sublicensees in the Field in the Territory during a Calendar Year and only during the Royalty Term for such Ionis Product in the applicable country.

1.14. "**Applicable Law**" means applicable (with respect to the particular activity, task, or obligation under this Agreement to which such term applies) laws, statutes, rules, regulations, and other pronouncements having the effect of law of any Governmental Authority that may be in effect from time to time, including for clarity any applicable rules, regulations, guidelines, or other requirements of any Regulatory Authority that may be in effect from time to time.

1.15. "**Arbitration**" has the meaning set forth in Section 15.1.2 (Arbitration).

1.16. "**Audited Party**" has the meaning set forth in Section 9.13.1 (Books and Records).

1.17. "**Auditing Party**" has the meaning set forth in Section 9.13.1 (Books and Records).

1.18. "**Auditor**" has the meaning set forth in Section 9.13.1 (Books and Records).

1.19. "**Available**" means, with respect to a Proposed Target, that such Proposed Target is not an Encumbered Target.

1.20. "**[***]**" has the meaning set forth in Section 2.2.4(a) (New [***]).

1.21. "**Biosimilar Product**" means, with respect to a particular Licensed Product in a particular country, a product on the market in such country commercialized by any Third Party that is not a Sublicensee and that did not purchase such product in a chain of distribution that included any of Ionis or its Affiliates or Sublicensees, that (a) is approved by the applicable Regulatory Authority, under any then-existing laws and regulations in the applicable country pertaining to approval of generic or biosimilar biologic products, as a "generic" or "biosimilar" version of such Licensed Product, which approval uses such Licensed Product as a reference product and relies on or references information in the MAA for such Licensed Product, or (b) is otherwise recognized by the applicable Regulatory Authority as a biosimilar or interchangeable product to such Licensed Product.

1.22. "**BLA**" means a biologics license application that is submitted to the FDA for a Licensed Product, pursuant to 21 C.F.R. § 601.2.

1.23. "**Business Day**" means any day, other than Saturday, Sunday, or any day on which banking institutions in California are authorized or required by Applicable Law to remain closed.

1.24. "**C.F.R.**" means the U.S. Code of Federal Regulations.

1.25. "**Calendar Quarter**" means each period of three consecutive calendar months ending on March 31, June 30, September 30, or December 31, except that the first Calendar Quarter of the Term will commence on the Effective Date, and the last Calendar Quarter of the Term will end on the effective date of the termination or expiration of this Agreement.

1.26. "**Calendar Year**" means each period of 12 consecutive calendar months commencing on January 1 and ending on December 31, except that the first Calendar Year of the Term will commence on the Effective Date, and the last Calendar Year of the Term will end on the effective date of the termination or expiration of this Agreement.

1.27. "**Change of Control**" means, with respect to a Party, (a) a merger, reorganization, combination, or consolidation of such Party with a Third Party that results in the holders of beneficial ownership of the voting securities or other voting interests of such Party (or, if applicable, the ultimate parent of such Party) immediately prior to such merger, reorganization, combination, or consolidation ceasing to hold beneficial ownership of more than 50% of the combined voting power of the surviving entity or the ultimate parent of the surviving entity immediately after such merger, reorganization, combination or consolidation, (b) a transaction or series of related transactions in which a Third Party, together with its Affiliates, becomes the beneficial owner of 50% or more of the combined voting power of the outstanding securities or other voting interest of such Party, (c) the sale, lease, exchange, contribution, or other transfer (in one transaction or a series of related transactions) to a Third Party of all or substantially all of such Party's assets, or (d) a liquidation or dissolution of such Party or any direct or indirect parent of such Party. Notwithstanding the foregoing, an initial public offering, a *bona fide* venture capital financing, a SPAC transaction, or reverse-merger transaction, in each case, of Metagenomi, will not be considered a Change of Control of Metagenomi.

1.28. "**Claim**" has the meaning set forth in Section 15.1.1 (Escalation).

1.29. "**Clinical Trial**" means any clinical trial in humans that is designed to generate data in support or maintenance of an IND or MAA.

1.30. "**CMO**" means a contract manufacturing organization.

1.31. "**[***]**" means [***].

1.32. "**Co-Co Option**" has the meaning set forth in Section 5.1.1 (Option Grant).

1.33. "**Co-Co Option Notice**" has the meaning set forth in Section 5.1.2 (Option Period).

1.34. "**Co-Co Option Period**" has the meaning set forth in Section 5.1.2 (Option Period).

1.35. "**Co-Co Products**" means any Licensed Products that are the subject of a Co-Co Program.

1.36. "**Co-Co Program**" means each Drug Discovery Program for which Metagenomi exercises a Co- Co Option in accordance with Section 5.1 (Co-Development and Co-Commercialization Options).

1.37. "**Co-Development and Co-Commercialization Agreement**" has the meaning set forth in Section 5.2 (Development and Commercialization of the Co-Co Products; Opt-Down Right).

1.38. "**Collaboration Activities**" has the meaning set forth in Section 2.4 (Conduct of Collaboration Activities).

1.39. "**Collaboration Program**" means (a) the Exploratory Research Program and (b) each Drug Discovery Program.

1.40. "**Collaboration Program Plans**" has the meaning set forth in Section 2.4 (Conduct of Collaboration Activities).

1.41. "**Collaboration Program Report**" has the meaning set forth in Section 2.6.2 (Collaboration Program Reports).

1.42. "**Collaboration Target**" means, as applicable, any of (a) [***], (b) the Second Wave 1 Target, and (c) the Proposed Targets that Ionis designates in accordance with Section 2.1.4(c) (Effects if a Proposed Target is Available).

1.43. "**Collaboration Term**" means (a) with respect to a Drug Discovery Program, the applicable Drug Discovery Term for such Drug Discovery Program and (b) with respect to the Exploratory Research Program, the Exploratory Research Term.

1.44. "**Combination Product**" has the meaning set forth in Section 1.190 (Net Sales).

1.45. "**Commercial Supply Agreement**" has the meaning set forth in Section 8.1.1 (Metagenomi Supply Term).

1.46. "**Commercialization**" or "**Commercialize**" means with respect to any product, any and all activities directed to the marketing, promotion, patient services, distribution, pricing, reimbursement, pharmacovigilance, import, export, offering for sale, and sale of such product, including seeking and maintaining any required Pricing Approval, but excluding any activities directed to Manufacturing, Development, or Medical Affairs. "**Commercialize**," "**Commercializing**," and "**Commercialized**" will be construed accordingly.

1.47. "**Commercially Reasonable Efforts**" means with respect to the efforts to be expended by any Person with respect to any objective, reasonable, diligent, and good faith efforts to accomplish such objective. With respect to Ionis' obligations set forth in Section 6.1.3 (Development Diligence for the Ionis Products) and Section 6.2.2 (Commercialization Diligence for the Ionis Products), "**Commercially Reasonable Efforts**" means that level, caliber, and quality of efforts and resources reasonably and normally used by biopharmaceutical companies of similar size to Ionis as to a potential or actual product with similar commercial potential and at a similar stage of product life, taking into account with respect to each applicable Licensed System or Licensed Product, (a) issues of safety, efficacy, and product profile, (b) likelihood of receiving Regulatory Approval (including, for clarity, Pricing Approval) of the applicable Licensed Product, (c) regulatory structure involved, (d) feedback provided by any Regulatory Authority, including relating to proposed or approved labeling, (e) competitiveness in the marketplace and anticipated or actual profitability of the product (including based on the Pricing Approval and the cost of goods thereof, where applicable), (f) proprietary position, and (g) other scientific, technical, and business factors deemed relevant by Ionis. "**Commercially Reasonable Efforts**" will be determined on a country-by-country basis in the relevant countries and [***].

1.48. "**Common Ownership Legislation**" means the legislation on conditions for patentability and novelty, as codified at 35 U.S.C. § 102(c) (Common Ownership Under Joint Research Agreements).

1.49. "**Competitive Infringement**" has the meaning set forth in Section 10.3.1 (Notification).

1.50. "**Confidential Information**" means (a) the existence and terms of this Agreement, and (b) with respect to each Party, Know-How, materials, and other proprietary information including data and all other scientific, pre-clinical, clinical, regulatory, Manufacturing, marketing, financial, and commercial information or data that is disclosed, made available to, or provided by or on behalf of such Party to the other Party or to any of the Receiving Party's employees, consultants, Affiliates, or Sublicensees, whether or not specifically marked or designated by the Disclosing Party as confidential; *provided* that, notwithstanding the foregoing, Product-Specific Know-How will be deemed the Confidential Information of Ionis during the Term and thereafter following any expiration, but not termination, of this Agreement.

1.51. "**Confidentiality Agreement**" has the meaning set forth in Section 11.1.2 (Confidential Information of Each Party).

1.52. "**Control**" or "**Controlled**" means the possession by a Party (whether by ownership, license, or otherwise other than pursuant to this Agreement) of, (a) with respect to any materials or other tangible Know-How, the legal authority or right to physical possession of such materials or tangible Know-How, with the right to provide such materials or tangible Know-How to the other Party on the terms set forth herein, (b) with respect to Patent Rights, Regulatory Approvals, Regulatory Submissions, intangible Know-How, or other intellectual property, the legal authority or right to grant a license, sublicense, access, or right to use (as applicable) to the other Party under such Patent Rights, Regulatory Approvals, Regulatory Submissions, intangible Know-How, or other intellectual property on the terms set forth herein, in each case ((a) and (b)), without breaching or otherwise violating the terms of any arrangement or agreement with a Third Party in existence as of the time such Party or its Affiliates would first be required hereunder to grant the other Party such access, right to use, license, or sublicense, and (c) with respect to any product, the legal authority or right to grant an exclusive license or sublicense under Patent Rights that Cover such product or Know-How that relates to such product; *provided* that (i) any Know-How or Patent Rights in-licensed or acquired by Metagenomi or its Affiliates under an Existing Potential Metagenomi In-License Agreement or a Proposed New Metagenomi In-License Agreement will not be deemed "Controlled" by Metagenomi unless and until such agreement becomes a Metagenomi In-License Agreement under Section 9.7.1 (Effective Date Licensed Technology; Existing Metagenomi In-License Agreements) or Section 9.8.2 (Acceptance of a Proposed New In- License Agreement) (and only for so long as it remains a New Metagenomi In-License Agreement hereunder) and (ii) any Know-How or Patent Rights in-licensed or acquired by Ionis or its Affiliates under an Existing Potential Ionis In-License Agreement or a Proposed New Ionis In-License Agreement will not be deemed "Controlled" by Ionis unless and until such agreement becomes an Ionis In-License Agreement under Section 9.7.2 (Existing Potential Ionis In-License Agreements) or Section 9.8.2 (Acceptance of a Proposed New In-License Agreement) (and only for so long as it remains an Ionis In-License Agreement hereunder). Notwithstanding the foregoing, a Party and its Affiliates will not be deemed to "**Control**" any of the foregoing (a) – (c) that are owned or controlled by a Third Party described in the definition of "Change of Control," or such Third Party's Affiliates (other than an Affiliate of such Party prior to the Change of Control), (x) prior to the closing of such Change of Control, except to the extent that any such Patent Rights or Know-How were developed by such Third Party prior to such Change of Control using or incorporating such Party's or its pre-existing Affiliate's Know-How or Patent Rights, or (y) after such Change of Control to the extent that such Patent Rights or Know-How are developed or conceived by such Third Party or its Affiliates (other than such Party) after such Change of Control without using or incorporating such Party's or its pre-existing Affiliate's Know-How or Patent Rights and are not developed or conceived by personnel who were employees or consultants of such Party or its pre- existing Affiliates.

1.53. "**Cost of Goods**" or "**COGS**" means, with respect to any Licensed Product or Licensed System supplied by Metagenomi to Ionis pursuant to Article 8 (Manufacturing): 100% of: (a) [***]; and (b) [***]. The Cost of Goods will exclude any amounts incurred due to gross negligence or willful misconduct of Metagenomi, its Affiliates, or any Third Party. All components of Cost of Goods will be allocated on a basis consistent with the Metagenomi's Accounting Standards and consistent with the cost accounting policy applied by Metagenomi to other products that it produces. For clarity, the Cost of Goods will not include any cost or expense already paid for by Ionis pursuant to this Agreement or any other agreement between the Parties or their Affiliates.

1.54. "**Cover**," "**Covers**," or "**Covered**" means, as to a compound or product and Patent Right, that, in the absence of a license granted under, or ownership of, such Patent Right, the making, using, keeping, selling, offering for sale, or importation of such compound or product would infringe such Patent Right or, as to a pending claim included in such Patent Right, the making, using, keeping, selling, offering for sale, or importation of such compound or product would infringe such Patent Right if such pending claim were to issue in an issued patent without modification.

1.55. "**Development**" or "**Develop**" means, with respect to any product, any and all internal and external research, development, pharmacovigilance activities, and regulatory activities regarding such product, including (a) research, process development, non-clinical testing, toxicology, non-clinical activities, IND-enabling studies, and Clinical Trials, and (b) preparation, submission, review, and development of data or information for the purpose of submission to a Regulatory Authority to obtain authorization to conduct Clinical Trials and to obtain, support, or maintain Regulatory Approval of such product, but excluding any activities directed to Manufacturing, Medical Affairs, or Commercialization. Development will include research, development, and regulatory activities for additional presentations or indications for a product after receipt of Regulatory Approval of such product, including Clinical Trials initiated following receipt of Regulatory Approval or any Clinical Trial to be conducted after receipt of Regulatory Approval that was mandated by the applicable Regulatory Authority as a condition of such Regulatory Approval with respect to an approved indication (such as post-marketing approval studies and observational studies, if required by any Regulatory Authority in any country in the Territory to support or maintain Regulatory Approval for a product in such country, including any phase IV studies). "**Develop**," "**Developing**," and "**Developed**" will be construed accordingly.

1.56. "**Development Candidate**" means a therapeutic agent that is selected by Ionis for further Development and Commercialization in accordance with its customary internal process and pursuant to Section 2.2.6 (Delivery of Development Candidate; Development Candidate Report).

1.57. "**Development Candidate Report**" has the meaning set forth in Section 2.2.6 (Delivery of Development Candidate; Development Candidate Report).

1.58. "**[***]**" has the meaning set forth in Section 9.3 (Option Exercise Fee).

1.59. "**Development Supply Agreement**" has the meaning set forth in Section 8.1.1 (Metagenomi Supply Term).

1.60. "**Disclosing Party**" has the meaning set forth in Section 11.1.1 (General).

1.61. "**Distracted Party**" has the meaning set forth in Section 3.6.2 (Acquisition of Distracting Product).

1.62. "**Distracting Product**" has the meaning set forth in Section 3.6.2 (Acquisition of Distracting Product).

1.63. "**[***]**" means, with respect to a Distracting Product, [***].

1.64. "**Drug Discovery Activities**" has the meaning set forth in Section 2.2.1 (Initial Drug Discovery Plan).

1.65. "**Drug Discovery Budget**" has the meaning set forth in Section 2.2.1 (Initial Drug Discovery Plan).

1.66. "**Drug Discovery Plan**" has the meaning set forth in Section 2.2.1 (Initial Drug Discovery Plan).

1.67. "**Drug Discovery Program**" means, on a Collaboration Target-by-Collaboration Target basis, the program of Development undertaken for a Collaboration Target, as set forth in the applicable Drug Discovery Plan for such Collaboration Target.

1.68. "**Drug Discovery Term**" has the meaning set forth in Section 2.2.7 (Drug Discovery Term).

1.69. "**Effective Date**" has the meaning set forth in the Preamble.

1.70. "**EMA**" means the European Medicines Agency or any successor agency or authority thereto.

1.71. "**[***]**" has the meaning set forth in Section 3 [***] of the Exploratory Research Plan attached hereto as Schedule 2.3.1 (Exploratory Research Plan).

1.72. "**Encumbered Proposed Metagenomi Target**" has the meaning set forth in Section 2.7.3(a) (Encumbered Targets).

1.73. "**Encumbered Target**" has the meaning set forth in Section 2.1.4(a) (Encumbered Targets).

1.74. "**Encumbrance**" means any and all liens, encumbrances, charges, mortgages, security interests, hypothecations, easements, rights-of-way or encroachments of any nature whatsoever.

1.75. "**European Union**" or "**EU**" means (a) all countries or territories that are officially part of the European Union, as constituted from time to time, and (b) the United Kingdom.

1.76. "**Exclusivity Field**" means, with respect to a Drug Discovery Program, (a) [***] and (b) [***].

1.77. "**Executive Officer**" has the meaning set forth in Section 15.1.1 (Escalation).

1.78. "**Existing Potential Ionis In-License Agreement**" has the meaning set forth in Section 9.7.2 (Existing Potential Ionis In-License Agreements).

1.79. "**Existing Potential Metagenomi In-License Agreement**" has the meaning set forth in Section 9.7.1 (Effective Date Licensed Technology; Existing Metagenomi In-License Agreements).

1.80. "**Expedited Dispute**" means any dispute (a) that a Party elects pursuant to Section 4.6.3(b) (Resolution by Baseball Arbitration) to refer to resolution pursuant to Section 15.1.3 (Expedited Dispute Resolution), (b) regarding the determination of any final definitive terms of any Co- Development and Co-Commercialization Agreement pursuant to Section 5.2 (Development and Commercialization of the Co-Co Products; Opt-Down Right), (c) regarding the royalty rate or royalty term for any reversion royalty pursuant to Section 14.3.6(c) (Reversion Royalties), or (d) regarding any other provision of this Agreement that the Parties agree to designate as an Expedited Dispute.

1.81. "**Exploit**" means, with respect to any product, to Develop, have Developed, make, have made, use, have used, perform Medical Affairs, have performed Medical Affairs, offer for sale, have offered for sale, sell, have sold, export, have exported, import, have imported, Manufacture, have Manufactured, Commercialize, have Commercialized, or otherwise exploit such product. "**Exploitation**" and "**Exploiting**" will be construed accordingly.

1.82. "**Exploratory Research Activities**" has the meaning set forth in Section 2.3.1 (Exploratory Research Plan).

1.83. "**Exploratory Research Budget**" has the meaning set forth in Section 2.3.1 (Exploratory Research Plan).

1.84. "**Exploratory Research Plan**" has the meaning set forth in Section 2.3.1 (Exploratory Research Plan).

1.85. "**Exploratory Research Program**" has the meaning set forth in Section 2.3.1 (Exploratory Research Plan).

1.86. "**Exploratory Research Term**" has the meaning set forth in Section 2.3.3 (Exploratory Research Term).

1.87. "**FDA**" means the United States Food and Drug Administration and any successor agency or authority thereto.

1.88. "**FD&C Act**" means the United States Food, Drug, and Cosmetic Act, as amended, and the rules and regulations promulgated thereunder, as may be in effect from time to time.

1.89. "**Field**" means, with respect to a given Drug Discovery Program, [***].

1.90. "**Firewall Procedures**" has the meaning set forth in Section 3.6.2 (Acquisition of Distracting Product).

1.91. "**First Commercial Sale**" means on a Licensed Product-by-Licensed Product and country-by- country basis, the first sale of a Licensed Product by Ionis, its Affiliate, or its Sublicensee to a Third Party resulting in a Net Sale in a particular country; *provided* that the following will not constitute a First Commercial Sale: (a) any sale of a Licensed Product to a Ionis Affiliate or Sublicensee; (b) any sale of a Licensed Product for use in Clinical Trials, pre-clinical studies, or other Development activities at below market price; (c) the disposal or transfer of a Licensed Product for a *bona fide* charitable purpose; or (d) compassionate use and "named patient sales."

1.92. "**[***]**" means, with respect to an Ionis Program and an Ionis Product Development Milestone Event, [***].

1.93. "**Force Majeure**" has the meaning set forth in Section 15.11 (Force Majeure).

1.94. "**FTE**" has the meaning set forth in Section 1.95 (FTE Rate).

1.95. "**FTE Rate**" means an annual rate of $[***] for the time of an employee for a full-time equivalent ("**FTE**") person year (consisting of a total of 1,800 hours per annum) carrying out research, scientific, or technical work under this Agreement, prorated on a daily basis. Without limiting the foregoing, the FTE Rate will be adjusted annually for each Calendar Year after the Calendar Year ending December 31, 2022 to be equal to the FTE Rate for the preceding Calendar Year plus [***]. The FTE Rate [***].

1.96. "**Gene Editing**" means [***].

1.97. "**Governmental Authority**" means any arbitrator, court, judicial, legislative, administrative or regulatory authority, commission, department, board, bureau, or body, or other government authority or instrumentality or any Person exercising executive, legislative, judicial, regulatory, or administrative functions of or pertaining to government, whether foreign or domestic, whether federal, state, provincial, municipal, or other.

1.98. "**Guide RNA**" means any single- or double-stranded polynucleotide (including any analogue, variant, or mimic thereof) used for genome sequence site-specific targeting of a Gene Editing protein.

1.99. "**[***]**" has the meaning set forth in Section 2.2.4(c) (Incremental Development Costs).

1.100. "**[***]**" has the meaning set forth in Section 2.2.4(c) (Incremental Development Costs).

1.101. "**IND**" means an investigational new drug application filed with the FDA with respect to a Licensed Product, or an equivalent application filed with the Regulatory Authority of a country in the Territory other than the U.S. (such as an application for a Clinical Trial authorization in the EU).

1.102. "**Indemnitee**" has the meaning set forth in Section 13.4 (Conditions to Indemnification).

1.103. "**Infringement**" has the meaning set forth in Section 10.3.1 (Notification).

1.104. "**[***]**" has the meaning set forth in Section 2.2.4(c) (Incremental Development Costs).

1.105. "**Initiation**" means, with respect to any Clinical Trial, the date on which the first subject in such trial receives his or her initial dose in such Clinical Trial.

1.106. "**Insolvency Event**" has the meaning set forth in Section 14.2.3 (Termination for Insolvency).

1.107. "**Intellectual Property Rights**" means any Know-How, Patent Rights, Trademarks, copyrights, trade secrets, and any other intellectual property rights however denominated throughout the world.

1.108. "**Internal Costs**" means, for any period, the product obtained by multiplying (a) the actual total FTEs (or portion thereof) devoted to the performance of activity under this Agreement during such period, by (b) the applicable FTE Rate.

1.109. "**Ionis**" has the meaning set forth in the Preamble.

1.110. "**Ionis Background Technology**" has the meaning set forth in Section 2.7.1 (Option Grant).

1.111. "**Ionis Collaboration Know-How**" has the meaning set forth in Section 10.1.2(b) (Ionis Collaboration Technology).

1.112. "**Ionis Collaboration Patent Rights**" has the meaning set forth in Section 10.1.2(b) (Ionis Collaboration Technology).

1.113. "**Ionis Collaboration Technology**" has the meaning set forth in Section 10.1.2(b) (Ionis Collaboration Technology).

1.114. "**Ionis [***]**" means [***].

1.115. "**Ionis Field**" means all therapeutic, prophylactic, palliative, analgesic, and diagnostic uses in humans utilizing oligonucleotides that bind to RNA, which such oligonucleotides are subject to a Valid Claim of a Patent Right Controlled by Ionis.

1.116. "**Ionis Indemnitees**" has the meaning set forth in Section 13.2 (Indemnification of Ionis by Metagenomi).

1.117. "**Ionis In-License Agreement**" means (a) any Existing Potential Ionis In-License Agreement that becomes an Ionis In-License Agreement pursuant to Section 9.7.2 (Existing Potential Ionis In- License Agreements) and (b) any New Ionis In-License Agreement.

1.118. "**Ionis IP Option**" has the meaning set forth in Section 2.7.1 (Option Grant).

1.119. "**Ionis IP Option Effective Date**" has the meaning set forth in Section 2.7.3(b) (Effects if a Proposed Metagenomi Target is not an Encumbered Proposed Metagenomi Target).

1.120. "**Ionis' Knowledge**" means the knowledge, after reasonable investigation (including consultation with Ionis' outside intellectual property counsel), of the following: [***] as of the applicable date.

1.121. "**Ionis Licensed Know-How**" means all Know-How that is Controlled by Ionis or any of its Affiliates as of the Effective Date or during the Term (other than Joint Collaboration Know-How) that is necessary or reasonably useful to perform the Metagenomi Activities.

1.122. "**Ionis Licensed Patent Rights**" means any Patent Rights Controlled by Ionis or any of its Affiliates that Cover any Ionis Licensed Know-How.

1.123. "**Ionis Licensed Technology**" means Ionis Licensed Know-How and Ionis Licensed Patent Rights.

1.124. "**Ionis Product Development Milestone Event**" has the meaning set forth in Section 9.4.1 (Ionis Product Development Milestone Payments).

1.125. "**Ionis Product Development Milestone Payment**" has the meaning set forth in Section 9.4.1 (Ionis Product Development Milestone Payments).

1.126. "**Ionis Product Regulatory Milestone Event**" has the meaning set forth in Section 9.4.2 (Ionis Product Regulatory Milestone Payments).

1.127. "**Ionis Product Regulatory Milestone Payment**" has the meaning set forth in Section 9.4.2 (Ionis Product Regulatory Milestone Payments).

1.128. "**Ionis Product Sales Milestone Event**" has the meaning set forth in Section 9.4.3 (Ionis Product Sales Milestone Payment).

1.129. "**Ionis Product Sales Milestone Payment**" has the meaning set forth in Section 9.4.3 (Ionis Product Sales Milestone Payment).

1.130. "**Ionis Products**" means any Licensed Products that are the subject of an Ionis Program.

1.131. "**Ionis Programs**" means each Drug Discovery Program for which Metagenomi does not exercise its Co-Co Option prior to the expiration of the applicable Co-Co Option Period or which Metagenomi opts out in accordance with Section 5.4 (Metagenomi Opt-Out).

1.132. "**Ionis Proprietary Toolbox of Chemical Modifications**" means [***] that is Covered by an Ionis Toolbox Patent.

1.133. "**Ionis-Prosecuted Patent Rights**" has the meaning set forth in Section 10.2.1(a).

1.134. "**Ionis Records**" has the meaning set forth in Section 9.13.1 (Books and Records).

1.135. "**Ionis Royalties**" has the meaning set forth in Section 9.6.1 (Ionis Royalty Rates).

1.136. "**Ionis Royalty Rates**" has the meaning set forth in Section 9.6.1 (Ionis Royalty Rates).

1.137. "**Ionis Royalty Report**" has the meaning set forth in Section 9.6.4 (Ionis Royalty Reports).

1.138. "**Ionis Toolbox Patent**" means any Patent Right Controlled by Ionis as of the Effective Date or during the Collaboration Term that [***].

1.139. "**Joint Collaboration Know-How**" has the meaning set forth in Section 10.1.2(c) (Joint Collaboration Technology).

1.140. "**Joint Collaboration Patent Rights**" has the meaning set forth in Section 10.1.2(c) (Joint Collaboration Technology).

1.141. "**Joint Collaboration Technology**" has the meaning set forth in Section 10.1.2(c) (Joint Collaboration Technology).

1.142. "**Joint Research Committee**" or "**JRC**" has the meaning set forth in Section 4.3.1 (Formation and Purpose of the JRC).

1.143. "**Joint Steering Committee**" or "**JSC**" has the meaning set forth in Section 4.1.1 (Formation and Purpose of the JSC).

1.144. "**Know-How**" means any information and materials, including records, discoveries, improvements, modifications, processes, techniques, methods, assays, chemical or biological materials, designs, protocols, formulas, data (including physical data, chemical data, toxicology data, animal data, raw data, clinical data, and analytical and quality control data), dosage regimens, control assays, product specifications, marketing, pricing and distribution costs, inventions, algorithms, technology, forecasts, profiles, strategies, plans, results in any form whatsoever, know-how and trade secrets (in each case, patentable, copyrightable or otherwise).

1.145. "**Licensed Know-How**" means any Know-How that is Controlled by Metagenomi or any of its Affiliates as of the Effective Date or during the Term (including Metagenomi Collaboration Know- How, but excluding Joint Collaboration Know-How) that is necessary or reasonably useful to (a) perform the activities under any Collaboration Program Plan or (b) Exploit any Licensed System or Licensed Product.

1.146. "**Licensed Patent Right**" means any Patent Right Controlled by Metagenomi or any of its Affiliates as of the Effective Date or during the Term (including Metagenomi Collaboration Patent Rights, but excluding Joint Collaboration Patent Rights) that are necessary or reasonably useful to (a) perform any activities under any Collaboration Program Plan or (b) Exploit any Licensed System or Licensed Product. The Licensed Patent Rights as of the Effective Date are set forth on Schedule 1.146 (Licensed Patent Rights); *provided* that any Patent Right that otherwise meets this definition will be deemed a Licensed Patent Right even if such Patent Right is not included on Schedule 1.146 (Licensed Patent Rights).

1.147. "**Licensed Product**" means any therapeutic product, medical therapy, preparation or substance, comprising or employing a Licensed System, in any form or formulation, and whether alone or together with one or more other therapeutically active ingredients, delivery devices, or other components. All Licensed Products comprising the same Licensed System will be considered the same Licensed Product under this Agreement.

1.148. "**Licensed Systems**" means, with respect to a Drug Discovery Program, (a) a Gene Editing protein and a Guide RNA that (i) is designed to modulate the Collaboration Target for such Drug Discovery Program and (ii) either (A) was discovered or Developed by Metagenomi prior to the designation of such Collaboration Target or (B) is discovered or Developed pursuant to the Drug Discovery Plan for such Drug Discovery Program, including any Development Candidate for such Drug Discovery Program or (b) any modification or derivative of any Gene Editing protein or Guide RNA described in clause (a).

1.149. "**Licensed Technology**" means all Licensed Know-How and Licensed Patent Rights and Metagenomi's interest in the Joint Collaboration Technology.

1.150. "**Licensee**" has the meaning set forth in Section 15.10.1.

1.151. "**Licensing Party**" has the meaning set forth in Section 15.10.1.

1.152. "**Losses**" has the meaning set forth in Section 13.1 (Indemnification of Metagenomi by Ionis).

1.153. "**MAA**" means any new drug application or other marketing authorization application, in each case, filed with the applicable Regulatory Authority in a country or other regulatory jurisdiction (and all supplements and amendments thereto), which application is required to commercially market or sell a pharmaceutical or biologic product in such country or jurisdiction, including (a) all New Drug Applications and BLAs submitted to the FDA in the United States in accordance with the FD&C Act with respect to a pharmaceutical product, (b) all MAAs submitted to (i) the EMA under the centralized EMA filing procedure in the EU or (ii) a Regulatory Authority in any EU country if the centralized EMA filing procedure is not used to gain Regulatory Approval in such country, (c) all New Drug Applications submitted to the National Medical Products Administration, or (d) any analogous application or submission with any Regulatory Authority in any other country or regulatory jurisdiction.

1.154. "**Major European Markets**" means each of France, Germany, Spain, Italy, and the United Kingdom.

1.155. "**Major Market**" means each of Japan, the Major European Markets, and the US.

1.156. "**Manufacture**" or "**Manufacturing**" means with respect to any product, any and all activities directed to manufacturing, processing, packaging, labeling, filling, finishing, assembly, quality assurance, quality control, analyses, testing and release, shipping, supply, or storage of such product (or any raw materials, components or process steps involving such product or any companion diagnostic), placebo, or comparator agent, as the case may be, including qualification, validation, and scale-up, pre-clinical, clinical, and commercial manufacture and analytic development, product characterization, and stability testing, but excluding any activities directed to Development, Medical Affairs, or Commercialization. "**Manufacturing**" and "**Manufactured**" will be construed accordingly.

1.157. "**Manufacturing Know-How**" has the meaning set forth in Section 8.5 (Manufacturing After the Metagenomi Supply Term).

1.158. "**Manufacturing Technology Transfer**" has the meaning set forth in Section 8.5 (Manufacturing After the Metagenomi Supply Term).

1.159. "**Medical Affairs**" means any and all activities customarily conducted by the medical affairs department of a pharmaceutical or biotechnology company commercializing products similar to the Licensed Products, including communications with key opinion leaders, medical education, symposia, advisory boards (to the extent related to medical affairs or clinical guidance), activities performed in connection with patient registries, and other medical programs and communications, including educational grants, research grants (including conducting investigator-initiated studies), patient advocacy, and charitable donations to the extent related to medical affairs and not related to activities that involve the promotion, marketing, sale, or other Commercialization of a product and that are not conducted by or on behalf of a Party's or any of its Affiliates' medical affairs departments.

1.160. "**Metagenomi**" has the meaning set forth in the Preamble.

1.161. "**Metagenomi Activities**" has the meaning set forth in Section 3.2.1(a) (Metagenomi Activities License Grant).

1.162. "**Metagenomi Collaboration Cost Reports**" has the meaning set forth in Section 2.5.1 (Reimbursement by Ionis).

1.163. "**Metagenomi Collaboration Know-How**" has the meaning set forth in Section 10.1.2(a) (Metagenomi Collaboration Technology).

1.164. "**Metagenomi Collaboration Patent Rights**" has the meaning set forth in Section 10.1.2(a) (Metagenomi Collaboration Technology).

1.165. "**Metagenomi Collaboration Technology**" has the meaning set forth in Section 10.1.2(a) (Metagenomi Collaboration Technology).

1.166. "**Metagenomi [***]**" means [***].

1.167. "**Metagenomi Drug Discovery Costs**" has the meaning set forth in Section 2.5.1 (Reimbursement by Ionis).

1.168. "**Metagenomi Exploratory Research Costs**" has the meaning set forth in Section 2.5.1 (Reimbursement by Ionis).

1.169. "**Metagenomi Field**" means all therapeutic, prophylactic, palliative, analgesic, and diagnostic uses in humans through the use of the Metagenomi Platform.

1.170. "**Metagenomi In-License Agreements**" means (a) any Existing Potential Metagenomi In-License Agreement that becomes a Metagenomi In-License Agreement pursuant to Section 9.7.1 (Effective Date Licensed Technology; Existing Metagenomi In-License Agreements) and (b) any New Metagenomi In-License Agreement.

1.171. "**Metagenomi Indemnitees**" has the meaning set forth in Section 13.1 (Indemnification of Metagenomi by Ionis).

1.172. "**Metagenomi's Knowledge**" means the knowledge, after reasonable investigation (including consultation with Metagenomi's outside intellectual property counsel), of the following: [***] or, in each case, their functional equivalent.

1.173. "**Metagenomi Platform**" means [***].

1.174. "**Metagenomi Platform Know-How**" means any Know-How within Metagenomi Platform as of the Effective Date or during the Term.

1.175. "**Metagenomi Platform Patent Rights**" means any Patent Rights Controlled by Metagenomi or its Affiliates as of the Effective Date or during the Term that Cover any Metagenomi Platform Know-How. The Metagenomi Platform Patent Rights Controlled by Metagenomi or any of its Affiliates as of the Effective Date are listed in Schedule 1.175 (Metagenomi Platform Patent Rights); *provided* that any Patent Right that otherwise meets this definition will be deemed a Metagenomi Platform Patent Right even if such Patent Right is not included on Schedule 1.175 (Metagenomi Platform Patent Rights).

1.176. "**Metagenomi Platform Technology**" means the Metagenomi Platform Patent Rights and the Metagenomi Platform Know-How.

1.177. "**Metagenomi Product**" means any therapeutic product, medical therapy, preparation or substance, comprising or employing a Metagenomi System and discovered by Metagenomi, in any form or formulation, and whether alone or together with one or more other therapeutically active ingredients, delivery devices, or other components. All Metagenomi Products comprising the same Metagenomi System will be considered the same Metagenomi Product under this Agreement.

1.178. "**Metagenomi Product Milestone Event**" has the meaning set forth in Section 9.10.1 (Metagenomi Product Milestone Payments).

1.179. "**Metagenomi Product Milestone Payment**" has the meaning set forth in Section 9.10.1 (Metagenomi Product Milestone Payments).

1.180. "**Metagenomi-Prosecuted Patent Rights**" has the meaning set forth in Section 10.2.2 (Metagenomi-Prosecuted Patent Rights).

1.181. "**Metagenomi Records**" has the meaning set forth in Section 9.13.1 (Books and Records).

1.182. "**Metagenomi Royalties**" has the meaning set forth in Section 9.10.3(a) (Metagenomi Royalty Rates)

1.183. "**Metagenomi Royalty Rate**" has the meaning set forth in Section 9.10.3(a) (Metagenomi Royalty Rates)

1.184. "**Metagenomi Royalty Report**" has the meaning set forth in Section 9.10.4 (Metagenomi Royalty Reports).

1.185. "**Metagenomi Royalty Term**" means, on a Metagenomi Product-by-Metagenomi Product and country-by-country basis, the period during the Term ending on the latest of (a) [***] following the First Commercial Sale (applied *mutatis mutandis*) of a Metagenomi Product in a country, (b) the expiration of the last Valid Claim of a Patent Right within the Ionis Background Technology Covering such Metagenomi Product in such country, or (c) the expiration of any applicable Regulatory Exclusivity obtained for such Metagenomi Product in such country.

1.186. "**Metagenomi Supply Term**" has the meaning set forth in Section 8.1.1 (Metagenomi Supply Term).

1.187. "**Metagenomi System**" means a Gene Editing protein and a Guide RNA that is designed to modulate a Metagenomi Target.

1.188. "**Metagenomi Target**" means each target for which Metagenomi exercises an Ionis IP Option pursuant to Section 2.7 (Ionis Proprietary Toolbox of Chemical Modifications).

1.189. "**MG Manufactured Components**" has the meaning set forth in Section 8.1.1 (Metagenomi Supply Term).

1.190. "**Net Sales**" means the gross invoiced amount for (a) Ionis Products sold by Ionis, its Affiliates, or Sublicensees or (b) Metagenomi Products sold by Metagenomi, its Affiliates or Sublicensees, in each case ((a) and (b) (the "**Selling Party**")), to the extent recognized in the ordinary course of business as revenue by the Selling Party on an accrual basis in accordance with United States Generally Accepted Accounting Principles or, in the case of non-United States sales, other applicable accounting standards after deduction of the following amounts:

(a) normal and customary trade, quantity or prompt settlement discounts (including initial launch stocking discounts, chargebacks, and allowances) actually allowed, *provided* that such discounts are not applied disproportionately to such Licensed Product or Metagenomi Product when compared to the other products of the Selling Party;

(b) amounts repaid or credited by reason of rejection, returns or recalls of goods, rebates or *bona fide* price reductions determined by the Selling Party in good faith;

(c) rebates and similar payments made with respect to sales paid for by any Governmental Authority such as, by way of illustration and not in limitation of the Parties' rights hereunder, Federal or state Medicaid, Medicare or similar state program in the United States or equivalent governmental program in any other country;

(d) refunds or clawbacks of a portion of payments previously paid by the Selling Party for not achieving a predetermined metric or term in an outcome-based contracts;

(e) any invoiced amounts that are not collected by the Selling Party, including bad debts, (applied to Net Sales in the period in which such receivables are written off), provided that any such amounts subsequently collected will be included in Net Sales for the period collected;

(f) excise taxes, value added taxes, sales taxes, consumption taxes and other similar taxes (excluding any income, franchise, or withholding taxes), customs duties, customs levies and import fees imposed on the sale, importation, use or distribution of the Licensed Product, including fees paid pursuant to Section 9008 of the Patient Protection and Affordable Care Act that the Selling Party allocate to sales of the Licensed Product or Metagenomi Product (as applicable) in accordance with such Selling Party's standard policies and procedures consistently applied across its products, as applicable; and

(g) an allowance for transportation costs, distribution expenses, special packaging, insurance charges, and storage and warehousing costs.

Net Sales (including any deductions) will be calculated using the Selling Party's internal audited systems used to report such sales as adjusted for any of the items above not taken into account in such systems, fairly applied and as employed on a consistent basis throughout such Selling Party's operations. To the extent any accrued amounts used in the calculation of Net Sales are estimates, such estimates will be trued-up to actuals (including that, for any estimates of deductions that are later decreased, the difference will be added back to Net Sales). In no event will any particular amount identified above be deducted more than once in calculating Net Sales (*i.e.*, no "double counting" of deductions).

In the case of any sale or other disposal of a product between or among such Party or its Affiliates or Sublicensees for resale, Net Sales will be calculated only on the value charged or invoiced on the first arm's-length sale thereafter to a Third Party (other than a Sublicensee). In the case of any sale that is not invoiced or is delivered before invoice, Net Sales will be calculated at the time all the revenue recognition criteria under such Party's Accounting Standards are met. In the case of any sale or other disposal for value, such as barter or counter-trade, of any Licensed Product or Metagenomi Product (as applicable), or part thereof, other than in an arm's-length transaction exclusively for money, Net Sales will be calculated on the value of the non-cash consideration received or the fair market price (if higher) of such Licensed Product(s) or Metagenomi Product(s) (as applicable) in the country of sale or disposal. Notwithstanding the foregoing, the following will not be included in Net Sales: (1) sales between or among a Party and its Affiliates or Sublicensees (but Net Sales will include sales to the first Third Party (other than a Sublicensee) by a Party or its Affiliates or Sublicensees); and (2) any named patient sales or any sale or other distribution at cost or less than cost for use in any Clinical Trial, for *bona fide* charitable purposes, test marketing program, or for compassionate use.

Solely for purposes of calculating Net Sales, if the Selling Party sells a Licensed Product or Metagenomi Product (as applicable) in the form of a combination product containing a Licensed System or Metagenomi System (as applicable) and one or more other therapeutically or prophylactically active ingredients or delivery devices that is not a Licensed System or Metagenomi System (as applicable) ("**Other Product**") (whether combined in a single formulation or package, as applicable, or formulated separately but packaged under a single label approved by a Regulatory Authority and sold together for a single price) (such combination product, a "**Combination Product**"), Net Sales of such Combination Product for the purpose of determining the payments due to the other Party pursuant to this Agreement will be calculated by [***]. If the gross selling price of a Licensed Product or Metagenomi Product (as applicable) containing such Licensed System or Metagenomi System (as applicable) in such country when sold separately in finished form (*i.e.*, without the other active ingredients or delivery device) can be determined but the gross selling price of the Other Product in such country cannot be determined, then Net Sales in such country for purposes of determining royalty payments will be calculated by [***]. If such separate sales are not made in a country, then Net Sales will be calculated by [***].

If a license agreement or collaboration agreement that is negotiated in an arm's length transaction with an Sublicensee includes a definition of "Net Sales" that differs in any material respect from the definition contained in this Section 1.190 (Net Sales), then the Parties will discuss such material differences and will use reasonable efforts to negotiate in good faith any reasonable modifications to this Section 1.190 (Net Sales) that are necessary to avoid any ambiguity in the calculation of the royalty payment due to a Party under this Agreement for sales of Licensed Products or Metagenomi Products by such Sublicensee.

1.191. "**[***]**" means [***].

1.192. "**New In-License Agreement**" has the meaning set forth in Section 9.8.2 (Acceptance of a Proposed New In-License Agreement).

1.193. "**New Ionis In-License Agreement**" has the meaning set forth in Section 9.8.2 (Acceptance of a Proposed New In-License Agreement).

1.194. "**New Metagenomi In-License Agreement**" has the meaning set forth in Section 9.8.2 (Acceptance of a Proposed New In-License Agreement).

1.195. "**Non-Withholding Party**" has the meaning set forth in Section 9.17 (Withholding Taxes).

1.196. "**Opt-Down Right**" has the meaning set forth in Section 5.2 (Development and Commercialization of the Co-Co Products; Opt-Down Right).

1.197. "**Opt-Out Date**" has the meaning set forth in Section 5.4 (Metagenomi Opt-Out).

1.198. "**Opt-Out Period**" has the meaning set forth in Section 5.4 (Metagenomi Opt-Out).

1.199. "**Opt-Out Right**" has the meaning set forth in Section 5.4 (Metagenomi Opt-Out).

1.200. "**Option Exercise Fee**" has the meaning set forth in Section 9.3 (Option Exercise Fee).

1.201. "**Option Exercise Notice**" has the meaning set forth in Section 2.7.2 (Option Exercise).

1.202. "**Option Package**" has the meaning set forth in Section 5.1.2 (Option Period).

1.203. "**Option Term**" has the meaning set forth in Section 2.7.2 (Option Exercise).

1.204. "**Other Product**" has the meaning set forth in Section 1.190 (Net Sales).

1.205. "**Out-of-Pocket Costs**" means, with respect to certain activities hereunder, direct expenses actually paid or payable by a Party or its Affiliates to Third Parties and specifically identifiable and incurred to conduct such activities, but excluding any costs that are included in the FTE Rate.

1.206. "**Party**" has the meaning set forth in the Preamble.

1.207. "**Party Vote**" has the meaning set forth in Section 4.6.1 (Committee Decisions).

1.208. "**Patent Rights**" means all rights, title, and interests in and to (a) all national, regional, and international patents and patent applications filed in any country of the world including provisional patent applications and all supplementary protection certificates, (b) all patent applications filed either from such patents, patent applications, or provisional applications or from an application claiming priority to any of the foregoing, including any continuation, continuation-in part, divisional, provisional, converted provisionals and continued prosecution applications, or any substitute applications, (c) any patent issued with respect to or in the future issued from any such patent applications, including utility models, petty patents, design patents and certificates of invention, and (d) any and all extensions or restorations by existing or future extension or restoration mechanisms, including revalidations, reissues, reexaminations and extensions (including any supplementary protection certificates and the like) of the foregoing patents or patent applications.

1.209. "**Payments**" has the meaning set forth in Section 9.17 (Withholding Taxes).

1.210. "**Person**" means an individual, sole proprietorship, partnership, limited partnership, limited liability partnership, corporation, limited liability company, business trust, joint stock company, trust, incorporated association, joint venture or similar entity or organization, including any Governmental Authority (or any department, agency, or political subdivision thereof).

1.211. "**Phase III Clinical Trial**" means a Clinical Trial that the FDA permits to be conducted under an open IND and that is performed to gain evidence with statistical significance of the efficacy of such product in a target population, and to obtain expanded evidence of safety for such product that is needed to evaluate the overall benefit-risk relationship of such product, to form the basis for approval of an MAA by a Regulatory Authority and to provide an adequate basis for physician labeling, in a manner that meets the requirements of 21 C.F.R. § 312.21(c), as amended (or its successor regulation), or, with respect to any other country or region, the equivalent of such a Clinical Trial in such other country or region. Notwithstanding anything to the contrary set forth in this Agreement, treatment of patients as part of an expanded access program, compassionate sales or use program (including named patient program or single patient program), or an indigent program, in each case, will not be included in determining whether or not a Clinical Trial is a Phase III Clinical Trial or whether a patient has been dosed thereunder.

1.212. "**Pivotal Clinical Trial**" means any (a) Phase III Clinical Trial, or (b) other Clinical Trial of a product on a sufficient number of patients, the results of which, together with prior data and information concerning such product, are intended to be or otherwise are sufficient, without any additional Clinical Trial, to meet the evidentiary standard for demonstrating the safety, purity, efficacy, and potency of such active substance of such product established by a Regulatory Authority in any particular jurisdiction, as evidenced by finalized meeting minutes or another written statement from such Regulatory Authority, and that is intended to support, or otherwise supports, the filing of an MAA by a Regulatory Authority in such jurisdiction (including any bridging study). Notwithstanding any provision to the contrary set forth in this Agreement, treatment of patients as part of an expanded access program, compassionate sales or use program (including named patient program or single patient program), or an indigent program, in each case, will not be included in determining whether or not a Clinical Trial is a Pivotal Clinical Trial or whether a patient has been dosed thereunder.

1.213. "**Pre-Existing Ionis Restriction**" has the meaning set forth in Section 2.7.3(a) (Encumbered Targets).

1.214. "**Pre-Existing Restriction**" has the meaning set forth in Section 2.1.4(a) (Encumbered Targets).

1.215. "**Pricing Approval**" means, in any country where a Governmental Authority authorizes reimbursement for, or approves or determines pricing for, pharmaceutical products, receipt (or, if required to make such authorization, approval or determination effective, publication) of such reimbursement authorization or pricing approval or determination.

1.216. "**Proceeding**" means any action, suit, litigation, arbitration, proceeding (including any civil, criminal, administrative, investigative or appellate proceeding), prosecution, contest, hearing, inquiry, inquest, audit, examination or investigation that is, has been or may in the future be commenced, brought, conducted or heard at law or in equity or before any Governmental Authority.

1.217. "**Product-Specific Know-How**" means any Licensed Know-How that specifically relates to (a) a Licensed System or Licensed Product, (b) any method of making a Licensed System or Licensed Product, or (c) the use of a Licensed System or Licensed Product and no other products that are not Licensed Systems or Licensed Products.

1.218. "**Product-Specific Patent Right**" means any Licensed Patent Right that specifically claims (a) a Licensed System or Licensed Product, (b) any method of making a Licensed System or Licensed Product, or (c) the use of a Licensed System or Licensed Product and no other products that are not Licensed Systems or Licensed Products.

1.219. "**Proposed Metagenomi Target**" has the meaning set forth in Section 2.7.2 (Option Exercise).

1.220. "**Proposed Metagenomi Target Notice**" has the meaning set forth in Section 2.7.2 (Option Exercise).

1.221. "**[***]**" has the meaning set forth in Section 2.2.4(c) (Incremental Development Costs).

1.222. "**Proposed New In-License Agreement**" has the meaning set forth in Section 9.8.1 (Proposed New In-License Agreements).

1.223. "**Proposed New Ionis In-License Agreement**" has the meaning set forth in Section 9.8.1 (Proposed New In-License Agreements).

1.224. "**Proposed New Metagenomi In-License Agreement**" has the meaning set forth in Section 9.8.1 (Proposed New In-License Agreements).

1.225. "**Proposed Replacement Target**" has the meaning set forth in Section 2.1.3(d) (Substitution Procedure).

1.226. "**Proposed Target**" means any (a) Additional Wave 1 Target, (b) Wave 2 Target, or (c) Proposed Replacement Target.

1.227. "**Prosecuting Party**" means, with respect to any Patent Right, the Party that is responsible for the Prosecution and Maintenance of such Patent Right pursuant to Section 10.2.1 (Ionis-Prosecuting Patent Rights) or Section 10.2.2 (Metagenomi-Prosecuted Patent Rights), as applicable.

1.228. "**Prosecution and Maintenance**" or "**Prosecute and Maintain**" means, with regard to a Patent Right, the preparing, filing, prosecuting, and maintenance of such Patent Right, as well as handling re-examinations and reissues with respect to such Patent Right, together with the conduct of interferences, derivation proceedings, the defense of oppositions, post-grant patent proceedings (such as *inter partes* review and post grant review), and other similar proceedings with respect to the particular Patent Right. For clarity, "**Prosecution and Maintenance**" or "**Prosecute and Maintain**" will not include any other enforcement actions taken with respect to a Patent Right.

1.229. "**Quarterly Reimbursement Payments**" has the meaning set forth in Section 2.5.1 (Reimbursement by Ionis).

1.230. "**Receiving Party**" has the meaning set forth in Section 11.1.1 (General).

1.231. "**Regulatory Approval**" means, with respect to a particular country or other regulatory jurisdiction in the Territory, any approval of an MAA or other approval, product, or establishment license, registration, or authorization of the applicable Regulatory Authority necessary for the commercial marketing or sale of a pharmaceutical or biologic product in such country or other regulatory jurisdiction, including, where applicable, Pricing Approval.

1.232. "**Regulatory Authority**" means, with respect to a country in the Territory, any national (e.g., the FDA), supra-national (e.g., the European Commission, the Council of the European Union, or the EMA), regional, state or local regulatory agency, department, bureau, commission, council or other Governmental Authority involved in the granting of Regulatory Approvals or Pricing Approvals for pharmaceutical products in such country or countries.

1.233. "**Regulatory Exclusivity**" means, with respect to a Licensed Product or Metagenomi Product (as applicable) in a country, any data exclusivity rights or other exclusive right, other than a Patent Right, granted, conferred, or afforded by any Regulatory Authority in such country or otherwise under Applicable Law with respect to such Licensed Product or Metagenomi Product (as applicable) in such country, which either confers exclusive marketing rights with respect to a product or prevents another party from using or otherwise relying on the data supporting the approval of the Regulatory Approval for a product without the prior written authorization of the Regulatory Approval holder, as applicable, such as new chemical entity exclusivity, exclusivity associated with new Clinical Trials necessary to approval of a change (e.g., new indication or use), orphan drug exclusivity, non-patent-related pediatric exclusivity, or any other applicable marketing or data exclusivity, including any such periods under national implementations in the EU of Article 10 of Directive 2001/83/EC, Article 14(11) of Parliament and Council Regulation (EC) No 726/2004, Parliament and Council Regulation (EC) No 141/2000 on orphan medicines, Parliament and Council Regulation (EC) No 1901/2006 on medicinal products for pediatric use and all international equivalents.

1.234. "**Regulatory Strategy**" has the meaning set forth in Section 7.1 (Regulatory Responsibility).

1.235. "**Regulatory Submissions**" means any regulatory application, submission, notification, communication, correspondence, registration, Regulatory Approval, and other filing, made to, received from or otherwise conducted with a Regulatory Authority related to Developing, Manufacturing, obtaining marketing authorization, or otherwise Commercializing a product in a particular country or jurisdiction, including all INDs, CTAs, BLAs, MAAs, and all applications for Regulatory Approval together with all supplements or amendments to any of the foregoing.

1.236. "**Reimbursement Cap**" has the meaning has the meaning set forth in Section 2.5.1 (Reimbursement by Ionis).

1.237. "**Replacement Target Notice**" has the meaning set forth in Section 2.1.3(d) (Substitution Procedure).

1.238. "**Requested CMO**" has the meaning set forth in Section 8.1.2 (Requested CMO).

1.239. "**Requested CMO Contract**" has the meaning set forth in Section 8.1.2 (Requested CMO).

1.240. "**Residual Knowledge**" has the meaning set forth in Section 11.3 (Residual Knowledge).

1.241. "**Reversion IP In-License Agreement**" has the meaning set forth in Section 14.3.6(b) (Third Party Reversion IP).

1.242. "**Reversion License**" has the meaning set forth in Section 14.3.6(a) (Reversion License Grant).

1.243. "**Royalty Bearing Patent Rights**" means, with respect to any Licensed Product, all Licensed Patent Rights that Cover such Licensed Product and that are listed in the then-current edition of the FDA's Purple Book in connection with the Regulatory Approval of such Licensed Product, or in equivalent patent listings in any other country within the Territory.

1.244. "**Royalty Term**" means, on a Licensed Product-by-Licensed Product and country-by-country basis, the period during the Term ending on the latest of (a) [***] following the First Commercial Sale of a Licensed Product in a country, (b) the expiration of the last Valid Claim of the Royalty Bearing Patent Rights Covering such Licensed Product in such country, or (c) the expiration of any applicable Regulatory Exclusivity obtained for such Licensed Product in such country.

1.245. "**Second Wave 1 Target**" has the meaning set forth in Section 2.1.1(b) (Second Wave 1 Target).

1.246. "**Selling Party**" has the meaning set forth in Section 1.190 (Net Sales).

1.247. "**Subcommittee**" has the meaning set forth in Section 4.2 (Subcommittees).

1.248. "**Subcontractor**" means a Third Party contractor engaged by a Party to perform certain obligations or exercise certain rights of such Party under this Agreement on a fee-for-service basis (including Third Party Distributors, contract research organizations, or contract manufacturing organizations).

1.249. "**Sublicensee**" means a Third Party to whom a Party or any of its Affiliates grants a sublicense under the licenses granted to such Party under this Agreement, as permitted herein, excluding all Subcontractors.

1.250. "**Supply Price**" has the meaning set forth in Section 8.1.1 (Metagenomi Supply Term).

1.251. "**Target Selection and Substitution Period**" has the meaning set forth in Section 2.1.4(b) (Expiration of Pre-Existing Restrictions).

1.252. "**Target Substitution Period**" has the meaning set forth in Section 2.1.3(a) (Discretionary Substitutions).

1.253. "**Technological Infeasibility**" has the meaning set forth in Section 2.1.3(b) (Substitutions for Technological Infeasibility).

1.254. "**Term**" has the meaning set forth in Section 14.1 (Term).

1.255. "**Terminated Combination Products**" has the meaning set forth in Section 14.3.7 (Reversion for Certain Combination Products).

1.256. "**Terminated Country**" means (a) any country in the Territory with respect to which this Agreement is terminated or expires pursuant to Article 14 (Term and Termination), and (b) in the event of termination or expiration of this Agreement in its entirety, all countries in the Territory.

1.257. "**Terminated Products**" means (a) any Licensed Product with respect to which this Agreement is terminated or expires pursuant to Article 14 (Term and Termination), and (b) in the event of termination or expiration of this Agreement in its entirety, all Licensed Products.

1.258. "**Territory**" means all countries of the world and all territories and possessions thereof.

1.259. "**Third Party**" means any Person other than a Party or an Affiliate of a Party.

1.260. "**Third Party Claims**" has the meaning set forth in Section 13.1 (Indemnification of Metagenomi by Ionis).

1.261. "**Third Party Distributor**" means any Third Party that distributes (but does not Develop or Manufacture) a Licensed Product directly to customers.

1.262. "**Third Party Expert**" has the meaning set forth in Section 15.1.3(a).

1.263. "**Third Party Infringement Claim**" has the meaning set forth in Section 10.4 (Defense of Claims Brought by Third Parties).

1.264. "**Third Party IP**" has the meaning set forth in Section 9.6.2(c) (Third Party Payments).

1.265. "**Third Party Payment**" has the meaning set forth in Section 9.6.2(c) (Third Party Payments).

1.266. "**Trademarks**" means all registered and unregistered trademarks, service marks, trade dress, trade names, logos, insignias, symbols, designs, and all other indicia of ownership, and combinations thereof.

1.267. "**[***]**" has the meaning set forth in Section 2.1.1(a) (Initial Wave 1 Target).

1.268. "**[***] Target Population**" has the meaning set forth in Section 9.5 (Ionis Products for [***] Target Populations).

1.269. "**Unblocking Field**" means [***].

1.270. "**United States**" or "**U.S.**" means the United States of America and all of its districts, territories and possessions.

1.271. "**Upfront Payment**" has the meaning set forth in Section 9.1 (Upfront Payment).

1.272. "**Valid Claim**" means, with respect to a particular country, (a) a claim of any issued and unexpired patent in such country whose validity, enforceability, or patentability has not been terminated by any of the following: (i) irretrievable lapse, abandonment, revocation, dedication to the public, or disclaimer; or (ii) a holding, finding, or decision of invalidity, unenforceability, or non- patentability, from which decision no appeal can be further taken, or (b) a claim within a patent application in such country that has not been pending for more than seven years from the earliest date to which such claim or the applicable patent application is entitled to claim priority and which claim has not been revoked, cancelled, withdrawn, held invalid, or abandoned.

1.273. "**Warranty Technology**" means (a) with respect to any representation or warranty made as of the Effective Date, (i) the Metagenomi Platform Technology in the Field, and (ii) the Licensed Technology that is necessary or reasonably useful to Exploit Licensed Systems and Licensed Products in the Field that are directed to [***], and (b) with respect to any representation or warranty made as of the date on which each new target becomes a Collaboration Target pursuant to Section 2.1.1(b) (Second Wave 1 Target) or Section 2.1.4(c) (Effects if a Proposed Target is Available), the Licensed Technology that is necessary or reasonably useful to Exploit Licensed Systems and Licensed Products in the Field that are directed to such Collaboration Target.

1.274. "**Wave 1 Target**" means each (a) [***], (b) the Second Wave 1 Target, and (c) any Additional Wave 1 Target that Ionis designates in accordance with Section 2.1.4(c) (Effects if a Proposed Target is Available).

1.275. "**Wave 2 Target**" has the meaning set forth in Section 2.1.2 (Wave 2 Target Options).

1.276. "**Wave 2 Target Notice**" has the meaning set forth in Section 2.1.2 (Wave 2 Target Options).

1.277. "**[***]**" has the meaning set forth in Section 9.2 ([***]).

1.278. "**Wave 2 Target Selection Period**" has the meaning set forth in Section 2.1.2 (Wave 2 Target Options).

1.279. "**Withholding Party**" has the meaning set forth in Section 9.17 (Withholding Taxes).

Schedule 1.114

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Schedule 1.146

Licensed Patent Rights

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Schedule 1.166

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Schedule 1.175

Metagenomi Platform Patent Rights

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Schedule 2.1.1(a)

[***]

"[***]" is the [***].

Schedule 2.2

[***] Drug Discovery Plan

Attached.

Schedule 2.2

[***] Drug Discovery Plan

[***]

Schedule 2.3.1

Exploratory Research Plan

Attached.
Confidential

Schedule 2.3.1

Exploratory Research Plan

[***]

Schedule 8.2

Development Supply Agreement Key Terms

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Schedule 11.4

Press Release(s)

Attached.

Ionis partners with Metagenomi to add gene editing to its broad technology platform

- *Collaboration with a leader in gene editing systems is Ionis' latest move to expand and diversify its technology*
- *CRISPR-Cas gene editing is a natural extension of Ionis' innovative approach to delivering potentially transformative therapies*
- *Ionis to hold webcast Nov. 14 at 8 a.m. Eastern Time*

CARLSBAD, Calif. and EMERYVILLE, Calif. Nov. 14, 2022 – Ionis Pharmaceuticals, Inc. (Nasdaq: IONS) and Metagenomi today announced that the companies have entered a collaboration that will leverage Ionis' extensive expertise in RNA-targeted therapeutics and Metagenomi's versatile next-generation gene editing systems to pursue a mix of validated and novel genetic targets that have potential to expand therapeutic options for patients. The companies will jointly conduct research aimed initially at delivering investigational medicines for up to four genetic targets. Ionis has the right to add four more targets upon achievement of pre-determined development milestones.

"Ionis was founded over 30 years ago to discover and develop novel, highly personalized medicines using our powerful RNA-targeting technology platform. This partnership with Metagenomi supports Ionis' strategic objective to advance our technology and expand our capabilities to deliver precision genetic medicines.

Together, we can broaden the application of gene editing by leveraging Ionis' vast experience in nucleic acid therapeutics to optimize and extend the reach of gene editing for liver targets and to new tissues," said Ionis Chief Executive Officer Brett P. Monia, Ph.D. "This alliance brings our two companies closer to delivering next-generation therapies with the potential to revolutionize the treatment of diseases."

"Gene editing has the potential to transform chronic therapies into potentially curative treatments for patients who currently have limited options," said Brian C. Thomas,

Ph.D., chief executive officer and founder of Metagenomi. “This collaboration is a strategic step to combine Metagenomi’s leading gene editing toolbox of diverse, specific and highly efficient nucleases, with Ionis’ pioneering expertise of RNA-targeted therapeutics, to catalyze the next wave of in vivo gene editing applications. We continue to follow our strategy of partnering with the most experienced teams in the genetic medicines field that will allow us to transform the lives of patients.”

Under the terms of the agreement, Ionis will pay $80 million upfront to Metagenomi plus the potential for future milestone payments and royalties. Wells Fargo Securities acted as financial advisor to Ionis on the transaction.

Webcast

Ionis will conduct a webcast on Nov. 14 at 8 a.m. Eastern Time to discuss this announcement and related activities. Interested parties may access the webcast [here]. A webcast replay will be available for a limited time at the same address.

CRISPR Gene Editing

“CRISPR (clustered regularly interspaced short palindromic repeats) gene editing is a technology that modifies the sequence of DNA in cells utilizing a specific RNA-guided nuclease (Cas enzyme). Gene editing enzymes act as molecular word processors to correct the genetic code at the precise spot where it is malfunctioning.”

About Ionis Pharmaceuticals, Inc.

For more than 30 years, Ionis has been the leader in RNA-targeted therapy, pioneering new markets and changing standards of care with its novel antisense technology. Ionis currently has three marketed medicines and a premier late-stage pipeline highlighted by industry-leading cardiovascular and neurological franchises. Our scientific innovation began and continues with the knowledge that sick people depend on us, which fuels our vision of becoming a leading, fully integrated biotechnology company.

To learn more about Ionis, visit www.ionispharma.com and follow us on Twitter @ionispharma.

About Metagenomi

Metagenomi is a gene editing company committed to developing potentially curative therapeutics by leveraging a proprietary toolbox of next-generation gene editing systems to accurately edit DNA where current technologies cannot. Our metagenomics- powered discovery platform and analytical expertise reveal novel cellular machinery sourced from otherwise unknown organisms. We adapt and forge these naturally

evolved systems into powerful gene editing systems that are ultra-small, extremely efficient, highly specific and have a decreased risk of immune response. These systems fuel our pipeline of novel medicines and can be leveraged by partners. Our goal is to revolutionize gene editing for the benefit of patients around the world. For more information, please visit https://metagenomi.co/.

Ionis' Forward-looking Statements

This press release includes forward-looking statements regarding Ionis' business and the therapeutic and commercial potential of Ionis' technologies and products in development. Any statement describing Ionis' goals, expectations, financial or other projections, intentions or beliefs is a forward-looking statement and should be considered an at-risk statement. Such statements are subject to certain risks and uncertainties, including but not limited to, those related to our commercial products and the medicines in our pipeline, and particularly those inherent in the process of discovering, developing and commercializing medicines that are safe and effective for use as human therapeutics, and in the endeavor of building a business around such medicines. Ionis' forward-looking statements also involve assumptions that, if they never materialize or prove correct, could cause its results to differ materially from those expressed or implied by such forward-looking statements.

Although Ionis' forward-looking statements reflect the good faith judgment of its management, these statements are based only on facts and factors currently known by Ionis. As a result, you are cautioned not to rely on these forward-looking statements.
These and other risks concerning Ionis' programs are described in additional detail in Ionis' annual report on Form 10-K for the year ended Dec. 31, 2021, and the most recent Form 10-Q quarterly filing, which are on file with the Securities and Exchange Commission. Copies of these and other documents are available from the Company.

In this press release, unless the context requires otherwise, "Ionis," "Company," "we," "our," and "us" refers to Ionis Pharmaceuticals and its subsidiaries.

Ionis Pharmaceuticals® is a trademark of Ionis Pharmaceuticals, Inc.

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+1 (510) 734-4409

Schedule 12.2

Metagenomi Disclosure Schedule

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Schedule 12.4

Ionis Disclosure Schedule

[***]

Exhibit 10.81

Execution Version

Certain portions of this exhibit, marked by [***], have been excluded because they are both not material and are the type that the registrant treats as private or confidential.

Royalty Purchase Agreement

By and Between

Ionis Pharmaceuticals, Inc.

and

Akcea Therapeutics, Inc. (for the limited purposes set forth herein)

and

Royalty Pharma Investments 2019 ICAV Dated as of January 9, 2023

Table of Contents

Index of Exhibits

ROYALTY PURCHASE AGREEMENT

This ROYALTY PURCHASE AGREEMENT, dated as of January 9, 2023 (this "Agreement"), is made and entered into by and between Ionis Pharmaceuticals, Inc., a Delaware corporation (the "Seller") and, solely for the limited purposes set forth in Sections 2.1(a), 2.2, 2.3, 3.2, 3.4, 5.10(c) (the last sentence only), 5.14(b)(i), 5.14(b)(iii) and 9.3 hereunder, Akcea Therapeutics, Inc., a Delaware corporation ("Akcea"), on the one hand, and Royalty Pharma Investments 2019 ICAV, an Irish collective asset-management vehicle (the "Buyer"), on the other hand. Unless otherwise defined in this Agreement, capitalized terms have the meanings ascribed to them in Section 1 below.

W I T N E S S E T H:

WHEREAS, pursuant to the 2012 Biogen License, the Seller has the right to receive, among other things, the Spinraza Royalty from Biogen based on 2012 Biogen License Net Sales of Spinraza;

WHEREAS, pursuant to the 2017 Biogen License, the Seller has the right to receive, among other things, the BIIB-115 Royalty from Biogen based on 2017 Biogen License Net Sales of BIIB-115;

WHEREAS, pursuant to the Novartis License, Akcea has the right to receive, among other things, the Pelacarsen Royalty from Novartis based on Novartis License Net Sales of Pelacarsen; and

WHEREAS, the Buyer desires to purchase the Purchased Royalty Payments from the Seller and Akcea, and the Seller and Akcea each desires to sell the Purchased Royalty Payments to the Buyer, in each case on the terms and conditions set forth herein.

NOW THEREFORE, in consideration of the representations, warranties, covenants and agreements set forth herein and for good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Seller and the Buyer hereby agree as follows:

ARTICLE 1

DEFINED TERMS AND RULES OF CONSTRUCTION

Section 1.1 Definitions. As used in this Agreement, the following terms shall have the following meanings:

"2012 Biogen Historical License Correspondence" means [***].

"2012 Biogen License" means the Development, Option and License Agreement by and between Isis Pharmaceuticals, Inc. and Biogen Idec International Holding Ltd., dated January 3, 2012, as amended by that certain Amendment No. 1 dated December 15, 2014.

"2012 Biogen Licensed Product" has the meaning ascribed to the term "Product" in the 2012 Biogen License.

"2012 Biogen License Material Communications" means copies of all written communications, other than 2012 Biogen Historical License Correspondence, between the Seller and Biogen involving the Spinraza Royalty or Spinraza that would reasonably be expected to have a Material Adverse Effect related to the Spinraza Royalty.

"2012 Biogen License Net Sales" has the meaning ascribed to the term "Net Sales" in the 2012 Biogen License.

"2017 Biogen Historical License Correspondence" means [***].

"2017 Biogen License" means the Research Collaboration, Option and License Agreement by and between Ionis Pharmaceuticals, Inc. and Biogen MA Inc., dated December 19, 2017.

"2017 Biogen License Material Communications" means copies of all written communications other than 2017 Biogen Historical License Correspondence, between Seller and Biogen involving the BIIB-115 Royalty or BIIB-115 and that would reasonably be expected to have a Material Adverse Effect related to the BIIB-115 Royalty.

"2017 Biogen License Net Sales" has the meaning ascribed to the term "Net Sales" in the 2017 Biogen License.

"2017 Biogen Licensed Product" has the meaning ascribed to the term "Product" in the 2017 Biogen License.

[***]

"Additional Purchase Price Payment" is defined in Section 2.1(b).

"Adjusted Payment Period" shall have the meaning ascribed to such term in Section 7.8.2(c) of the Novartis License.

"Affiliate" means, with respect to any particular Person, any other Person directly or indirectly, and whether by contract or otherwise, controlling, controlled by or under common control with such Person. For purposes of this definition, the word "control" (including, with correlative meaning, the terms "controlled by" or "under common control with") means the actual power, either directly or indirectly through one or more intermediaries, to direct or cause the direction of the management and policies of such entity, whether by the ownership of at least fifty percent (50%) of the voting stock of such entity, or by contract or otherwise.

"Agreed Amount" is defined in Section 7.2(a).

"Agreement" is defined in the preamble. References to this Agreement include the Bill of Sale, the Disclosure Schedule, the Biogen Instruction Letter and the Novartis Instruction Letter.

"Akcea" is defined in the preamble.

"Alnylam" means Alnylam Pharmaceuticals, Inc.

"Alnylam License" means the Second Amended and Restated Strategic Collaboration and License Agreement between Alnylam and Seller, dated January 8, 2015, as amended by Amendment Number One on July 13, 2015 and as further amended, modified or otherwise supplemented from time to time in accordance with the terms hereof.

"Bankruptcy Laws" means, collectively, bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance, fraudulent transfer or other similar laws affecting the enforcement of creditors' rights generally.

"BIIB-115" means the investigational antisense oligonucleotide in development as a medicine for spinal muscular atrophy known as BIIB-115 or previously known as ION306.

"BIIB-115 Know-How" has the meaning ascribed to the term "Licensed Know-How" under the 2017 Biogen License.

"BIIB-115 Licensed Patents" is defined in Section 4.1(k)(i)(B).

"BIIB-115 Permitted Reduction" means [***].

[***]

"BIIB-115 Reversionary Rights" is defined in Section 5.12(b)(i).

"BIIB-115 Royalty" means (A) any and all amounts owed, owing or otherwise payable to the Seller (i) under Section 6.6.1, 6.6.2(c) or 6.10 of the 2017 Biogen License with respect to 2017 Biogen License Net Sales of 2017 Biogen Licensed Products, (ii) under Sections 7.5.5 or 7.6.1 of the 2017 Biogen License, and (iii) under Section 9.1 of the 2017 Biogen License, in the case of clauses (ii) and (iii) solely to the extent such payments relate to the amounts in clause (i) or 2017 Biogen License Net Sales of 2017 Biogen Licensed Products, (B) any and all Proceeds payable in lieu of such payments described in the foregoing clause (A), and (C) any and all interest payable to the Seller assessed on any payments described in the foregoing clauses (A) and (B), including under Section 6.12 of the 2017 Biogen License. For the avoidance of doubt, BIIB-115 Royalty shall not include any "Minimum Third Party Payments" (as defined in the 2017 Biogen License) after the expiration of the Reduced Royalty Period (as defined in the 2017 Biogen License).

"BIIB-115 Royalty Reports" means the quarterly reports deliverable by Licensee pursuant to Section 6.9.1 of the 2017 Biogen License.

"Bilateral Common Interest Agreement" means a Common Interest Agreement among the Seller, Akcea, and the Buyer, in the form attached hereto as Exhibit F.

"Bill of Sale" is defined in Section 3.2.

"Biogen" means, collectively, Biogen Idec International Holding Ltd., Biogen MA Inc., and their respective Affiliates.

"Biogen BIIB-115 Patents" means the patents owned or in-licensed by Biogen or its Affiliates that claim BIIB-115, including all patents the are listed at any time following the Closing Date in the Orange Book for BIIB-115.

"Biogen BIIB-115 Reversion Technology" means all Biogen Technology (as defined in the 2017 Biogen License) Controlled by Biogen as of the date of reversion that covers or claims BIIB-115.

"Biogen Instruction Letter" is defined in Section 5.5(g).

"Biogen Spinraza Patents" means the patents owned or in-licensed by Biogen or its Affiliates that claim Spinraza, including all patents the are listed at any time following the Closing Date in the Orange Book for Spinraza.

"Biogen Spinraza Reversion Technology" means all Biogen Idec Technology (as defined in the 2012 Biogen License) Controlled by Biogen as of the date of reversion that covers or claims Spinraza.

"Biogen Target" means ribonucleic acid corresponding to the survival of motor neuron 2 (SMN2) gene.

"Biogen Trilateral Common Interest Agreement" means a Common Interest Agreement among the Seller, Biogen and the Buyer, in the form attached hereto as Exhibit G, or in such other form as may be mutually agreed by the Parties.

"Business Day" means any day other than (a) a Saturday or Sunday or (b) a day on which banking institutions located in New York are permitted or required by applicable law or regulation to remain closed.

"Buyer" is defined in the preamble.

"Buyer Indemnified Parties" is defined in Section 7.1(a).

"Calendar Quarter" means the respective periods of three (3) consecutive calendar months ending on March 31, June 30, September 30 and December 31.

"Calendar Year" means a period of twelve (12) consecutive months commencing on January 1 of the subject year.

"Claim Amount" is defined in Section 7.2(a).

"Claim Notice" is defined in Section 7.2(a).

"Closing" is defined in Section 3.1.

"Closing Date" means the date on which the Closing occurs.

"Cold Spring Harbor" means Cold Spring Harbor Laboratory.

"Cold Spring Harbor License" means the Amended and Restated Collaboration Agreement by and between Cold Spring Harbor and Seller, dated October 26, 2011, as amended and as further amended, modified or otherwise supplemented from time to time in accordance with the terms hereof.

"Confidential Information" is defined in Section 6.1.

"Consensus Value" means the net present value (applying an [***]% discount rate) of the projected net sales of the applicable Royalty Product using projections of Wall Street sell-side analysts then covering the Seller and the applicable Licensee, as determined in accordance with Exhibit K.

"Consent Letter" means that certain letter agreement by and between Seller and Akcea, dated as of January 16, 2017, as amended, modified or otherwise supplemented from time to time in accordance with the terms hereof.

"Contract" means any agreement, instrument, arrangement, modification, waiver or understanding, whether written or oral.

"Controlled" shall have the meaning ascribed to such term in the 2012 Biogen License, 2017 Biogen License, and Novartis License, as applicable to the applicable Licensee.

"Data Room" is defined in Section 3.7.

"Disclosing Party" is defined in Section 6.1.

"Disclosure Schedule" means the Disclosure Schedule, dated as of the date hereof, delivered to the Buyer by the Seller concurrently with the execution of this Agreement.

"Enhanced Rights" is defined in Section 5.15.

"Escrow Account" means the account controlled by the Escrow Agent pursuant to which each Licensee has been instructed to direct all amounts payable by it under the applicable License Agreement(s) in accordance with the Biogen Instruction Letter and Novartis Instruction Letter, as the case may be.

"Escrow Agent" means U.S. Bank National Association, or its permitted successor under the Escrow Agreement.

"Escrow Agreement" means the Escrow Agreement to be entered into among the Seller, the Buyer, and the Escrow Agent, substantially in the form attached hereto as Exhibit E.

"FDA" means the U.S. Food and Drug Administration, or a successor federal agency thereto in the United States.

"FDA Approval of Pelacarsen for [***]" means receipt of NDA Approval of Pelacarsen to reduce the risk of [***] and elevated lipoprotein(a) ("Lp(a)") (or any substantially similar indication for the reduction of cardiovascular event risk in adults with established cardiovascular disease and elevated Lp(a)).

"Governmental Entity" means any: (a) nation, principality, republic, state, commonwealth, province, territory, county, municipality, district or other jurisdiction of any nature; (b) federal, state, local, municipal, foreign or other government; (c) governmental or quasi-governmental authority of any nature (including any governmental division, subdivision, department, agency, bureau, branch, office, commission, council, board, instrumentality, officer, official, representative, organization, unit, body or other entity and any court, arbitrator or other tribunal); (d) multi-national organization or body; or (e) individual, body or other entity exercising, or entitled to exercise, any executive, legislative, judicial, administrative, regulatory, police, military or taxing authority or power of any nature.

"Indemnified Party" is defined in Section 7.2(a).

"Indemnifying Party" is defined in Section 7.2(a).

"Initial Payment Period" shall have the meaning ascribed to such term in Section 7.8.2(a) of the Novartis License.

"Initial Purchase Price" means $500,000,000.

"Intercompany License" means that certain Development, Commercialization and License Agreement by and between Seller and Akcea, dated as of December 18, 2015, as amended, modified or otherwise supplemented from time to time in accordance with the terms hereof.

"Ionis BIIB-115 Patents" has the meaning ascribed to the term "Licensed Patents" in the 2017 Biogen License.

"Ionis Core Technology Patents" means Isis Core Technology Patents (as defined in the 2012 Biogen License), Isis Manufacturing and Analytical Patents (as defined in the 2012 Biogen License), Ionis Core Technology Patents (as defined in the 2017 Biogen License), Ionis Manufacturing and Analytical Patents (as defined in the 2017 Biogen License), and Akcea Core Technology Patents (as defined in the Novartis License) and Akcea Manufacturing and Analytical Patents (as defined in the Novartis License).

"Ionis Pelacarsen Patents" has the meaning ascribed to the term "Licensed Patents" in the Novartis License.

"Ionis Product-Specific Spinraza Patents" has the meaning ascribed to the term "Isis Product-Specific Patents" in the 2012 Biogen License.

"Ionis Spinraza Patents" has the meaning ascribed to the term "Licensed Patents" in the 2012 Biogen License.

"Jointly-Owned BIIB-115 Program Patents" has the meaning ascribed to the term "Jointly-Owned Program Patents" in the 2017 Biogen License.

"Jointly-Owned Pelacarsen Program Patents" has the meaning ascribed to the term "Jointly-Owned Program Patents" in the Novartis License.

"Jointly-Owned Spinraza Program Patents" has the meaning ascribed to the term "Jointly-Owned Program Patents" in the 2012 Biogen License.

"Judgment" means any judgment, order, writ, injunction, citation, award or decree of any nature.

"Knowledge of the Seller" means the actual knowledge of the Seller's executive officers or other members of senior management with primary responsibility for the applicable subject matter.

"License Agreements" means, collectively, the 2012 Biogen License, the 2017 Biogen License and the Novartis License (each, a "License Agreement").

"License Correspondence" means the 2012 Biogen Historical License Correspondence, the 2017 Biogen Historical License Correspondence, and the Novartis Historical License Correspondence.

"Licensee" or "Licensees" means, individually and collectively, Biogen and Novartis.

"Lien" means any mortgage, lien, pledge, assignment, license, sublicense, hypothec, charge, adverse claim, security interest, encumbrance or restriction of any kind, including any restriction on use, transfer or exercise of any other attribute of ownership of any kind (including, any agreement to give any of the foregoing, any conditional sale or other title retention agreement, and any lease in the nature thereof) and any option, trust or other preferential arrangement having the practical effect of any of the foregoing.

"Loss" means any and all Judgments, damages, losses, claims, costs, liabilities and expenses, including reasonable fees and out-of-pocket expenses of counsel.

"Lp(a)" is defined in the definition of "FDA Approval of Pelacarsen for [***]".

"Material Adverse Effect" shall mean (i) a material adverse effect on the legality, validity or enforceability of any provision of this Agreement, (ii) a material adverse effect on the ability of the Seller to perform any of its obligations hereunder, (iii) a material adverse effect on the rights or remedies of the Buyer hereunder, (iv) a material adverse effect on the rights of the Seller under any of the License Agreements related to any Royalty or (v) an adverse effect in any material respect on the timing, amount or duration of any payments to be made to the Buyer in respect of the Royalty or the right of the Buyer to receive such payments (but excluding in each case any event, circumstance or change based on market conditions generally applicable to the industry in which the Seller operates or in any specific jurisdiction or geographical area, such as drug reimbursement rates or the commercial launch of a potentially competitive product).

"Material Correspondence" means any [***] that relates to a matter that would reasonably be expected to have a Material Adverse Effect.

"NDA" means a New Drug Application submitted to the FDA in the United States in accordance with the Federal Food, Drug, and Cosmetic Act with respect to a pharmaceutical product.

"NDA Approval" means, with respect to a product in the United States, FDA approval of an NDA sufficient for the manufacture, distribution, use, marketing and sale of such product in the United States.

"New BIIB-115 Arrangement" is defined in Section 5.12(b)(i).

"New Pelacarsen Arrangement" is defined in Section 5.12(c)(i).

"New SMA Compounds" has the meaning ascribed to such term in the 2017 Biogen License.

"New Spinraza Arrangement" is defined in Section 5.12(a)(i).

"NMA Compound" has the meaning ascribed to such term in the 2017 Biogen License.

"Non-Permitted Withholding Tax Reduction" means any reduction to the Purchased Royalty Payments pursuant to Section 6.11.2 of the 2017 Biogen License [***], Section 6.11.2 of the 2012 Biogen License [***] or Section 7.13.3 of the Novartis License [***].

"Novartis" means Novartis Pharma AG.

[***]

"Novartis Historical License Correspondence" means [***].

"Novartis Instruction Letter" is defined in Section 5.5(g).

"Novartis License" means the Strategic Collaboration, Option and License Agreement by and between Akcea, and Novartis, dated January 5, 2017, as amended by that certain Amendment No. 1 to the Strategic Collaboration, Option and License Agreement dated February 22, 2019.

"Novartis License Material Communications" means copies of all written communications, other than Novartis Historical License Correspondence, between Akcea or Seller and Novartis involving the Pelacarsen Royalty or Pelacarsen and that would reasonably be expected to have a Material Adverse Effect related to the Pelacarsen Royalty.

"Novartis License Net Sales" has the meaning ascribed to the term "Net Sales" in the Novartis License.

"Novartis Pelacarsen Patents" means the patents owned or in-licensed by Novartis or its Affiliates that claim Pelacarsen, including all patents the are listed at any time following the Closing Date in the Orange Book for Pelacarsen.

"Novartis Pelacarsen Reversion Technology" means all Novartis Background Technology (as defined in the Novartis License) Controlled by Novartis as of the date of such termination that covers or claims Pelacarsen as of such date.

"Novartis Trilateral Common Interest Agreement" means a Common Interest Agreement among Akcea, Novartis and the Buyer, in the form attached hereto as Exhibit H, or in such other form as may be mutually agreed by the Parties.

"Patent Rights" shall have the meaning ascribed to such term in the 2012 Biogen License.

"Payment Triggering Event" is defined in Section 2.1(b).

"Pelacarsen" has the meaning ascribed to the term "AKCEA-APO(a)-L_{Rx}" in the Novartis License.

"Pelacarsen Commercial Launch" means the first sale for use or consumption by an end-user of Pelacarsen in the United States after NDA Approval of Pelacarsen; provided however, that the following shall not trigger a Pelacarsen Commercial Launch: (a) any sale to an Affiliate of the Seller or any Licensee, (b) any use of Pelacarsen in clinical or non-clinical development activities, or (c) disposal or transfer of Pelacarsen for a *bona fide* charitable purpose, compassionate use or samples.

"Pelacarsen Know-How" has the meaning ascribed to the term "Licensed Know-How" under the Novartis License.

"Pelacarsen Licensed Patents" is defined in Section 4.1(k)(i)(C).

"Pelacarsen Permitted Reduction" means [***].

[***]

"Pelacarsen Reversionary Rights" is defined in Section 5.12(c)(i).

"Pelacarsen Royalty" means (A) any and all amounts owed, owing or otherwise payable to Akcea (i) under Section 7.8.1, 7.8.2(c) and 7.12 of the Novartis License with respect to Novartis License Net Sales of Pelacarsen, (ii) under Section 8.6.4 of the Novartis License, and (iii) under Section 10.1 of the Novartis License, in the case of clauses (ii) and (iii) solely to the extent such payments relate to the amounts in the foregoing clause (i) or Novartis License Net Sales of Pelacarsen, (B) any and all Proceeds payable in lieu of such payments described in the foregoing clause (A), and (C) any and all interest payable to Akcea assessed on any payments described in the foregoing clauses (A) and (B), including under Section 7.14 of the Novartis License. For the avoidance of doubt, Pelacarsen Royalty shall not include any "Minimum Third Party Payments" (as defined in the Novartis License) after the expiration of the Adjusted Payment Period (as defined in the Novartis License).

"Pelacarsen Royalty Percentage" means, as of any time of determination, with respect to (a) Buyer, (b) the Seller or (c) any other Person who has acquired an interest in or a Lien over any portion of the Pelacarsen Royalty as a result of a Seller Monetization Transaction, [***].

"Pelacarsen Royalty Reports" means the quarterly reports deliverable by Licensee pursuant to Section 7.11.1 of the Novartis License.

"Pelacarsen RP Control Shift" means [***].

"Pelacarsen Target" means ribonucleic acid corresponding to the LPA (Lipoprotein(A)) gene.

"Pelacarsen Upstream License" means each of the Intercompany License, the Consent Letter, and the Alnylam License.

"Permitted Liens" means any (a) mechanic's, materialmen's, and similar liens for amounts not yet due and payable, (b) statutory liens for taxes not yet due and payable or for taxes that the taxpayer is contesting in good faith, and (c) any liens created, permitted or required by this Agreement in favor of the Buyer or its Affiliates.

"Permitted Reduction" means a Spinraza Permitted Reduction (with respect to the Spinraza Royalty), BIIB-115 Permitted Reduction (with respect to the BIIB-115 Royalty), or Pelacarsen Permitted Reduction (with respect to the Pelacarsen Royalty); provided, however, a "Permitted Reduction" shall not include any amounts paid or payable by or on behalf of Seller to Cold Spring Harbor or UMass pursuant to the Upstream Licenses.

"Person" means any individual, firm, corporation, company, partnership, limited liability company, trust, joint venture, association, estate, trust, Governmental Entity or other entity, enterprise, association or organization.

"Prime Rate" means the prime rate published by the Wall Street Journal, from time to time, as the prime rate.

"Proceeds" means any amounts actually recovered by the Seller as a result of any settlement or resolution of any actions, suits, proceedings, claims or disputes.

"Purchase Price" means, collectively, the Initial Purchase Price and any Additional Purchase Price Payments.

"Purchased Pelacarsen Royalty Payments" means an amount equal to 25% of the Pelacarsen Royalty in respect of Novartis License Net Sales of Pelacarsen occurring from and after January 1, 2023.

"Purchased Royalty Payments" means, collectively, the Purchased SMA Royalty Payments and the Purchased Pelacarsen Royalty Payments.

"Purchased SMA Royalty Payments" means on a Calendar Year-by-Calendar Year basis, the applicable portion of the SMA Royalties with respect to SMA Combined Net Sales during such Calendar Year set forth in the table below, subject to the following limits: (i) during each Calendar Year, zero percent (0%) of the SMA Royalties related to SMA Combined Net Sales in excess of $1,500,000,000 during such Calendar Year; and (ii) zero percent (0%) of the SMA Royalties after the total amount of Purchased SMA Royalty Payments actually received by the Buyer hereunder equals the applicable SMA Royalty Cap.

Calendar Year	Applicable Portion of SMA Royalties
2023	25%
2024	25%
2025	25%
2026	25%
2027	25%
2028 and each Calendar Year thereafter	45%

In the event SMA Combined Net Sales exceed $1,500,000,000 during a subject Calendar Year, then the Purchased SMA Royalty Payments for the Calendar Quarter in which such $1,500,000,000 threshold is achieved shall be calculated on a pro rata basis based on the relative amounts of 2012 Biogen License Net Sales of Spinraza and 2017 Biogen License Net Sales of 2017 Biogen Licensed Products during such Calendar Quarter. By way of example only, if (a) SMA Combined Net Sales totaled $1,400,000,000 as of the nine-months ended September 30 of the subject Calendar Year and $1,650,000,000 as of the year-ended December 31 of the subject Calendar Year, and (b) of such $250,000,000 of SMA Combined Net Sales during the Calendar Quarter ended December 31, $200,000,000 was attributable to 2012 Biogen License Net Sales of Spinraza and $50,000,000 was attributable to 2017 Biogen License Net Sales of 2017 Biogen Licensed Products, then (x) of the $100,000,000 of SMA Combined Net Sales in the Calendar Quarter ending December 31 to be included in the calculation of the Purchased SMA Royalty Payments, $80,000,000 would be deemed attributable to 2012 Biogen License Net Sales of Spinraza and $20,000,000 would be deemed attributable to 2017 Biogen License Net Sales of 2017 Biogen Licensed Products and (y) $150,000,000 of SMA Combined Net Sales (comprised of $120,000,000 of 2012 Biogen License Net Sales of Spinraza and $30,000,000 of 2017 Biogen License Net Sales of 2017 Biogen Licensed Products) in the Calendar Quarter ending December 31 would be excluded from the calculation of Purchased SMA Royalty Payments.

"Receiving Party" is defined in Section 6.1.

"Representative" means, with respect to any Person, (i) any direct or indirect stockholder, member or partner of such Person and (ii) any manager, director, officer, employee, agent, advisor or other representative (including attorneys, accountants, consultants, bankers, financial advisors and actual and potential lenders and investors) of such Person.

"Royalty" means, collectively, the Spinraza Royalty, the BIIB-115 Royalty, and the Pelacarsen Royalty.

"Royalty Products" means, collectively, Spinraza, BIIB-115, and Pelacarsen.

"Royalty Reduction" means any adjustment, counterclaim, reduction, credit, or deduction of, from or to any payment of a Royalty.

"Royalty Reports" means, collectively, the Spinraza Royalty Reports, BIIB-115 Royalty Reports, and Pelacarsen Royalty Reports.

"Seller" is defined in the preamble.

"Seller Indemnified Parties" is defined in Section 7.1(b).

"Seller Monetization Transaction" means, [***].

"Set-Off" means any set-off or offset, by contract or under common law.

"SMA Combined Net Sales" means the aggregate of 2012 Biogen License Net Sales of Spinraza and 2017 Biogen License Net Sales of 2017 Biogen Licensed Products.

"SMA Royalties" means, collectively, the Spinraza Royalty and the BIIB-115 Royalty.

"SMA Royalty Cap" means (i) if FDA Approval of Pelacarsen for [***] has occurred by the date that the total Purchased SMA Royalty Payments actually received by the Buyer hereunder equals $475,000,000, then $475,000,000 or (ii) otherwise, $550,000,000.

"SMA Royalty Percentage" means, as of any time of determination, with respect to (a) Buyer, (b) the Seller or (c) any other Person who has acquired an interest in or a Lien over any portion of the Spinraza Royalty as a result of a Seller Monetization Transaction, [***].

"SMA RP Control Shift" means [***].

"sNDA Approval" means the FDA's approval of a supplemental NDA, including all licenses and registrations, that are necessary for the sale and marketing of a pharmaceutical product in the United States.

"Spinraza" means nusinersen (or ISIS 396443).

"Spinraza Assigned Patents" is defined in Section 4.1(k)(i)(A).

"Spinraza Know-How" has the meaning ascribed to the term "Licensed Know-How" under the 2012 Biogen License.

"Spinraza Licensed Patents" is defined in Section 4.1(k)(i)(A).

"Spinraza Permitted Reduction" means [***].

[***]

"Spinraza Reversionary Rights" is defined in Section 5.12(a)(i).

"Spinraza Royalty" means (A) any and all amounts owed, owing or otherwise payable to the Seller (i) under Section 6.6.1, 6.6.2(c) or 6.10 of the 2012 Biogen License with respect to 2012 Biogen License Net Sales of 2012 Biogen Licensed Products, (ii) under Sections 7.5.5 or 7.6.1 of the 2012 Biogen License relating to a claim for infringement of the Spinraza Assigned Patents or Spinraza Licensed Patents, and (iii) under Section 9.1 of the 2012 Biogen License, in the case of clauses (ii) and (iii), solely to the extent such payments relate to the amounts in the foregoing clause (i) or 2012 Biogen License Net Sales of 2012 Biogen Licensed Products, (B) any and all Proceeds payable in lieu of such payments described in the foregoing clause (A), and (C) any and all interest payable to the Seller assessed on any payments described in the foregoing clauses (A) and (B), including under Section 6.12 of the 2012 Biogen License. For the avoidance of doubt, Spinraza Royalty shall not include "Minimum Third Party Payments" (as defined in the 2012 Biogen License) after the expiration of the Reduced Royalty Period (as defined in the 2012 Biogen License).

"Spinraza Royalty Reports" means the quarterly reports deliverable by Licensee pursuant to Section 6.9.1 of the 2012 Biogen License.

"Spinraza Upstream License" means each of the UMass License and the Cold Spring Harbor License.

"Tax" or "Taxes" means any federal, state, local or non-U.S. income, gross receipts, license, payroll, employment, excise, severance, occupation, premium, windfall profits, environmental, customs duties, capital stock, franchise, profits, withholding, social security, unemployment, disability, real property, personal property, abandoned property, value added, alternative or add-on minimum, estimated or other tax of any kind whatsoever, including any interest, penalty or addition thereto, whether disputed or not.

"Third Party" means any Person that is not the Buyer, an Affiliate of the Buyer, the Seller or an Affiliate of the Seller.

"Triggering BIIB-115 Termination" is defined in Section 5.12(b)(i).

"Triggering Pelacarsen Termination" is defined in Section 5.12(c)(i).

"Triggering Spinraza Termination" is defined in Section 5.12(a)(i).

"UCC" means Article 9 of the New York Uniform Commercial Code, as in effect from time to time.

"UMass" means University of Massachusetts.

"UMass License" means the Exclusive License Agreement by and between UMass and Seller, dated January 14, 2010, as amended on November 28, 2011, and as further amended, modified or otherwise supplemented from time to time in accordance with the terms hereof.

"Upstream License" means each Spinraza Upstream License and each Pelacarsen Upstream License.

Section 1.2 Certain Interpretations. Except where expressly stated otherwise in this Agreement, the following rules of interpretation apply to this Agreement:

(a) "either" and "or" are not exclusive and "include," "includes" and "including" are not limiting and shall be deemed to be followed by the words "without limitation;"

(b) "extent" in the phrase "to the extent" means the degree to which a subject or other thing extends, and such phrase does not mean simply "if;"

(c) "hereof," "hereto," "herein" and "hereunder" and words of similar import when used in this Agreement refer to this Agreement as a whole and not to any particular provision of this Agreement;

(d) references to a Person are also to its permitted successors and assigns;

(e) definitions are applicable to the singular as well as the plural forms of such terms;

(f) unless otherwise indicated, references to an "Article", "Section" or "Exhibit" refer to an Article or Section of, or an Exhibit to, this Agreement, and references to a "Schedule" refer to the corresponding part of the Disclosure Schedule;

(g) references to "$" or otherwise to dollar amounts refer to the lawful currency of the United States and all payments under this Agreement shall be made in immediately available funds;

(h) provisions referring to matters that would or could have, or would or could reasonably be expected to have, or similar phrases, shall be deemed to have such result or expectation with or without the giving of notice or the passage of time, or both;

(i) references to a law include any amendment or modification to such law and any rules and regulations issued thereunder, whether such amendment or modification is made, or issuance of such rules and regulations occurs, before or after the date of this Agreement.

(j) for covenants that are to be undertaken "reasonably," such actions (or inactions) shall take into account Buyer's economic interest in the Royalty and the impact of the applicable action (or inaction) on such interest.

Section 1.3 Headings. The table of contents and the descriptive headings of the several Articles and Sections of this Agreement and the Exhibits and Schedules are for convenience only, do not constitute a part of this Agreement and shall not control or affect, in any way, the meaning or interpretation of this Agreement.

ARTICLE 2

PURCHASE, SALE AND ASSIGNMENT OF THE ROYALTY

Section 2.1 Closing; Purchase Price.

(a) Upon the terms and subject to the conditions of this Agreement, at the Closing, the Seller shall, and shall cause Akcea to, and Akcea shall, sell, transfer, assign and convey to the Buyer, and the Buyer shall purchase, acquire and accept from the Seller, free and clear of all Liens, all of the Seller's, or Akcea's, as applicable, right, title and interest in and to the Purchased Royalty Payments. The purchase price to be paid at the Closing to the Seller for such sale, transfer, assignment and conveyance is the Initial Purchase Price. At the Closing, the Buyer shall pay the Seller the Initial Purchase Price by wire transfer to one or more accounts specified by the Seller on Exhibit A.

(b) Following the Closing, upon the occurrence of each of the following events (each a "Payment Triggering Event"), the Buyer shall make a cash payment (each an "Additional Purchase Price Payment") to the Seller in the amount corresponding to such Payment Triggering Event:

#	PAYMENT TRIGGERING EVENT	ADDITIONAL PURCHASE PRICE PAYMENT AMOUNT
1.	[***]	[***]
2.	[***]	[***]
3.	[***]	[***]
4.	[***]	[***]
5.	[***]	[***]
6.	[***]	[***]
7.	[***]	[***]
	TOTAL	**$625,000,000**

Notwithstanding the foregoing, if each of Payment Triggering Events #2 through #7 above are achieved, then the Payment Triggering Event in #1 above, if not previously triggered, will be deemed to be achieved as well and the Buyer shall make the Additional Purchase Price Payment to the Seller in the amount corresponding to such Payment Triggering Event in accordance with Section 2.1(d) below.

For clarity, (i) only one Additional Purchase Price Payment shall be due hereunder with respect to each Payment Triggering Event and no Additional Purchase Price Payment shall be payable for repeated achievements of any such Payment Triggering Events; provided that for the avoidance of doubt, more than one Payment Triggering Event may be achieved for any particular Calendar Year, and (ii) [***].

(c) Each party hereto hereby agrees and acknowledges that: (i) the Additional Purchase Price Payments are contingent payment obligations of the Buyer and there can be no assurance regarding the occurrence of any of the Payment Triggering Events and (ii) the Buyer shall have no obligation or liability with respect to any Additional Purchase Price Payment unless and until the corresponding Payment Triggering Event has occurred.

(d) The Seller shall notify the Buyer promptly following the achievement of any Payment Triggering Event, and the Buyer shall pay the corresponding Additional Purchase Price Payment to the Seller within [***] Business Days following such notice (except in the case of Payment Triggering Event #5, which shall be paid within [***] Business Days of the date of [***].

(e) Each party hereto further agrees and acknowledges that the other party shall have the right to offset any Agreed Amounts or Losses resolved pursuant to a final and unappealable ruling in accordance with the provisions of Section 9.8 owed by such party to the other party hereunder. In addition, in the event that a court of competent jurisdiction makes a final and unappealable ruling in accordance with the provisions of Section 9.8 that the Buyer has breached this Agreement by failing to pay any Additional Purchase Price Payment when due, the Seller shall have a right to recoup such Additional Purchase Price Payment not paid by Buyer, together with any late fee in respect thereof in accordance with Section 5.4, from the Purchased Royalty Payments. For the avoidance of doubt, this Agreement (including all agreements, schedules and exhibits hereto and the documents and instruments referred to herein that are to be delivered at the Closing Date) shall constitute a "single integrated agreement" and the transactions contemplated thereby shall constitute a "single integrated transaction" in each case for purposes of recoupment.

(f) Subject to Section 2.1(e), any Additional Purchase Price Payment owed to the Seller by the Buyer in accordance with Section 2.1(b) shall be paid to the Seller by wire transfer to the account(s) specified by the Seller on Exhibit A (or such other account(s) as specified by the Seller in a writing delivered to the Buyer in accordance with Section 9.1). The parties hereto further agree that: (i) the aggregate Additional Purchase Price Payments payable by the Buyer hereunder shall not exceed $625,000,000 and (ii) the total Purchase Price payable to the Seller by the Buyer hereunder (inclusive of the Initial Purchase Price and, if required to be paid under this Agreement, all of the Additional Purchase Price Payments) shall in no event exceed $1,125,000,000 in the aggregate.

Section 2.2 No Assumed Obligations, Etc. Notwithstanding any provision in this Agreement to the contrary, the Buyer is purchasing, acquiring and accepting only the Purchased Royalty Payments, and is not assuming any liability or obligation of the Seller or Akcea of whatever nature, whether presently in existence or arising or asserted hereafter, under the License Agreements or otherwise. Except as specifically set forth herein in respect of the Purchased Royalty Payments purchased, acquired and accepted hereunder, the Buyer does not, by such purchase, acquisition and acceptance, acquire any other contract rights of the Seller or Akcea under the License Agreements or otherwise or any other assets of the Seller or Akcea.

Section 2.3 True Sale. It is the intention of the parties hereto that the sale, transfer, assignment and conveyance contemplated by this Agreement be, and is, a true, complete, absolute and irrevocable sale, transfer, assignment and conveyance by the Seller and Akcea to the Buyer of all of the Seller's, and Akcea's (as applicable) rights, title and interests in and to the Purchased Royalty Payments and the Seller relinquishes all title and control over the Purchased Royalty Payments upon such sale, transfer, assignment and conveyance. None of the Seller, Akcea or the Buyer intends the transactions contemplated by this Agreement to be, or for any purpose characterized as, a loan from the Buyer to the Seller or Akcea (as applicable) or to any of the Seller's or Akcea's Affiliates, or a pledge, a security interest, a financing transaction or a borrowing. It is the intention of the parties hereto that the beneficial interest in and title to the Purchased Royalty Payments and any "proceeds" (as defined in the UCC) thereof shall not be part of the Seller's or Akcea's estates in the event of the filing of a petition by or against the Seller under any Bankruptcy Laws. Each of the Seller, Akcea and the Buyer hereby waives, to the maximum extent permitted by applicable law, any right to contest or otherwise assert that the sale contemplated by this Agreement does not constitute a true, complete, absolute and irrevocable sale, transfer, assignment and conveyance by the Seller and Akcea to the Buyer of all of the Seller's and Akcea's right, title and interest in and to the Purchased Royalty Payments under applicable law, which waiver shall, to the maximum extent permitted by applicable law, be enforceable against the Seller or Akcea (as applicable) in any bankruptcy or insolvency proceeding relating to the Seller or Akcea or either of their subsidiaries. Accordingly, the Seller and Akcea shall treat the sale, transfer, assignment and conveyance of the Purchased Royalty Payments as a sale of an "account" or a "payment intangible" (as appropriate) in accordance with the UCC, and the Seller and Akcea each hereby authorizes the Buyer to file financing statements (and continuation statements with respect to such financing statements when applicable) naming the Seller and Akcea (as applicable) as the debtor and the Buyer as the secured party in respect of the Purchased Royalty Payments. Not in derogation of the foregoing statement of the intent of the parties hereto in this regard, and for the purposes of providing additional assurance to the Buyer in the event that, despite the intent of the parties hereto, the sale, transfer, assignment and conveyance contemplated hereby is hereafter held not to be a sale, each of the Seller and Akcea does hereby grant to the Buyer a security interest in and to all right, title and interest of the Seller or Akcea (as applicable), in, to and under the Purchased Royalty Payments and any "proceeds" (as defined in the UCC) thereof as security for all of the Seller's and Akcea's obligations hereunder, including the payment of the Purchased Royalty Payments, and each of the Seller and Akcea does hereby authorize the Buyer, from and after the Closing, to file such financing statements (and continuation statements with respect to such financing statements when applicable) in such manner and such jurisdictions as are necessary or appropriate to perfect such security interest. At such time as the Buyer receives zero percent (0%) of the SMA Royalties after the total amount of Purchased SMA Royalty Payments actually received by the Buyer hereunder equals the applicable SMA Royalty Cap, the security interest granted pursuant to the immediately preceding sentence as it relates to the Purchased SMA Royalty Payments shall be released and the Buyer shall, at the request and sole expense of the Seller, execute and deliver to the Seller all releases and other documents reasonably necessary or advisable for the release of the Liens against the Purchased SMA Royalty Payments, including the filing of amendments to any UCC financing statements against the Seller to evidence such termination.

ARTICLE 3

CLOSING

Section 3.1 Closings; Payment of Purchase Price.The purchase and sale of the Purchased Royalty Payments shall take place remotely via the exchange of documents and signatures on the date hereof or such other place, time and date as the parties hereto may mutually agree (the "Closing"). At the Closing, the Buyer shall deliver (or cause to be delivered) payment of the Initial Purchase Price to the Seller by wire transfer to one or more accounts specified by the Seller on Exhibit A.

Section 3.2 Bill of Sale. At the Closing, upon confirmation of the receipt of the Initial Purchase Price, the Seller and Akcea shall deliver to the Buyer a duly executed bill of sale evidencing the sale, transfer, assignment and conveyance of the Purchased Royalty Payments, substantially in the form attached hereto as Exhibit B (the "Bill of Sale").

Section 3.3 [Reserved].

Section 3.4 Escrow Agreement. Within [***] Business Days following the Closing, the Buyer, the Seller and Akcea shall execute and deliver the Escrow Agreement to the Escrow Agent.

Section 3.5 Form W-9. At the Closing, the Seller shall deliver to the Buyer a valid, properly executed IRS Form W-9 certifying that the Seller is exempt from U.S. federal withholding tax and "backup" withholding tax.

Section 3.6 Form W-8BEN-E. At the Closing, the Buyer shall deliver to the Seller a valid, properly executed IRS Form W-8BEN-E certifying that the Buyer is exempt from U.S. federal withholding tax with respect to any and all Purchased Royalty Payments.

Section 3.7 Data Room. The Seller shall have delivered to the Buyer an electronic copy of all of the information and documents posted to the virtual data room established by the Seller as of the date hereof and made available to the Buyer via Firmex (the "Data Room") for archival purposes only.

Section 3.8 Bilateral Common Interest Agreement. At the Closing each of the Seller and the Buyer shall execute and deliver to the other party hereto the Bilateral Common Interest Agreement.

ARTICLE 4

REPRESENTATIONS AND WARRANTIES

Section 4.1 Seller's Representations and Warranties. Except as set forth in the Disclosure Schedule, the Seller represents and warrants to the Buyer that as of the Closing Date:

(a) Existence; Good Standing. Each of Akcea and the Seller is a corporation duly incorporated, validly existing and in good standing under the laws of Delaware. Each of Akcea and the Seller is duly licensed or qualified to do business and is in corporate good standing in each jurisdiction in which the nature of the business conducted by it or the character or location of the properties and assets owned, leased or operated by it makes such licensing or qualification necessary, except where the failure to be so licensed or qualified and in corporate good standing has not and would not reasonably be expected to have, either individually or in the aggregate, a Material Adverse Effect.

(b) Authorization. Each of the Seller and Akcea has all requisite corporate power and authority to execute, deliver and perform its obligations under this Agreement. The execution, delivery and performance of this Agreement, and the consummation of the transactions contemplated hereby, have been duly authorized by all necessary corporate action on the part of each of the Seller and Akcea.

(c) Enforceability. The Agreement has been duly executed and delivered and constitutes a valid and binding obligation of each of the Seller and Akcea enforceable against the Seller and Akcea in accordance with its terms, except as such enforceability may be limited by applicable Bankruptcy Laws or general principles of equity (whether considered in a proceeding in equity or at law).

(d) No Conflicts. The execution, delivery and performance by the Seller or Akcea of this Agreement and the consummation of the transactions contemplated hereby do not and shall not (i) contravene or conflict with the organizational documents of the Seller or Akcea, (ii) contravene or conflict with or constitute a material default under any law or Judgment binding upon or applicable to the Seller or Akcea, (iii) contravene or conflict with or constitute a default under any of the License Agreements or under any of the Upstream Licenses or (iv) contravene or conflict with or constitute a default under any other material contract or material agreement binding upon or applicable to the Seller or Akcea.

(e) Consents. Except for filings required by the federal securities laws or stock exchange rules, no consent, approval, license, order, authorization, registration, declaration or filing with or of any Governmental Entity or other Person is required to be done or obtained by the Seller in connection with (i) the execution and delivery by the Seller of this Agreement, (ii) the performance by the Seller of its obligations under this Agreement or (iii) the consummation by the Seller of any of the transactions contemplated by this Agreement.

(f) No Litigation. There is no action, suit, claim, investigation or proceeding pending or, to the Knowledge of the Seller, threatened, including before any Governmental Entity, against or involving the Seller or any of its Affiliates, or any of their respective properties or assets that, individually or in the aggregate, would be reasonably be expected to result in a Material Adverse Effect or which questions the validity of this Agreement or the transactions contemplated hereby or any action taken or to be taken pursuant hereto.

(g) Compliance with Laws. Neither the Seller nor any of its Affiliates is in violation of, and to the Knowledge of the Seller, neither the Seller nor any of its Affiliates is under investigation with respect to nor has the Seller or any of its Affiliates been threatened in writing to be charged with or given written notice of any violation of, any law or Judgment applicable to the Seller or any of its Affiliates, which violation would reasonably be expected to have, either individually or in the aggregate, a Material Adverse Effect.

(h) [Reserved.]

(i) License Agreements. Attached hereto as Exhibit D-1, D-2, D-3, D-4, D-5, D-6 D-7, and D-8 is a true, correct and complete copy of the 2012 Biogen License, 2017 Biogen License, Novartis License, the UMass License, the Cold Spring Harbor License, the Intercompany License, the Consent Letter, and the Alnylam License respectively. The Seller has delivered to the Buyer via the Data Room true, correct and complete copies of all License Correspondence.

(i) No Other Agreements.

(A) Except for the 2017 Biogen License, and except as set forth on Schedule 4.1(i)(i)(A) of the Disclosure Schedule, the 2012 Biogen License is the only Contract between the Seller (or any predecessor or Affiliate thereof), on the one hand, and Biogen (or any predecessor or Affiliate thereof), on the other hand, relating to Spinraza or the Biogen Target, and there are no other Contracts (other than the 2017 Biogen Agreement) between the Seller (or any predecessor or any Affiliate thereof), on the one hand, and any other Person, including Biogen (or any predecessor or Affiliate thereof), on the other hand, that relate to the 2012 Biogen License, any Spinraza Licensed Patent (other than an Ionis Core Technology Patent), the 2012 Biogen Licensed Product (including the development or commercialization thereof), Spinraza or the Spinraza Royalty.

(B) Except for the 2012 Biogen License, and except as set forth on Schedule 4.1(i)(i)(B) of the Disclosure Schedule, the 2017 Biogen License is the only Contract between the Seller (or any predecessor or Affiliate thereof), on the one hand, and Biogen (or any predecessor or Affiliate thereof), on the other hand, relating to BIIB-115 or the Biogen Target, and there are no other Contracts between the Seller (or any predecessor or any Affiliate thereof), on the one hand, and any other Person, including Biogen (or any predecessor or Affiliate thereof), on the other hand, that relate to the 2017 Biogen License, any BIIB-115 Licensed Patent (other than an Ionis Core Technology Patent), the 2017 Biogen Licensed Product (including the development or commercialization thereof), BIIB-115 or the BIIB-115 Royalty.

(C) Except as set forth on Schedule 4.1(i)(i)(C) of the Disclosure Schedule, the Novartis License is the only Contract between the Seller (or any predecessor or Affiliate thereof), on the one hand, and Novartis (or any predecessor or Affiliate thereof), on the other hand, relating to Pelacarsen or the Pelacarsen Target, and there are no other Contracts between the Seller (or any predecessor or any Affiliate thereof), on the one hand, and any other Person, including Novartis (or any predecessor or Affiliate thereof), on the other hand, that relate to the Novartis License, any Pelacarsen Licensed Patent (other than any Ionis Core Technology Patent), Pelacarsen (including the development or commercialization thereof), or the Pelacarsen Royalty.

(D) Except as set forth on Schedule 4.1(i)(i)(D) of the Disclosure Schedule, UMass License is the only Contract between the Seller (or any predecessor or Affiliate thereof), on the one hand, and UMass (or any predecessor or Affiliate thereof), on the other hand, relating to the subject matter thereof, and there are no other Contracts between the Seller (or any predecessor or any Affiliate thereof), on the one hand, and any other Person, including UMass (or any predecessor or Affiliate thereof), on the other hand, that relate to the Spinraza Licensed Patents owned by UMass.

(E) Except as set forth on Schedule 4.1(i)(i)(E) of the Disclosure Schedule, the Cold Spring Harbor License is the only Contract between the Seller (or any predecessor or Affiliate thereof), on the one hand, and Cold Spring Harbor (or any predecessor or Affiliate thereof), on the other hand, relating to the subject matter thereof, and there are no other Contracts between the Seller (or any predecessor or any Affiliate thereof), on the one hand, and any other Person, including Cold Spring Harbor (or any predecessor or Affiliate thereof), on the other hand, that relate to the Spinraza Licensed Patents owned by Cold Spring Harbor.

(F) Except as set forth on Schedule 4.1(i)(i)(F) of the Disclosure Schedule, the Intercompany License and Consent Letter are the only Contracts between the Seller (or any predecessor or Affiliate thereof), on the one hand, and Akcea (or any predecessor or Affiliate thereof), on the other hand, relating to the subject matter thereof, and there are no other Contracts between the Seller (or any predecessor or any Affiliate thereof), on the one hand, and any other Person, including Akcea (or any predecessor or Affiliate thereof), on the other hand, that relate to the Pelacarsen Licensed Patents owned by Seller.

(G) Except as set forth on Schedule 4.1(i)(i)(G) of the Disclosure Schedule, the Alnylam License is the only Contract between the Seller (or any predecessor or Affiliate thereof), on the one hand, and Alnylam (or any predecessor or Affiliate thereof), on the other hand, relating to the subject matter thereof, and there are no other Contracts between the Seller (or any predecessor or any Affiliate thereof), on the one hand, and any other Person, including Alnylam (or any predecessor or Affiliate thereof), on the other hand, that relate to the Pelacarsen Licensed Patents owned by Alnylam.

(H) There is no proposal to amend, modify or waive any provision of any License Agreement or any Upstream License.

(ii) Licenses/Sublicenses. Except as set forth on Schedule 4.1(i)(ii) of the Disclosure Schedule, to the Knowledge of the Seller, there are no licenses or sublicenses entered into by Biogen or Novartis in respect of such Licensee's rights and obligations under any License Agreement. The Seller has not received any notice from Biogen pursuant to Section 4.1.2 of the 2012 Biogen License or Section 4.1.2 of the 2017 Biogen License. Akcea has not received any updates at JDCC (as defined in the Novartis License) meetings regarding licenses or sublicenses in respect of Novartis' rights and obligations under any License Agreement.

(iii) Validity and Enforceability of License Agreements and Upstream Licenses; No Breaches or Defaults; No Repudiation. Each License Agreement and each Upstream License is legal, valid, binding, enforceable, and in full force and effect, except as such enforceability may be limited by applicable Bankruptcy Laws or general principles of equity (whether considered in a proceeding in equity or at law). Neither the Seller, Akcea nor, to the Knowledge of the Seller, no other party to any License Agreement or any Upstream License is, or has at any time been in material breach thereof or default thereunder, and to the Knowledge of the Seller, no event has occurred that with notice or lapse of time would constitute such a material breach, or permit termination, modification, or acceleration, under the License Agreement. Neither the Seller nor Akcea has received any written notice in connection with any License Agreement or any Upstream License challenging the validity or enforceability of any provision of such agreement, including the obligation to pay any portion of the Royalty without Set-Off or any Royalty Reduction, and neither the Seller nor Akcea has received any written notice in connection with any License Agreement or Upstream License challenging the interpretation of any provision of such agreement, except in respect of any Upstream License as would not reasonably be expected to have a Material Adverse Effect.

(iv) Products.

(A) Spinraza is a 2012 Biogen Licensed Product under the 2012 Biogen License and, to the Knowledge of the Seller, there are no other 2012 Biogen Licensed Products being researched, developed or commercialized by or on behalf of Biogen under the 2012 Biogen License.

(B) BIIB-115 is a 2017 Biogen Licensed Product and an NMA Compound under the 2017 Biogen License and, to the Knowledge of the Seller, there are no other 2017 Biogen Licensed Products being researched, developed or commercialized by or on behalf of Biogen under the 2017 Biogen License.

(C) AKCEA-APO(a)-L_{Rx} (as defined in the Novartis License), includes the investigational antisense oligonucleotide medicine known as Pelacarsen, which is designed to reduce apolipoprotein(a) in the liver. To the Knowledge of the Seller, other than such investigational antisense oligonucleotide medicine, there are no other AKCEA-APO(a)-L_{Rx} products (as defined in the Novartis License) being researched, developed or commercialized by or on behalf of Novartis under the Novartis License.

(v) No Liens or Assignments by the Seller. Neither Seller nor Akcea has, except for Permitted Liens and as contemplated hereby, conveyed, assigned or in any other way transferred or granted any Liens (other than sublicenses under any License Agreement or any Upstream License) upon or with respect to all or any portion of its right, title and interest in and to any Royalty, any License Agreement, or any Upstream License.

(vi) No Waivers or Releases. Neither the Seller nor Akcea has granted any material waiver under any License Agreement or any Upstream License and has not released Biogen, Novartis, UMass, Cold Spring Harbor, Alnylam, Akcea, or Seller, in whole or in part, from any of its material obligations under any License Agreement or any Upstream License.

(vii) No Termination. The Seller has not (A) (1) given Biogen any notice of termination of the 2012 Biogen License or the 2017 Biogen License (whether in whole or in part) or any notice expressing any intention to terminate the 2012 Biogen License or 2017 Biogen License, (2) given Novartis any notice of termination of the Novartis License (whether in whole or in part) or any notice expressing any intention to terminate the Novartis License, (3) given UMass any notice of termination of the UMass License (whether in whole or in part) or any notice expressing any intention to terminate the UMass License, (4) given Cold Spring Harbor any notice of termination of the Cold Spring Harbor License (whether in whole or in part) or any notice expressing any intention to terminate the Cold Spring Harbor License, (5) given Akcea any notice of termination of any Intercompany License or Consent Letter (whether in whole or in part) or any notice expressing any intention to terminate the Intercompany License or Consent Letter, (6) given Alnylam any notice of termination of the Alnylam License (whether in whole or in part) or any notice expressing any intention to terminate the Alnylam License, or (B) received any notice of termination of any License Agreement or Upstream License (whether in whole or in part) or any notice expressing any intention to terminate any License Agreement or Upstream License. To the Knowledge of the Seller, no event has occurred that would give rise to the expiration or termination of, or any party having the right to terminate for breach, any License Agreement or Upstream License except in respect of any Upstream License as would not reasonably be expected to have a Material Adverse Effect.

(viii) Payments Made. The Seller has timely received from Biogen the full amount of the payments due and payable under the 2012 Biogen License and 2017 Biogen License. The Seller has timely received from Novartis the full amount of the payments due and payable under the Novartis License.

(ix) No Assignments by Licensee. The Seller has not consented to any assignment, delegation or other transfer by Biogen or any of its predecessors of any of their rights or obligations under the 2012 Biogen License or 2017 Biogen License, and, to the Knowledge of the Seller, Biogen has not assigned or otherwise transferred any of its rights or obligations under the 2012 Biogen License or 2017 Biogen License. The Seller has not consented to any assignment, delegation or other transfer by Novartis or any of its predecessors of any of their rights or obligations under the Novartis License, and, to the Knowledge of the Seller, Novartis has not assigned or otherwise transferred any of its rights or obligations under the Novartis License.

(x) No Indemnification Claims. The Seller has not (A) notified Biogen or any other Person of any claims for indemnification under the 2012 Biogen License or 2017 Biogen License, (B) notified Novartis or any other Person of any claims for indemnification under the Novartis License, or (C) received any claims for indemnification under any License Agreement.

(xi) No Royalty Reductions.

(A) To the Knowledge of the Seller, the amount of the Spinraza Royalty due and payable under Section 6.6.1 of the 2012 Biogen License is not currently subject to any Royalty Reduction (including any Spinraza Permitted Reduction). To the Knowledge of the Seller, no event or condition exists that, upon notice or passage of time or both, would reasonably be expected to permit Biogen to claim, or have the right to claim, a Royalty Reduction (including any Spinraza Permitted Reduction) against the Spinraza Royalty (other than as contemplated by Section 6.6.2(c) of the 2012 Biogen License).

(B) To the Knowledge of the Seller, the amount of the BIIB-115 Royalty due and payable under Section 6.6.1 of the 2017 Biogen License is not currently subject to any Royalty Reduction (including any BIIB-115 Permitted Reduction). To the Knowledge of the Seller, no event or condition exists that, upon notice or passage of time or both, would reasonably be expected to permit Biogen to claim, or have the right to claim, a Royalty Reduction (including any BIIB-115 Permitted Reduction) against the BIIB-115 Royalty (other than as contemplated by Section 6.6.2(c) of the 2017 Biogen License).

(C) To the Knowledge of the Seller, the amount of the Pelacarsen Royalty due and payable under Section 7.8.1 of the Novartis License is not currently subject to any Royalty Reduction (including any Pelacarsen Permitted Reduction). To the Knowledge of the Seller, no event or condition exists that, upon notice or passage of time or both, would reasonably be expected to permit Novartis to claim, or have the right to claim, a Royalty Reduction (including any Pelacarsen Permitted Reduction) against the Pelacarsen Royalty (other than as contemplated by Section 7.6.2(c) of the Novartis License).

(xii) No Notice of Infringement. The Seller has not received any written notice from, or given any written notice to, (A) Biogen pursuant to Section 7.5.1 of the 2012 Biogen License or Section 7.5.1 of the 2017 Biogen License, (B) Novartis pursuant to Section 8.6.1 of the Novartis License, (C) UMass pursuant to Section 6.4(a) of the UMass License, (D) Cold Spring Harbor pursuant to Section 5.4 of the Cold Spring Harbor License, (E) Akcea pursuant to Section 9.3.1 of the Intercompany License, or (F) Alnylam pursuant to Section 11.5 of the Alnylam License.

(xiii) Audits. Except as set forth on Schedule 4.1(i)(xiii) of the Disclosure Schedule, the Seller has not initiated, pursuant to Section 6.10 of the 2012 Biogen License, Section 6.10 of the 2017 Biogen License, or Section 7.12 of the Novartis License or otherwise any inspection or audit of books of accounts or other records of Biogen or Novartis, or the calculation of royalties or other amounts payable to the Seller under any License Agreement.

(xiv) Additional Rights.

(A) Biogen has not exercised the Diagnostic Option (as defined in the 2012 Biogen License) pursuant to Section 3.2.1 of the 2012 Biogen License. Biogen has exercised its Option (as defined in the 2012 Biogen License) with respect to Spinraza in accordance with Section 3.1.3 of the 2012 Biogen License and in accordance with the timeline set forth therein. The Seller has not developed any Follow-On Compound (as defined in the 2012 Biogen License) and Biogen has not exercised its right of first negotiation to develop and commercialize any Follow-On Compound pursuant to Section 2.1.2 of the 2012 Biogen License, except for BIIB-115. The Seller has not received or provided any notice pursuant to Section 6.6.1 of the 2012 Biogen License.

(B) Biogen has exercised its Option (as defined in the 2017 Biogen License) with respect to BIIB-115 in accordance with Section 3.2 of the 2017 Biogen License and in accordance with the timeline set forth therein.

(C) Novartis has exercised its Option (as defined in the Novartis License) with respect to Pelacarsen in accordance with Section 3.3.2 of the Novartis License and in accordance with the timeline set forth therein. Neither Akcea nor the Seller has exercised, or delivered any notice or otherwise expressed an intent to Novartis to exercise, its right to co-commercialize Pelacarsen pursuant to Section 6.5 of the Novartis License.

(xv) Regulatory. Since January 1, 2021 in the case of the 2012 Biogen License and since December 21, 2021 in the case of the 2017 Biogen License, the Seller has not received (A) any material regulatory reports (or feedback related thereto) pursuant to Section 5.15 of the 2012 Biogen License or Section 5.2.2 of the 2017 Biogen License, or (B) any other material update from Biogen's Alliance Managers (designated in accordance with Section 1.2.6 of the 2012 Biogen License or Section 1.3.5 of the 2017 Biogen License), the substance of which, regarding clauses (A) and (B), has not been disclosed in the Data Room. Since January 1, 2021, the Seller has not received (1) any material regulatory reports (or feedback related thereto) pursuant to Section 6.6 of the Novartis License, or (2) any other material update from Novartis' Alliance Manager (designated in accordance with Section 2.2 of the Novartis License) relating to Pelacarsen, the substance of which, regarding clauses (1) and (2), has not been disclosed in the Data Room.

(j) Title to Royalty. The Seller has good and marketable title to each of the BIIB-115 Royalty, Spinraza Royalty and Pelacarsen Royalty, free and clear of all Liens except for Permitted Liens. Upon payment of the Initial Purchase Price by the Buyer, the Buyer will acquire, subject to the terms and conditions set forth in this Agreement and the License Agreements, good and marketable title to the Purchased Royalty Payments, free and clear of all Liens (other than Liens created, permitted or required by this Agreement in favor of the Buyer or its Affiliates).

(k) Intellectual Property.

(i)

(A) Schedule 4.1(k)(i)(A)(1) of the Disclosure Schedule lists all Ionis Product-Specific Spinraza Patents that were owned by Seller at the time Biogen obtained its license under Section 4.1.1 of the 2012 Biogen License, and all Jointly-Owned Spinraza Program Patents covering Spinraza (collectively, the "Spinraza Assigned Patents"). The Spinraza Assigned Patents were assigned to Biogen in accordance with Section 4.2 of the 2012 Biogen License. [***] (collectively, the "Spinraza Licensed Patents"). Schedules 4.1(k)(i)(A)(1) and (2) of the Disclosure Schedule specifies as to each of the Spinraza Assigned Patents and Spinraza Licensed Patents, (x) the jurisdictions by or in which each such patent has issued as a patent or such patent application has been filed, including the respective patent numbers and application numbers and issue and filing dates, and (y) the owner of such Patent Right, and (z) the expiration date of such Patent Right.

(B) [***] (collectively, the "BIIB-115 Licensed Patents"). The Seller and Biogen collectively are the sole owners of each Jointly-Owned BIIB-115 Program Patent. The Seller is the sole owner of all of the BIIB-115 Licensed Patents (excluding Jointly-Owned BIIB-115 Program Patents), and its undivided half interest in each of the Jointly-Owned BIIB-115 Program Patents. Schedule 4.1(k)(i)(B) of the Disclosure Schedule specifies as to each of the BIIB-115 Licensed Patents, (x) the jurisdictions by or in which each such patent has issued as a patent or such patent application has been filed, including the respective patent numbers and application numbers and issue and filing dates, and (y) the owner of such Patent Right, and (z) the expiration date of such Patent Right.

(C) [***] (collectively, the "Pelacarsen Licensed Patents") and, to the Seller's Knowledge, all Novartis Pelacarsen Program Patents. The Seller and Novartis collectively are the sole owners of each Jointly-Owned Pelacarsen Program Patent. The Seller is the sole owner of all of the Pelacarsen Licensed Patents, and its undivided half interest in each of the Jointly-Owned Pelacarsen Program Patents. Schedule 4.1(k)(i)(C) of the Disclosure Schedule specifies as to each of the Pelacarsen Licensed Patents: (x) the jurisdictions by or in which each such patent has issued as a patent or such patent application has been filed, including the respective patent numbers and application numbers and issue and filing dates, and (y) the owner of such Patent Right, and (z) the expiration date of such Patent Right.

(ii) Except as set forth in Schedule 4.1(k)(ii) of the Disclosure Schedule, to the Knowledge of the Seller, there are no pending or threatened litigations, interferences, reexamination, reissues, *inter partes* reviews, post-grant reviews, oppositions or like procedures involving any Spinraza Licensed Patents, Biogen Spinraza Patents, BIIB-115 Licensed Patents, Biogen BIIB-115 Patents, Pelacarsen Licensed Patents or Novartis Pelacarsen Patents.

(iii) To the Knowledge of the Seller, all of the issued Spinraza Licensed Patents, BIIB-115 Licensed Patents, and Pelacarsen Licensed Patents are in full force and effect and none have lapsed, expired or otherwise terminated except in the ordinary course of business or naturally upon expiration of patent term, and, to the Knowledge of the Seller, all of the issued Spinraza Licensed Patents, Biogen Spinraza Patents, BIIB-115 Licensed Patents, Biogen BIIB-115 Patents, Pelacarsen Licensed Patents and Novartis Pelacarsen Patents are valid and enforceable. The Seller has not received any written notice relating to the lapse, expiration or other termination of any of the Spinraza Licensed Patents, Biogen Spinraza Patents, BIIB-115 Licensed Patents, Biogen BIIB-115 Patents, Pelacarsen Licensed Patents, or Novartis Pelacarsen Patents, or any written legal opinion that alleges that any of the issued Spinraza Licensed Patents, Biogen Spinraza Patents, BIIB-115 Licensed Patents, Biogen BIIB-115 Patents, Pelacarsen Licensed Patents, or Novartis Pelacarsen Patents are invalid or unenforceable.

(iv) To the Knowledge of the Seller, there is no Person who is or claims to be an inventor under any of the Spinraza Licensed Patents, BIIB-115 Licensed Patents, or Pelacarsen Licensed Patents who is not a named inventor thereof.

(v) The Seller has not, and, to the Knowledge of the Seller, no Licensee has, received any written notice of any claim by any Person (A) challenging the inventorship or ownership of, the rights of the Seller, Biogen, Novartis, UMass, Cold Spring Harbor or Akcea, as applicable, in and to, or the patentability, validity or enforceability of, any Spinraza Licensed Patent, Biogen Spinraza Patent, BIIB-115 Licensed Patent, Biogen BIIB-115 Patent, Pelacarsen Licensed Patent or Novartis Pelacarsen Patent, or (B) asserting that the development, manufacture, importation, sale, offer for sale or use of any Royalty Product infringes any patent or other intellectual property rights of such Person. The Seller has not received any written notice from any Licensee indicating that such Licensee has received any such written notice.

(vi) To the Knowledge of the Seller, the discovery, development, manufacture, use, marketing, sale, offer for sale, importation or distribution of the Royalty Products did not and will not infringe or misappropriate any currently existing and published Patent Rights or other intellectual property rights owned by any Third Party that are not included in the Biogen Spinraza Patents, Biogen BIIB-115 Patents, or Novartis Pelacarsen Patents. Neither the Seller nor, to the Knowledge of the Seller, Biogen or Novartis, has (except, with respect to Spinraza only, pursuant to the UMass License and the Cold Spring Harbor License) in-licensed any patents or other intellectual property rights covering the manufacture, use, sale, offer for sale or import of the Royalty Products. Akcea has not (except pursuant to the Pelacarsen Upstream Licenses) in-licensed any patents or other intellectual property rights covering the manufacture, use, sale, offer for sale or import of the Royalty Products. For purposes of Section 4.1(k)(vi), Patent Rights refers to a claim of an issued patent or a publicly available patent application.

(vii) To the Knowledge of the Seller, no Third Party has infringed, misappropriated or otherwise violated, or is infringing, misappropriating or otherwise violating, any Spinraza Licensed Patent, Biogen Spinraza Patent, BIIB-115 Licensed Patent, Biogen BIIB-115 Patent, Pelacarsen Licensed Patent or Novartis Pelacarsen Patent. All required maintenance fees, annuities and like payments with respect to the Spinraza Licensed Patents for which the Seller controls the prosecution and maintenance in accordance with Section 7.3 of the 2012 Biogen License, and to the Knowledge of the Seller, with respect to all other Spinraza Licensed Patents and Biogen Spinraza Patents, have been paid timely. All required maintenance fees, annuities and like payments with respect to the BIIB-115 Licensed Patents for which the Seller controls the prosecution and maintenance in accordance with Section 7.3 of the 2017 Biogen License, and to the Knowledge of the Seller, with respect to all other BIIB-115 Licensed Patents and Biogen BIIB-115 Patents, have been paid timely. All required maintenance fees, annuities and like payments with respect to the Pelacarsen Licensed Patents for which the Seller controls the prosecution and maintenance in accordance with Section 8.4 of the Novartis License, and to the Knowledge of the Seller, with respect to all other Pelacarsen Licensed Patents and Novartis Pelacarsen Patents, have been paid timely. For purposes of this Section 4.1(k)(vii), Patent Rights refers to a claim of an issued patent.

(l) UCC Representation and Warranties. (i) The Seller's exact legal name is, and, since December 18, 2015, has been, "Ionis Pharmaceuticals, Inc.", and, since its incorporation until and including December 17, 2015, the Seller's exact legal name was, "Isis Pharmaceuticals, Inc." and (ii) Akcea's exact legal name is, and, since October 12, 2020, has been, "Akcea Therapeutics, Inc." The Seller is, and for the prior ten (10) years has been, and Akcea is, and for the prior two (2) years has been incorporated in Delaware.

(m) Brokers' Fees. Except for Cowen Inc., there is no investment banker, broker, finder, financial advisor or other intermediary who has been retained by or is authorized to act on behalf of the Seller who might be entitled to any fee or commission in connection with the transactions contemplated by this Agreement.

(n) Taxes. The Seller has not received written notice from any Licensee, and is not otherwise aware, of any intention to withhold or deduct any tax from future payments to the Seller or Akcea. There are no audits or investigations (and the Seller has not been informed or notified of any pending audits or investigations by any tax authority) with respect to any payment made to the Seller or Akcea under any of the License Agreements that would reasonably be expected to have a Material Adverse Effect. To the knowledge of the Seller, none of the License Agreements are treated as a partnership for U.S. tax purposes and the Seller has never taken the position for U.S. federal income or other tax purposes that any of the License Agreements are treated as such. The Seller has never received a K-1 or other U.S. tax form furnished to a partner in a partnership as a result of being a party to any of the License Agreements.

Section 4.2 The Buyer's Representations and Warranties. The Buyer represents and warrants to the Seller that as of the Closing Date:

(a) Existence; Good Standing. The Buyer is an Irish collective asset-management vehicle that is duly organized, validly existing and in good standing under the laws of the Republic of Ireland.

(b) Authorization. The Buyer has the requisite right, power and authority to execute, deliver and perform its obligations under this Agreement. The execution, delivery and performance of this Agreement, and the consummation of the transactions contemplated hereby, have been duly authorized by all necessary action on the part of the Buyer.

(c) Enforceability. This Agreement has been duly executed and delivered by an authorized person of the owner trustee of the Buyer and constitutes the valid and binding obligation of the Buyer, enforceable against the Buyer in accordance with its terms, except as may be limited by applicable Bankruptcy Laws or by general principles of equity (whether considered in a proceeding in equity or at law).

(d) No Conflicts. The execution, delivery and performance by the Buyer of this Agreement do not and shall not (i) contravene or conflict with the organizational documents of the Buyer, (ii) contravene or conflict with or constitute a default under any material provision of any law binding upon or applicable to the Buyer or (iii) contravene or conflict with or constitute a default under any material contract or other material agreement or Judgment binding upon or applicable to the Buyer.

(e) Consents. Other than the filing of financing statement(s) in accordance with Section 2.3 or filings required by federal securities laws or stock exchange rules, no consent, approval, license, order, authorization, registration, declaration or filing with or of any Governmental Entity or other Person is required to be done or obtained by the Buyer in connection with (i) the execution and delivery by the Buyer of this Agreement, (ii) the performance by the Buyer of its obligations under this Agreement, or (iii) the consummation by the Buyer of any of the transactions contemplated by this Agreement.

(f) No Litigation. There is no action, suit, investigation or proceeding pending or, to the knowledge of the Buyer, threatened before any Governmental Entity to which the Buyer is a party that would, if determined adversely, reasonably be expected to prevent or materially and adversely affect the ability of the Buyer to perform its obligations under this Agreement.

(g) Financing. The Buyer has sufficient cash on hand to pay the Purchase Price. The Buyer acknowledges that its obligations under this Agreement are not contingent on obtaining financing.

(h) Brokers' Fees. There is no investment banker, broker, finder, financial advisor or other intermediary who has been retained by or is authorized to act on behalf of the Buyer who might be entitled to any fee or commission in connection with the transactions contemplated by this Agreement.

Section 4.3 No Implied Representations and Warranties. EXCEPT AS EXPRESSLY SET FORTH IN SECTION 4.1, THE SELLER MAKES NO REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, AT LAW OR IN EQUITY, INCLUDING WITH RESPECT TO MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, AND ANY SUCH REPRESENTATIONS OR WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED. THE BUYER ACKNOWLEDGES THAT, EXCEPT AS SPECIFICALLY PROVIDED IN THIS ARTICLE 4 AND THE DISCLOSURE SCHEDULES, THE SELLER HAS ASSUMED NO RESPONSIBILITIES OF ANY KIND WITH RESPECT TO ANY ACT OR OMISSION OF ANY LICENSEE WITH RESPECT TO THE DESIGN, DEVELOPMENT, MANUFACTURE, USE, SALE, DISTRIBUTION, MARKETING OR OTHER ACTIVITIES OF SUCH LICENSEE WITH RESPECT TO ANY OF THE ROYALTY PRODUCTS.

ARTICLE 5

COVENANTS

Section 5.1 Disclosures. Except for a press release previously approved in form and substance by the Seller and the Buyer or any other public announcement using substantially the same text as such press release or any other public disclosure permitted under this Agreement following the Closing, neither the Buyer nor the Seller shall, and each party hereto shall cause its respective Representatives, Affiliates and Affiliates' Representatives not to, issue a press release or other public announcement or otherwise make any public disclosure with respect to this Agreement or the subject matter hereof without the prior written consent of the other party hereto (which consent shall not be unreasonably withheld, conditioned or delayed), except as may be required by applicable law or stock exchange rule (in which case the party hereto required to make the press release or other public announcement or disclosure shall allow the other party hereto reasonable time to comment on such press release or other public announcement or disclosure in advance of such issuance and consider in good faith any comments provided by the other party on such proposed disclosure); provided that neither the Seller nor the Buyer shall be required to provide the other party the opportunity to review and comment on any disclosure required by applicable law or stock exchange rule relating to the accounting or tax treatment of the transactions contemplated hereby, so long as such disclosure is not inconsistent with Section 5.18.

Section 5.2 Payments Received In Error.

(a) Without limiting Section 2.1(e), commencing on the Closing Date and at all times thereafter, if any payment of any portion of the Purchased Royalty Payments is made to the Seller (or to any of the Seller's Affiliates or designees), the Seller shall pay such amount to the Buyer or the Escrow Agent, promptly (and in any event within [***] Business Days) after the receipt thereof, by wire transfer to the Escrow Account or an account designated in writing by the Buyer. The Seller shall notify the Buyer of such wire transfer and provide reasonable details regarding the Purchased Royalty Payments so received by the Seller. Without limiting Section 2.1(e), the Seller agrees that, in the event any Purchased Royalty Payments is paid to the Seller, the Seller shall (i) until paid to the Buyer or Escrow Agent, hold such payment received in trust for the benefit of the Buyer and (ii) have no right, title or interest in such payment and that it shall not pledge or otherwise grant any security interest therein.

(b) Without limiting Section 2.1(e), commencing on the Closing Date and at all times thereafter, if any payment due under the License Agreements that does not constitute any Purchased Royalty Payments is made to the Buyer, the Buyer shall pay such amount to the Seller or the Escrow Agent, promptly (and in any event within [***] Business Days) after the receipt thereof, by wire transfer to the Escrow Account or an account designated in writing by the Seller. The Buyer shall notify the Seller of such wire transfer and provide reasonable details regarding the erroneous payment so received by the Buyer. Without limiting Section 2.1(e), the Buyer agrees that, in the event any payment due under the License Agreements that does not constitute Purchased Royalty Payments is paid to the Buyer, the Buyer shall (i) until paid to the Seller or Escrow Agent, hold such payment received in trust for the benefit of the Seller and (ii) have no right, title or interest in such payment and that it shall not pledge or otherwise grant any security interest therein.

Section 5.3 Royalty Reduction. If any Licensee exercises a Royalty Reduction (other than a Permitted Reduction) or Set-Off against any portion of the Purchased Royalty Payments, then the Seller shall promptly (and in any event within[***] Business Days following the payment of the Royalty affected by such Royalty Reduction or Set-Off) make a true-up payment to the Buyer such that the Buyer receives the full amount of such Purchased Royalty Payments that would have been payable to the Buyer had such Royalty Reduction or Set-Off not occurred. Notwithstanding anything to the contrary herein, to the extent Seller shall have made a true-up payment to the Buyer pursuant to this Section 5.3 in respect of any such Royalty Reduction or Set-Off, any subsequent payments received from a Licensee in respect, and to the extent, of such Royalty Reduction or Set-Off, whether pursuant to Section 10.4.4 of the 2012 Biogen License, Section 10.4.5 of the 2017 Biogen License or otherwise, shall not be considered a Purchased Royalty Payment.

Section 5.4 Late Fee.A late fee of [***]% over the Prime Rate shall accrue on all unpaid amounts on an annualized basis with respect to any sum that is otherwise payable by the Buyer or by the Seller to the other party under this Agreement.

Section 5.5 Royalty Reports; Notices and Other Information from Licensees.

(a) Promptly (and in any event within [***] Business Days) following the receipt by the Seller of any Royalty Report or other 2012 Biogen License Material Communications, 2017 Biogen License Material Communications, or Novartis License Material Communications, the Seller shall furnish a true, correct and complete copy of the same to the Buyer, to the extent such Royalty Reports are not already provided directly to the Buyer by Biogen or Novartis, and the Seller shall use commercially reasonable efforts to provide copies of all written communications that would reasonably be expected to be material to an owner of any of the Royalties.

(b) Following the Closing, the Seller shall use commercially reasonable efforts to cause each of Biogen and Novartis to deliver copies of the applicable Royalty Reports to the Buyer. For purposes of Sections 5.5(b)-(d) only, "commercially reasonably efforts" shall [***].

(c) Following the Closing, the Seller shall use commercially reasonable efforts to obtain Biogen's signature to the Biogen Trilateral Common Interest Agreement (with such reasonable changes thereto as may be requested by Biogen, including to use an alternative, customary form of agreement if so requested by Biogen). Upon obtaining such signature from Biogen, the Seller shall execute and deliver the Biogen Trilateral Common Interest Agreement.

(d) Following the Closing, the Seller shall use commercially reasonable efforts to obtain Novartis's signature to the Novartis Trilateral Common Interest Agreement (with such reasonable changes therein as may be requested by Novartis, including to use an alternative, customary form of agreement if so requested by Novartis). Upon obtaining such signature from Novartis, the Seller shall execute and deliver the Novartis Trilateral Common Interest Agreement.

(e) At the request of the Buyer, no more than once per Calendar Year, the Buyer may provide [***]) days' prior written notice to the Seller, notifying the Seller of its request for a meeting and the parties shall meet (such meetings to be conducted via teleconference or videoconference unless the parties mutually agree otherwise) to discuss material developments in the development and commercialization of the Royalty Products.

(f) At the request of the Buyer, no more than once per Calendar Year, within [***] days of such request, the Seller shall deliver to Buyer an updated version of Schedule 4.1(k)(i)(A), 4.1(k)(i)(B), and 4.1(k)(i)(C).

(g) Within [***] Business Days of Closing, the Seller shall deliver to the Buyer the Biogen Instruction Letter and the Novartis Instruction Letter, in the forms attached hereto as Exhibit C-1 (the "Biogen Instruction Letter") and Exhibit C-2 (the "Novartis Instruction Letter"), respectively, each duly executed by the Seller or Akcea, as applicable, instructing each of Biogen and Novartis to pay the SMA Royalties and the Pelacarsen Royalty, respectively, to the Escrow Agent, which the Seller shall deliver to each of Biogen and Novartis promptly (and in any event within [***] Business Days) following the delivery thereof to the Buyer.

Section 5.6 Notices and Other Information to Licensee.

(a) So long as no SMA RP Control Shift has occurred and is continuing, the Seller shall (i) send to the Buyer a copy of any Material Correspondence that the Seller proposes to deliver to Biogen or any of its Affiliates, at least [***] Business Days prior to the proposed date for providing such Material Correspondence, (ii) consult with and consider in good faith any comments or requests from the Buyer regarding such proposed Material Correspondence, (iii) thereafter act reasonably regarding such Material Correspondence and matters related thereto and (iv) in no event, except as required to comply with the terms of this Agreement or the 2012 Biogen License or the 2017 Biogen License, as the case may be, send any Material Correspondence to Biogen that would reasonably be expected to result in a Material Adverse Effect (it being understood that the occurrence of a Material Adverse Effect may be the subject of, or trigger the Seller's sending of, such correspondence). [***]

(b) So long as no Pelacarsen RP Control Shift has occurred and is continuing, the Seller shall (and shall cause Akcea to) (i) send to the Buyer a copy of any Material Correspondence that the Seller or Akcea proposes to deliver to Novartis or any of its Affiliates, at least [***] Business Days prior to the proposed date for providing such Material Correspondence, (ii) consult with and consider in good faith any comments or requests from the Buyer regarding such proposed Material Correspondence, (iii) thereafter act reasonably regarding such Material Correspondence matters related thereto and (iv) in no event, except as required to comply with the terms of this Agreement or the Novartis License, send any Material Correspondence to Novartis that would reasonably be expected to result in a Material Adverse Effect (it being understood that the occurrence of a Material Adverse Effect may be the subject of, or trigger the Seller's (or Akcea's) sending of, such correspondence). [***]

Section 5.7 Inspections and Audits of Licensee. If either party desires to cause an inspection as provided under Section 6.10 of the 2012 Biogen License, Section 6.10 of the 2017 Biogen License, or Section 7.12 of the Novartis License, for the Purchased Royalty Payments due and payable after the Closing Date then the Seller and the Buyer agree to consult in good faith with each other in connection therewith. Following such consultation, the Seller may, or if requested by the Buyer, shall (and shall cause Akcea to, as applicable), promptly provide written notice to Biogen or Novartis, as applicable, to cause such an inspection. With respect to any such inspection or audit required by the Buyer, the Seller shall (and shall cause Akcea to, as applicable), for purposes of Section 6.10 of the 2012 Biogen License, Section 6.10 of the 2017 Biogen License, or Section 7.12 of the Novartis License, as applicable, select Deloitte & Touche LLP or such other independent public accounting firm as reasonably designated by the Buyer for such purpose (as long as, in the case of an audit pursuant to Section 7.12 of the Novartis License, such independent certified public accountant is reasonably acceptable to Novartis). The Buyer shall be responsible for the expense of any inspection or audit that would otherwise be borne by (and that were actually incurred by) the Seller pursuant to the 2012 Biogen License or 2017 Biogen License only if such inspection or audit is undertaken at the Buyer's request, and the Seller shall otherwise be responsible for all such expenses. The Buyer shall be responsible for the expense of any inspection or audit that would otherwise be borne by (and that were actually incurred by) the Seller or Akcea pursuant to the Novartis License only if such inspection or audit is undertaken at the Buyer's request, and the Seller or Akcea shall otherwise be responsible for all such expenses. For the avoidance of doubt, nothing in this section shall obligate the Seller to exercise any inspection or audit that is not otherwise permitted under Section 6.10 of the 2012 Biogen License, Section 6.10 of the 2017 Biogen License, or Section 7.12 of the Novartis License.

Section 5.8 Amendment of License Agreement.

(a) If the Seller proposes to amend, modify, provide a consent or waiver, or otherwise to take any action under the 2012 Biogen License or the 2017 Biogen License, so long as no SMA RP Control Shift has occurred and is continuing, the Seller shall (i) send to the Buyer a copy of any such proposed amendment, modification, consent, or waiver, or a description of such any other action that the Seller intends to take under the 2012 Biogen License or the 2017 Biogen License, at least [***] Business Days prior to the proposed date for providing such document to Biogen or taking such action, (ii) consult with the Buyer regarding such document or action and consider any comments and requests from the Buyer regarding such document or action in good faith, (iii) thereafter act reasonably regarding such document or action and matters related thereto and (iv) in no event take any such action that would reasonably be expected to result in a Material Adverse Effect; provided that for any informal or ordinary course consent or other action that the Seller intends to take under the 2012 Biogen License or the 2017 Biogen License, clauses (i) and (ii) above shall apply solely to such consent or other action relates to the SMA Royalties or would reasonably be expected to have a Material Adverse Effect. [***]

(b) If the Seller proposes to amend, modify, provide a consent or waiver, or otherwise to take any action under the Novartis License, so long as no Pelacarsen RP Control Shift has occurred and is continuing, the Seller shall (and shall cause Akcea to) (i) send to the Buyer a copy of any such proposed amendment, modification, consent, notice or waiver, or a description of such any other action that the Seller or Akcea intends to take under the Novartis License, at least [***] Business Days prior to the proposed date for providing such document to Novartis or taking such action, (ii) consult with the Buyer regarding such document or action, and consider any comments and requests from the Buyer regarding such document or action in good faith, (iii) thereafter act reasonably regarding such document or action and matters related thereto and (iv) in no event take any such action (or fail to take any action) that would reasonably be expected to result in a Material Adverse Effect; provided that for any informal or ordinary course consent or other action that the Seller intends to take under the Novartis License, clauses (i) and (ii) above shall apply solely to such consent or other action relates to the Pelacarsen Royalty or would reasonably be expected to have a Material Adverse Effect. [***]

(c) Subject to the foregoing, promptly, and in any event within [***] Business Days, following receipt by the Seller (or Akcea) of any final amendment, modification, supplement or restatement of any License Agreement, the Seller shall furnish a copy of the same to the Buyer.

Section 5.9 Maintenance of License Agreement.

(a) The Seller shall comply with its obligations under the Spinraza Upstream Licenses, including compliance with all payment obligations to UMass and Cold Spring Harbor pursuant to the Spinraza Upstream Licenses, and shall not take any action or forego any action that would reasonably be expected to constitute a breach thereof or default thereunder, except in each case as would not reasonably be expected (with or without the giving of notice or the passage of time) to have a Material Adverse Effect. Promptly, and in any event within [***] Business Days, after receipt of any written notice from UMass or Cold Spring Harbor, as the case may be, of an alleged breach or default under the UMass License or Cold Spring Harbor License that would reasonably be expected (with or without the giving of notice or passage of time, or both) to have a Material Adverse Effect, the Seller shall give notice thereof to the Buyer, including delivering the Buyer a copy of any such written notice. The Seller shall (i) consult with the Buyer regarding any such alleged breach or default under the UMass License or Cold Spring Harbor License and consider in good faith Buyer's comments and requests regarding Seller's response to such breach or default, including any dispute thereof, (ii) thereafter act reasonably regarding such alleged breach or default, including in connection with any dispute thereof, and matters related thereto, and (iii) not take any action (or fail to take any action) regarding any alleged breach or default that would reasonably be expected to result in a Material Adverse Effect. The Seller shall give written notice within [***] Business Days to the Buyer upon curing or otherwise settling any such breach or default.

(b) The Seller shall (and shall cause Akcea to) comply with its obligations under the Pelacarsen Upstream Licenses, including compliance with all payment obligations to Seller pursuant to the Pelacarsen Upstream Licenses, and shall not take any action or forego any action that would reasonably be expected to constitute a breach thereof or default thereunder, except in each case as would not reasonably be expected to have a Material Adverse Effect. Promptly, and in any event within [***] Business Days, after receipt by Seller or Akcea of any written notice from Alnylam, Akcea or Seller, respectively, of an alleged breach or default under any Pelacarsen Upstream License that would reasonably be expected (with or without the giving of notice or passage of time, or both) to have a Material Adverse Effect, the Seller shall give notice thereof to the Buyer, including delivering the Buyer a copy of any such written notice. The Seller shall (and shall cause Akcea to), (i) consult with the Buyer regarding such alleged breach or default and consider in good faith Buyer's comments and requests regarding Seller's or Akcea's response to such breach or default, including any dispute thereof, (ii) thereafter act reasonably regarding such alleged breach or default, including in connection with any dispute thereof, and (iii) not (and shall cause Akcea not to) take any action (or fail to take any action) regarding any alleged breach or default that would reasonably be expected to result in a Material Adverse Effect. The Seller shall give written notice within [***] Business Days to the Buyer upon curing or settlement of any such breach or default.

(c)

(i) The Seller shall (and shall cause Akcea to) comply in all material respects with its obligations under the License Agreements and shall not take any action or forego any action that would reasonably be expected to constitute a material breach thereof or default thereunder. Promptly, and in any event within [***] Business Days, after receipt of any written notice from Biogen or Novartis, as the case may be, of any such alleged breach or default under any License Agreement, the Seller shall give notice thereof to the Buyer, including delivering the Buyer a copy of any such written notice. The Seller shall, subject to and in compliance with the provisions of this Section 5.9, consult with the Buyer regarding such alleged breach or default.

(ii) After consultation with and after considering in good faith the Buyer's comments, the Seller shall (and, if applicable, shall cause Akcea to) (i) act reasonably, including to use commercially reasonable efforts, to cure any such breach or default by the Seller or Akcea under the 2012 Biogen License, 2017 Biogen License, or Novartis License, as applicable, (ii) in connection therewith, not take any action (or fail to take any action) that would reasonably be expected to result in a Material Adverse Effect and (iii) give written notice to the Buyer upon curing any such breach or default. The Seller shall pay all of its costs and expenses (including of counsel), and shall cause Akcea to pay all of its costs and expenses (including of counsel), in connection with any such breach or default.

(iii) [Reserved.]

(iv) [***]

(d) [***]

(e) [***]

Section 5.10 Enforcement of License Agreements.

(a) Notice of Breaches by Licensee. Promptly (and in any event within [***] Business Days) after the Seller or Akcea becomes aware of, or comes to believe in good faith that there has been a material breach of any License Agreement by Biogen or Novartis, as the case may be, the Seller shall provide notice of such breach to the Buyer.

(b) Enforcement of License Agreement.

(i) The Seller shall consult with the Buyer regarding the timing, manner and conduct of any enforcement of Biogen's obligations or Novartis' obligations, as the case may be, under any License Agreement or regarding (a) any breach, default, disagreement or other dispute under any License Agreement that relates to the Royalty or that would reasonably be expected (with or without the giving of notice or passage of time) to have a Material Adverse Effect and (b) any other material breach, default, disagreement or other dispute under any License Agreement.

(ii) Following such consultation set forth in clause (i) and so long as no SMA RP Control Shift has occurred and is continuing, the Seller shall consider in good faith all of Buyer's timely comments and suggestions regarding any enforcement of Biogen's obligations under the 2012 Biogen License or the 2017 Biogen License and, after such consideration, shall act reasonably regarding such enforcement. Following such consultation set forth in clause (i) and so long as no Pelacarsen RP Control Shift has occurred and is continuing, the Seller shall (and shall cause Akcea to) consider in good faith all of Buyer's timely comments and suggestions regarding any enforcement of Novartis' obligations under the Novartis License and after such consultation shall act (or cause Akcea to act) reasonably regarding such enforcement. In connection with any such enforcement, the Seller shall not (and shall cause Akcea not to) take any action (or fail to take any action) regarding any breach, default, disagreement or other dispute under any License Agreement that would reasonably be expected to result in a Material Adverse Effect.

(iii) Following such consultation set forth in clause (i), during the occurrence and continuance of an SMA RP Control Shift, the Seller shall exercise such rights and remedies relating to any such breach, default, disagreement or other dispute related to the SMA Royalties only as reasonably instructed by the Buyer, whether under 2012 Biogen License or 2017 Biogen License or otherwise. Following such consultation set forth in clause (i), and during the occurrence and continuance of a Pelacarsen RP Control Shift, the Seller shall, and shall cause Akcea to, exercise such rights and remedies relating to any such breach, default, disagreement or other dispute related to the Pelacarsen Royalty only as reasonably instructed by the Buyer, whether under the Novartis License or otherwise. During the occurrence and continuance of an SMA RP Control Shift, the Seller shall employ such counsel, reasonably acceptable to the Seller, as the Buyer may select, and shall provide the Buyer with access to such counsel in connection with any breach, default, disagreement or other dispute under 2012 Biogen License or 2017 Biogen License or otherwise related to the SMA Royalty. During the occurrence and continuance of a Pelacarsen RP Control Shift, the Seller shall, and shall cause Akcea to, employ such counsel, reasonably acceptable to the Seller, as the Buyer may select, and shall provide the Buyer with access to such counsel in connection with any breach, default, disagreement or other dispute under the Novartis License or otherwise related to the Pelacarsen Royalty.

(iv) The Seller agrees to keep the Buyer reasonably informed of any actual or alleged breach, default, disagreement or other dispute set forth in clause (i) and to provide copies as soon as practicable, but in any event within [***] Business Days following the Seller's or Akcea's receipt or delivery of (A) any written notice of any such actual or alleged breach, default, disagreement or other dispute and (B) any and all material filings, notices and written communications relating thereto.

(c) Allocation of Proceeds and Costs of Enforcement. The Buyer shall reimburse the Seller (and if applicable, Akcea) for (i) as it relates to enforcement of Biogen's obligations, for the period prior to January 1, 2028, 25%, and commencing January 1, 2028, 45%, and (ii) as it relates to enforcement of Novartis' obligations, 25%, of all fees and expenses incurred in enforcing Biogen's obligations or Novartis' obligations, as the case may be, under any License Agreement pursuant to this Section 5.10, as such costs and expenses are incurred, in connection with any actions taken or exercise of rights and remedies by the Seller. The Proceeds resulting from any enforcement of Biogen's obligations or Novartis' obligations, as the case may be, under any License Agreement shall be applied first to reimburse the Seller and the Buyer for any reasonable and documented expenses incurred by them in connection with such enforcement, with the remainder of the Proceeds distributed (i) to the Buyer (A) as it relates to a breach by Biogen, for the period prior to January 1, 2028, 25%, and commencing January 1, 2028, 45%, and (ii) as it relates to a breach by Novartis, 25%, and (ii) to the Seller for all remaining Proceeds. Each of the Seller and Akcea hereby assigns and, if not presently assignable, agrees to assign to the Buyer, the amount of Proceeds due to the Buyer in accordance with this Section 5.10(c).

(d) [***]

Section 5.11 [***]

Section 5.12 [***]

Section 5.13 Preservation of Rights; No Material Adverse Effect. Notwithstanding anything in this Agreement to the contrary but except as permitted under Section 9.3, the Seller shall not (i) impose or grant a Lien upon, or otherwise sell, transfer, hypothecate, assign, convey title (in whole or in part), grant any right to, or otherwise dispose of any portion of any Purchased Royalty Payments or any "proceeds" (as defined in the UCC) thereof, or (ii) enter into or deliver any Contracts (or make or propose any amendments, modifications waivers or notices in connection with any contracts or arrangements) related to the Royalty, solely with respect to this clause (ii) that would, individually or in the aggregate reasonably be expected to result in a Material Adverse Effect or otherwise take any action or fail to act with the specific intention to undermine the Royalty.

Section 5.14 Enforcement; Defense; Prosecution and Maintenance.

(a) The Buyer and the Seller shall promptly inform each other of any suspected infringement by a Third Party they become aware of with respect to any of the Spinraza Licensed Patents, BIIB-115 Licensed Patents or Pelacarsen Licensed Patents in each case where such infringement would reasonably be expected to have a Material Adverse Effect. Seller shall (i) provide to the Buyer a copy of any written notice of any suspected infringement of any of the Spinraza Licensed Patents, BIIB-115 Licensed Patents, or Pelacarsen Licensed Patents where such infringement would reasonably be expected to have a Material Adverse Effect and all pleadings filed in such action and (ii) notify the Buyer of any material developments in any claim, suit or proceeding resulting from such infringement that are communicated by Biogen or Novartis, as the case may be, to the Seller under Sections 7.4 and 7.5 of the 2012 Biogen License, Sections 7.4 and 7.5 of the 2017 Biogen License, or Section 8.6.1 of the Novartis License or otherwise as soon as practicable and in any event not less than [***] Business Days following such delivery.

(b)

(i) So long as no SMA RP Control Shift has occurred and is continuing, to the extent the Seller has the right to, and exercises such right to, join or assume the defense or pursue an enforcement action pursuant to Sections 7.4 and 7.5 of the 2012 Biogen License or Sections 7.4 and 7.5 of the 2017 Biogen License, as applicable, the Seller shall use commercially reasonable efforts to (i) diligently defend or enforce any applicable Spinraza Licensed Patents or BIIB-115 Licensed Patents (including by bringing and defending any counterclaim of invalidity or unenforceability, defending against any action of a Third Party for declaratory judgment of non-infringement or non-interference or bringing any legal action for infringement) to the extent the failure to so defend or enforce would reasonably be expected to have a Material Adverse Effect and (ii) not disclaim or abandon, or fail to take any action necessary to prevent the disclaimer, abandonment or dismissal (including through lack of enforcement against Third Party infringers) of any defense of invalidity or unenforceability or any legal action for infringement of any Spinraza Licensed Patents or BIIB-115 Licensed Patents for which it has the right to, and has elected to, join or assume the defense or pursue an enforcement action pursuant to this Section 5.14(b), except as would not reasonably be expected to have a Material Adverse Effect. The Seller shall, if requested in writing by the Buyer, promptly, and in any event within [***] Business Days after receipt of such request, provide all reasonably requested documentation and information relating to such enforcement action to the Buyer. So long as no Pelacarsen RP Control Shift has occurred and is continuing, to the extent the Seller (or Akcea) has the right to, and exercises its right to, join or assume the defense or pursue an enforcement action pursuant to Section 8.6.1 of the Novartis License, the Seller (or Akcea) shall use commercially reasonable efforts (i) diligently defend or enforce any applicable Pelacarsen Licensed Patents (including by bringing and defending any counterclaim of invalidity or unenforceability, defending against any action of a Third Party for declaratory judgment of non-infringement or non-interference or bringing any legal action for infringement) to the extent the failure to so defend or enforce would reasonably be expected to have a Material Adverse Effect and (ii) not disclaim or abandon, or fail to take any action necessary to prevent the disclaimer, abandonment or dismissal (including through lack of enforcement against Third Party infringers) of any defense of invalidity or unenforceability or any legal action for infringement of any Pelacarsen Licensed Patents for which it has the right to, and has elected to, join or assume the defense or pursue an enforcement action pursuant to this Section 5.14(b), except as would not reasonably be expected to have a Material Adverse Effect. The Seller (or Akcea) shall, if requested in writing by the Buyer, promptly, and in any event within [***] Business Days after receipt of such request, provide all reasonably requested documentation and information relating to such enforcement action to the Buyer.

(ii) [***]

(iii) [***]

(iv) To the extent Biogen or Novartis enforces any of the Ionis Spinraza Patents, Ionis BIIB-115 Patents, or Ionis Pelacarsen Patents together with any other patents owned or controlled by Biogen or Novartis, as applicable, the Seller agrees to negotiate in good faith with Biogen or Novartis, as applicable, and agree to a reasonable allocation of Proceeds as between the Ionis Spinraza Patents, Ionis BIIB-115 Patents, or Ionis Pelacarsen Patents and any other patents that were subject to such suit. In each such case, the Seller shall obtain and deliver to the Buyer an accounting detailing the Proceeds allocated to the Ionis Spinraza Patents, Ionis BIIB-115 Patents, or Ionis Pelacarsen Patents.

(c) The Seller shall (i) take any and all actions, and prepare, execute, deliver and file any and all agreements, documents and instruments, that it deems to be reasonably necessary to diligently prosecute, preserve and maintain any Spinraza Assigned Patents, Spinraza Licensed Patents, BIIB-115 Licensed Patents, Jointly-Owned Pelacarsen Program Patents, and Pelacarsen Licensed Patents for which it controls the prosecution and maintenance in accordance with Sections 7.2.2(a), 7.2.3, and 7.2.4 of the 2012 Biogen License, Section 7.2.2(a), 7.2.3 and 7.2.4 of the 2017 Biogen License, and Section 8.3.1 and 8.3.2 of the Novartis License, and including payment of maintenance fees or annuities on any such Patent Rights where the failure to so prosecute would reasonably be expected to have a Material Adverse Effect, (ii) prosecute any reasonably necessary corrections, substitutions, reissues, reviews and reexaminations, and any other forms of patent term restoration in any applicable jurisdiction, of any Spinraza Assigned Patents, Spinraza Licensed Patents, BIIB-115 Licensed Patents, Jointly-Owned Pelacarsen Program Patents, or Pelacarsen Licensed Patents for which it controls the prosecution and maintenance in accordance with Sections 7.2.2(a), 7.2.3 and 7.2.4 of the 2012 Biogen License, Sections 7.2.2(a), 7.2.3, and 7.2.4 of the 2017 Biogen License, and Sections 8.3.1 and 8.3.2 of the Novartis License where the failure to so prosecute would reasonably be expected to have a Material Adverse Effect, (iii) diligently enforce and defend any Spinraza Assigned Patents, Spinraza Licensed Patents, BIIB-115 Licensed Patents, Jointly-Owned Pelacarsen Program Patents, and Pelacarsen Licensed Patents for which it controls the defense and enforcement, including by bringing any legal action for infringement or defending any counterclaim of invalidity or unenforceability or action of a Third Party for declaratory judgment of non-infringement or non-interference, in accordance with Section 5.14(b) of this Agreement where the failure to so enforce or defend would reasonably be expected to have a Material Adverse Effect, and (iv) not disclaim or abandon, or fail to take any action necessary or desirable to prevent the disclaimer or abandonment (including through lack of enforcement against Third Party infringers) of any Spinraza Assigned Patents, Spinraza Licensed Patents, BIIB-115 Licensed Patents, Jointly-Owned Pelacarsen Program Patents, and Pelacarsen Licensed Patents for which it controls the prosecution and maintenance in accordance with Sections 7.2.2(a), 7.2.3, and 7.2.4 of the 2012 Biogen License, Sections 7.2.2(a), 7.2.3, and 7.2.4 of the 2017 Biogen License, and Sections 8.3.1 and 8.3.2 of the Novartis License, except as would not reasonably be expected to have a Material Adverse Effect. During the occurrence and continuance of an SMA RP Control Shift, any of the foregoing actions with respect to any Spinraza Assigned Patents, Spinraza Licensed Patents or BIIB-115 Licensed Patents shall be taken and during the occurrence and continuance of a Pelacarsen RP Control Shift, any of the foregoing actions with respect to any Jointly-Owned Pelacarsen Program Patents or Pelacarsen Licensed Patents shall be taken as reasonably instructed by the Buyer; provided that nothing herein shall require the Seller (or Akcea) to take any action in violation of the applicable License Agreement. The Seller agrees to keep the Buyer reasonably informed of the status of the prosecution and maintenance under the License Agreements.

(d) The Buyer shall reimburse the Seller for its reasonable and documented out-of-pocket legal costs and expenses incurred in connection with any enforcement actions taken by the Seller or Akcea pursuant to Sections 5.14(b)(i)(i), 5.14(b)(ii), 5.14(b)(iii), and 5.14(c)(iii) for which the Seller or Akcea is not entitled to reimbursement by a Licensee as follows: (A) as it relates to the Spinraza Assigned Patents, Spinraza Licensed Patents and BIIB-115 Licensed Patents, (i) for the period prior to January 1, 2028, 25%, (ii) for the period commencing January 1, 2028 and ending when the SMA Royalty Cap is achieved, 45%, and (iii) after the SMA Royalty Cap is achieved, 0%; and (B) as it relates to Jointly-Owned Pelacarsen Program Patents, and Pelacarsen Licensed Patents, 25%, of such costs and expenses.

Section 5.15 Additional Monetizations. The Seller agrees to notify the Buyer in writing at least [***] days prior to entering into a definitive agreement with a Third Party relating to a Seller Monetization Transaction. In the event the Seller provides a Third Party to a Seller Monetization Transaction with any more extensive, favorable, robust, or otherwise broader informational, inspection, consent, enforcement or other rights than any of those similar rights provided to the Buyer under any of Sections 5.5 (solely with respect to reporting related to the Royalty Products) through 5.12 (the "Enhanced Rights"), the Seller shall, subject to this Section 5.15, upon written request from the Buyer, provide the Buyer within [***] Business Days with a copy of the definitive agreement with a Third Party relating to such Seller Monetization Transaction, subject to redactions of sections not related to the Enhanced Rights, and the Buyer shall elect, by written notice to the Seller provided within [***] Business Days of receipt of such definitive agreement, whether it would like to (i) retain its existing rights under Sections 5.5 through 5.12 hereunder, or (ii) replace its existing rights under Sections 5.5 through 5.12 hereunder with the Enhanced Rights, [***], *mutadis mutandis*, effective upon the Seller's receipt of such written notice. If the Buyer does not make an election by written notice within [***] Business Days of receipt of such definitive agreement, the Buyer shall be deemed to have elected to retain its existing rights under Sections 5.5 through 5.12 hereunder. Notwithstanding the foregoing, upon the Buyer's written request for a copy of the definitive agreement, instead of providing a copy of the definitive agreement, the Seller may elect to deliver to the Buyer (a) a certificate signed by the Chief Executive Officer or Chief Financial Officer of the Seller in which the Seller certifies that the Seller did not provide Enhanced Rights in connection with such Seller Monetization Transaction or (b) a summary of any such Enhanced Rights that the Seller did provide in connection with such Seller Monetization together with a draft amendment to this Agreement memorializing the grant of such Enhanced Rights to the Buyer. If the Buyer elects to replace its existing rights with the Enhanced Rights, the Seller and the Buyer shall, acting reasonably, enter into an amendment to this Agreement within [***] Business Days of the consummation (or material amendment) of the Seller Monetization Transaction memorializing the replacement of the Buyer's rights under Sections 5.5 through 5.12 hereunder with such Enhanced Rights, in whole and not in part, *mutatis mutandis*. Within [***] Business Days of the consummation (or material amendment) of any Seller Monetization Transaction (or the earlier request of Seller pursuant to Exhibit K), the Seller and the Buyer, each acting reasonably and in good faith, shall also agree upon all then current SMA Royalty Percentages or Pelacarsen Royalty Percentages, as applicable, as determined in accordance with Exhibit K.

Section 5.16 Further Assurances. After the Closing, the Seller and the Buyer agree to execute and deliver such other documents, certificates, agreements and other writings and to take such other actions as may be reasonably necessary in order to give effect to the transactions contemplated by this Agreement. Without limiting the foregoing, the Buyer shall ensure that it has sufficient capital to pay the Additional Purchase Price Payments as and when due.

Section 5.17 Intercompany Relationship. The Seller shall cause Akcea (a) to continue to operate the Akcea business in the ordinary course of its business, and to continue to be duly licensed and qualified to do business, and be in corporate good standing, in all material respects, in each jurisdiction necessary to continue to operation in the ordinary course of its business, and (b) to comply in all material respects with its obligations under the Pelacarsen Upstream Licenses and the Novartis License. [***]. Notwithstanding the foregoing, Akcea may consolidate with, merge with or into, liquidate into, or sell, convey, transfer or lease all or substantially all of its properties and assets to the Seller or any wholly-owned subsidiary of the Seller.

Section 5.18 Tax Matters.

(a) Notwithstanding anything to the contrary in this Agreement, the Seller and the Buyer shall treat the transactions contemplated by this Agreement as a sale of the Purchased Royalty Payments for United States federal, state, local and non-U.S. Tax purposes. Accordingly, any and all Purchased Royalty Payments made pursuant to the License Agreements after the Closing Date shall be treated as sold to the Buyer for United States federal, state, local and non-U.S. Tax purposes. The parties shall cooperate to effect the foregoing treatment for United States federal, state, local and non-U.S. Tax purposes in the event that, notwithstanding the Biogen Instruction Letters and the Novartis Instruction Letter, any Licensee, any sublicensee or any other Person makes any future remittance of Purchased Royalty Payments to the Seller which the Seller must remit to the Buyer or the Escrow Agent pursuant to Section 5.2(a) of this Agreement.

(b) All payments to the Seller under this Agreement shall be made without any deduction or withholding for or on account of any Tax unless required by applicable law. Provided that Seller provides the IRS Form W-9 called for by Section 3.5, each of the Buyer and the Seller agree that as of the date hereof there are no United States Federal and State withholding obligations under current law in respect of any payment to the Seller under this Agreement.

(c) The parties hereto agree not to take any position that is inconsistent with the provisions of this Section 5.18 on any Tax return or in any audit or other administrative or judicial proceeding unless (i) the other party hereto has consented in writing to such actions or (ii) the party hereto that contemplates taking such an inconsistent position has been advised by nationally recognized tax counsel in writing that there is no "reasonable basis" (within the meaning of Treasury Regulation Section 1.6662-3(b)(3)) for the position specified in this Section 5.18. If there is an inquiry by any Governmental Entity of the Seller or the Buyer related to this Section 5.18, the parties hereto shall cooperate with each other in responding to such inquiry in a reasonable manner consistent with this Section 5.18.

ARTICLE 6

CONFIDENTIALITY

Section 6.1 Confidentiality. Except as provided in this Article 6 or otherwise agreed in writing by the parties, the parties hereto agree that, for the term of this Agreement and for [***] thereafter, each party (the "Receiving Party") shall keep confidential and shall not publish or otherwise disclose and shall not use for any purpose other than as provided for in this Agreement (which includes the exercise of any rights or the performance of any obligations hereunder) any information furnished to it by or on behalf of the other party (the "Disclosing Party") pursuant to this Agreement (such information, "Confidential Information" of the Disclosing Party), except for that portion of such information that:

(a) was already known to the Receiving Party, other than under an obligation of confidentiality, at the time of disclosure by the Disclosing Party;

(b) was generally available to the public or otherwise part of the public domain at the time of its disclosure to the Receiving Party;

(c) became generally available to the public or otherwise part of the public domain after its disclosure and other than through any act or omission of the Receiving Party in breach of this Agreement;

(d) is independently developed by the Receiving Party or any of its Affiliates, as evidenced by written records, without the use of or reference of the Confidential Information of the Disclosing Party; or

(e) is subsequently disclosed to the Receiving Party on a non-confidential basis by a Third Party without obligations of confidentiality with respect thereto.

Section 6.2 Authorized Disclosure.

(a) Either party may disclose Confidential Information with the prior written consent, such consent not to be unreasonably withheld or delayed, of the Disclosing Party or to the extent such disclosure is reasonably necessary in the following situations:

(i) complying with applicable laws, rules and regulations, including regulations promulgated by securities exchanges;

(ii) complying with a valid order of a court of competent jurisdiction or other Governmental Entity;

(iii) disclosure to its Affiliates and Representatives on a need-to-know basis, provided that each recipient of Confidential Information must be bound by obligations of confidentiality and non-use no less restrictive than the obligations set forth herein prior to any such disclosure; or

(iv) disclosure to its actual or potential lenders, potential acquirers, investors, merger partners, consultants, auditors or professional advisors, provided, that such disclosure shall be made only to the extent customarily required to consummate such investment, financing transaction partnership, collaboration or acquisition and that each recipient of Confidential Information must be bound by obligations of confidentiality and non-use no less restrictive than those in this Agreement prior to any such disclosure.

(b) Notwithstanding the foregoing, in the event the Receiving Party is required to make a disclosure of the Disclosing Party's Confidential Information pursuant to Section 6.2(a)(i) or Section 6.2(a)(ii), it will, except where impracticable, give reasonable advance notice to the Disclosing Party of such disclosure and use reasonable efforts to secure confidential treatment of such information. In any event, the Buyer shall not file any patent application based upon or using the Confidential Information of Seller provided hereunder.

(c) The Buyer agrees that it shall (i) protect and safeguard the Confidential Information of the Seller or Akcea with at least the same degree of care as the Buyer would protect its own similar Confidential Information, but in no event with less than a commercially reasonable degree of care, (ii) not use the Seller's Confidential Information, or permit it to be accessed or used, in violation of or inconsistent with this Article 6, and (iii) implement procedures to ensure no such Confidential Information is disclosed to any person or entity that are pharmaceutical companies that are developing or commercializing any product that is directly competitive with any 2012 Biogen Licensed Product, including Spinraza, 2017 Biogen Licensed Product, including BIIB-115, or Pelacarsen. Buyer acknowledges and agrees that any breach of this Article 6 will cause injury to the Seller for which money damages would be an inadequate remedy and that, in addition to remedies at law, the Seller is entitled to seek equitable relief as a remedy for any such breach.

ARTICLE 7

INDEMNIFICATION

Section 7.1 General Indemnity. Subject to Section 7.3, from and after the Closing:

(a) the Seller hereby agrees to indemnify, defend and hold harmless the Buyer and its Affiliates and its and their directors, managers, trustees, officers, agents and employees (the "Buyer Indemnified Parties") from, against and in respect of all Losses suffered or incurred by the Buyer Indemnified Parties to the extent arising out of or resulting from (i) any breach of any of the representations or warranties (in each case, when made) of the Seller in this Agreement or (ii) any breach of any of the covenants or agreements of the Seller or Akcea in this Agreement; provided, however, that the foregoing shall exclude any indemnification to any Buyer Indemnified Party to the extent resulting from (x) the gross negligence, willful misconduct, or fraud of any Buyer Indemnified Party or (y) acts or omissions of Seller or any of its Affiliates taken (or not taken) upon written instructions from any Buyer Indemnified Party (unless Seller is otherwise liable for such Losses pursuant to the terms of this Agreement); and

(b) the Buyer hereby agrees to indemnify, defend and hold harmless the Seller and its Affiliates and its and their directors, officers, agents and employees ("Seller Indemnified Parties") from, against and in respect of all Losses suffered or incurred by the Seller Indemnified Parties to the extent arising out of or resulting from (i) any breach of any of the representations or warranties (in each case, when made) of the Buyer in this Agreement or (ii) any breach of any of the covenants or agreements of the Buyer in this Agreement; provided, however, that the foregoing shall exclude any indemnification to any Seller Indemnified Party to the extent resulting from (x) the gross negligence, willful misconduct, or fraud of any Seller Indemnified Party or (y) acts or omissions of Buyer or any of its Affiliates taken (or not taken) upon written instructions from any Seller Indemnified Party (unless Buyer is otherwise liable for such Losses pursuant to the terms of this Agreement).

Section 7.2 Notice of Claims.

(a) If either a Buyer Indemnified Party, on the one hand, or a Seller Indemnified Party, on the other hand (such Buyer Indemnified Party on the one hand and such Seller Indemnified Party on the other hand being hereinafter referred to as an "Indemnified Party"), has suffered or incurred any Losses for which indemnification may be sought under this Article 7, the Indemnified Party shall so notify the other party from whom indemnification is sought under this Article 7 (the "Indemnifying Party") promptly in writing (a "Claim Notice") describing such Loss, the amount or estimated amount thereof (in each case, the "Claim Amount"), if known or reasonably capable of estimation, and the method of computation of such Loss, all with reasonable particularity and containing a reference to the provisions of this Agreement in respect of which such Loss shall have occurred. Within [***] days after delivery of a Claim Notice, the Indemnifying Party shall deliver to the Indemnified Party a written response in which the Indemnifying Party shall (i) agree that the Indemnified Party is entitled to receive the Claim Amount (in which case such response shall be accompanied by a payment to the Indemnified Party of the Claim Amount by the Indemnifying Party by wire transfer of immediately available funds), (ii) agree that the Indemnified Party is entitled to receive part, but not all, of the Claim Amount (the amount so agreed in (i) or (ii), the "Agreed Amount") (in which case such response shall be accompanied by a payment to the Indemnified Party of the Agreed Amount by the Indemnifying Party by wire transfer of immediately available funds) or (iii) contest that the Indemnified Party is entitled to receive any of the Claim Amount. If such dispute is not resolved within [***] days following the delivery of the Indemnifying Party of such response, the Indemnifying Party and the Indemnified Party shall each have the right to submit such dispute to a court of competent jurisdiction in accordance with the provisions of Section 9.8. Failure of the Indemnifying Party to timely deliver a response as provided in this Section 7.2(a) shall not waive the Indemnifying Party's ability to submit such dispute to a court of competent jurisdiction in accordance with the provisions of Section 9.8.

(b) If any claim, action, suit or proceeding is asserted or instituted by or against a Third Party with respect to which an Indemnified Party intends to claim any Loss under this Article 7, such Indemnified Party shall promptly notify the Indemnifying Party of such claim, action, suit or proceeding and tender to the Indemnifying Party the defense of such claim, action, suit or proceeding.

(c) A failure by an Indemnified Party to give notice, including a Claim Notice, and to tender the defense of such claim, action, suit or proceeding in a timely manner pursuant to this Section 7.2 shall not limit the obligation of the Indemnifying Party under this Article 7, except to the extent such Indemnifying Party is actually prejudiced thereby.

Section 7.3 Limitations on Liability.

(a) The Seller shall have liability under Section 7.1(a) with respect to any breach of any representation or warranty made by the Seller in this Agreement only if, on or prior to the date that is [***] after the Closing Date, the Buyer notifies the Seller of a claim in respect of such breach, specifying the factual basis of such claim and amount in reasonable detail (other than (x) [***] and (y) [***] as to which a claim may be made at any time until the date that is [***] after the termination of this Agreement).

(b) The Buyer shall have liability under Section 7.1(b) with respect to any breach of any representation or warranty made by the Buyer in this Agreement, only if, on or prior to the date that is [***] after the Closing Date, the Seller notifies the Buyer of a claim in respect of such breach, specifying the factual basis of such claim and amount in reasonable detail (other than [***], as to which a claim may be made at any time until the date that is [***] after the termination of this Agreement.

(c) No party hereto shall be liable for any indirect, consequential, punitive, special or incidental damages (and no claim for indemnification hereunder shall be asserted) as a result of any breach or violation of any covenant or agreement of such party (including under this Article 7, but excluding Article 6) in or pursuant to this Agreement. Notwithstanding the foregoing, the Buyer shall be entitled to make indemnification claims, in accordance with the procedures set forth in this Article 7, for Losses that include any portion of the Purchased Royalty Payments that the Buyer was entitled to receive but did not receive timely or at all due to any indemnifiable events under this Agreement, and such portion of the Purchased Royalty Payments shall not be deemed indirect, consequential, punitive, special or incidental damages for any purpose of this Agreement. Notwithstanding the foregoing, other than with respect to any fraud, willful misconduct, or intentional misrepresentation, (i) in no event shall an Indemnifying Party's aggregate liability for Losses under Section 7.1 exceed the [***] of the date hereof and (ii) no Indemnifying Party shall have any liability for Losses under Section 7.1(a)(i) or Section 7.1(b)(i), as the case may be, except to the extent the aggregate amount of all Losses incurred by the Indemnified Party equals or exceeds $[***], at which point the full amount of the Losses shall be recoverable; provided that the foregoing limitations shall not apply to any Losses arising from a failure by Buyer to pay any portion of the Purchase Price in accordance with Section 2.1.

Section 7.4 Third Party Claims. Following the receipt of notice provided by an Indemnified Party pursuant to Section 7.2 of the commencement of any action, suit or proceeding against such Indemnified Party by a Third Party with respect to which such Indemnified Party intends to claim any Loss under this Article 7, an Indemnifying Party shall have the right to defend such claim, at such Indemnifying Party's expense and with counsel of its choice reasonably satisfactory to the Indemnified Party. If the Indemnifying Party assumes the defense of such claim, the Indemnified Party shall, at the request of the Indemnifying Party, use commercially reasonable efforts to cooperate in such defense; provided, that the Indemnifying Party shall bear the Indemnified Party's reasonable out-of-pocket costs and expenses incurred in connection with such cooperation. So long as the Indemnifying Party is conducting the defense of such claim as provided in this Section 7.4, the Indemnified Party may retain separate co-counsel at its expense and may participate in the defense of such claim, and the Indemnifying Party may consent to the entry of any reasonable Judgment or enter into any reasonable settlement with respect to such claim [***]. In the event the Indemnifying Party does not or ceases to conduct the defense of such claim as so provided, the Indemnified Party may defend against such claim and the Indemnified Party may consent to the entry of any reasonable Judgment or enter into any reasonable settlement with respect to such claim [***]. Further, in the event the Indemnifying Party does not or ceases to conduct the defense of such claim as so provided, (A) subject to the limitations set forth in Section 7.3, the Indemnifying Party shall reimburse the Indemnified Party promptly and periodically for the reasonable out-of-pocket costs of defending against such claim, including reasonable attorneys' fees and expenses against reasonably detailed invoices, and (B) the Indemnifying Party shall remain responsible for any Losses the Indemnified Party may suffer as a result of such claim to the full extent provided in this Article 7.

Section 7.5 Exclusive Remedy. Except as set forth in Section 9.10, from and after Closing, the rights of the parties hereto pursuant to (and subject to the conditions of) this Article 7 shall be the sole and exclusive remedy of the parties hereto and their respective Affiliates with respect to any claims (whether based in contract, tort or otherwise) resulting from or relating to any breach of the representations, warranties covenants and agreements made under this Agreement or any certificate, document or instrument delivered hereunder, and each party hereto hereby waives, to the fullest extent permitted under applicable law, and agrees not to assert after Closing, any other claim or action in respect of any such breach. Notwithstanding the foregoing, claims for common law fraud shall not be waived or limited in any way by this Article 7.

Section 7.6 Tax Treatment for Indemnification Payments. Any indemnification payments made pursuant to this Article 7 will be treated as an adjustment to the Purchase Price for U.S. federal income tax to the fullest extent permitted by applicable law.

ARTICLE 8

TERMINATION

Section 8.1 Mutual Termination. This Agreement may be terminated at any time by mutual written agreement of the Buyer and the Seller.

Section 8.2 Automatic Termination. Unless earlier terminated as provided in Section 8.1, this Agreement shall continue in full force and effect until [***] days after such time as none of the Licensees ([***]) are obligated to make any payments to the Buyer in respect of any of the Purchased Royalty Payments, at which point this Agreement shall automatically terminate, except with respect to any rights that shall have accrued prior to such termination. Notwithstanding the foregoing, (A) the Buyer's rights and Seller's obligations under this Agreement with respect to Spinraza and BIIB-115, the 2012 Biogen License, the 2017 Biogen License and the Spinraza Upstream Licenses, Spinraza Licensed Patents, Spinraza Assigned Patents and BIIB-115 Licensed Patents shall terminate [***] days after such time as the Buyer has received Purchased SMA Royalty Payments in an amount equal to the SMA Royalty Cap, and (B) the Buyer's rights and the Seller's obligations under [***] shall terminate upon the Buyer's receipt of Purchased Royalty Payments equal to [***] times the Purchase Price paid by the Buyer.

Section 8.3 Survival. Notwithstanding anything to the contrary in this Article 8, the following provisions shall survive termination of this Agreement: Section 2.3 (True Sale), Section 5.1 (Disclosures), Section 5.2 (Payments Received in Error), Section 5.4 (Late Fee), Section 5.7 (Inspections and Audits of Licensee), Article 6 (Confidentiality), Article 7 (Indemnification), this Section 8.3 (Survival) and Article 9 (Miscellaneous). Termination of the Agreement shall not relieve any party of liability in respect of breaches under this Agreement by any party on or prior to termination.

ARTICLE 9

MISCELLANEOUS

Section 9.1 Notices. All notices and other communications under this Agreement shall be in writing and shall be by email with PDF attachment, courier service or personal delivery to the following addresses, or to such other addresses as shall be designated from time to time by a party hereto in accordance with this Section 9.1:

If to the Seller, to it at:

Ionis Pharmaceuticals, Inc.
2855 Gazelle Court
Carlsbad, CA 92010
Attention: General Counsel
Email: [***]

With a copy to:

Cooley LLP
3 Embarcadero Center, 20th Floor
San Francisco, CA 94111
Attention: Gian-Michele a Marca and Alan Tamarelli
Email: [***]

If to Akcea, to it at:

Akcea Therapeutics, Inc.
55 Cambridge Parkway
Cambridge, MA 02142
Attention: Chief Financial Officer
Email: [***]

With a copy to:

Cooley LLP
3 Embarcadero Center, 20th Floor
San Francisco, CA 94111
Attention: Gian-Michele a Marca and Alan Tamarelli
Email: [***]

If to the Buyer, to it at:

RP Management, LLC
110 E. 59th Street, Suite 3300
New York, New York 10022
Attention: General Counsel
Email: [***]

With a copy to:

Goodwin Procter LLP
100 Northern Avenue
Boston, Massachusetts 02210
Attention: Jacqueline Mercier and
Robert M. Crawford, Jr.
Email: [***]

All notices and communications under this Agreement shall be deemed to have been duly given (a) when delivered by hand, if personally delivered, (b) when received by a recipient, if sent by email, or (c) one Business Day following sending within the United States by overnight delivery via commercial one-day overnight courier service.

Section 9.2 Expenses. Except as otherwise provided herein, all fees, costs and expenses (including any legal, accounting and banking fees) incurred in connection with the preparation, negotiation, execution and delivery of this Agreement and to consummate the transactions contemplated hereby shall be paid by the party hereto incurring such fees, costs and expenses.

Section 9.3 Assignment. The provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and permitted assigns. This Agreement, or any rights or obligations hereunder, may not be assigned by the Seller or Akcea without the prior written consent of the Buyer; provided that each of the Seller and Akcea may assign this Agreement in its entirety to any Person that acquires all or substantially all of the Seller's business or Akcea's business, as applicable, to which this Agreement relates (including, for the avoidance of doubt, all of the Seller's or Akcea's (as applicable) right, title and interest in the Royalty Products, Upstream Licenses and License Agreements, and the Spinraza Licensed Patents, BIIB-115 Licensed Patents, and Pelacarsen Licensed Patents, as applicable), whether by merger, sale of assets or otherwise, so long as either such Person assumes all of the obligations of the Seller or Akcea, as applicable, in a writing delivered to the Buyer (in form and substance reasonably acceptable to the Buyer) within [***] Business Days of such closing in which such Person assumes all of the obligations of the Seller or Akcea to the Buyer under this Agreement; provided that if such Person is a Licensee, such Licensee shall, within [***] Business Days of closing, enter into an assumption agreement with, and reasonably acceptable to, the Buyer in which such Licensee assumes all of the obligations of the Seller or Akcea (as applicable) to the Buyer hereunder with respect to the applicable Royalty Products and agrees to pay the Purchased Royalty Payments directly to the Buyer notwithstanding any subsequent termination of the applicable License Agreement by the Licensee. This Agreement as a whole may not be assigned by the Buyer without the prior written consent of the Seller; provided that the Buyer may assign its rights and obligations under this Agreement (a) to an Affiliate of the Buyer (provided that, if the Buyer is assigning any of its obligations to pay the Additional Purchase Price Payments the Buyer shall provide a guarantee of the payment of such Additional Purchase Price Payments in form and substance reasonably acceptable to the Seller) or (b) in its entirety to any third party that acquires all or substantially all the Buyer's assets, whether by merger, sale of assets or otherwise, provided that (x) within [***] Business Days of closing any such transaction, the Buyer causes such assignee to deliver a writing to the Seller (in form and substance reasonably acceptable to the Seller) in which such Person assumes all of the obligations of the Buyer to the Seller under this Agreement. Notwithstanding the foregoing, the Buyer may assign its rights but not its obligations under this Agreement without the prior written consent of the Seller; provided that the Buyer promptly notifies the Seller of such assignment. Any purported assignment in violation of this Section 9.3 shall be null and void.

Section 9.4 Amendment and Waiver.

(a) This Agreement may be amended, modified or supplemented only in a writing signed by each of the parties hereto. Any provision of this Agreement may be waived only in a writing signed by the parties hereto granting such waiver.

(b) No failure or delay on the part of any party hereto in exercising any right, power or remedy hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such right, power or remedy preclude any other or further exercise thereof or the exercise of any other right, power or remedy. No course of dealing between the parties hereto shall be effective to amend, modify, supplement or waive any provision of this Agreement.

Section 9.5 Entire Agreement. This Agreement, the Exhibits annexed hereto and the Disclosure Schedule constitute the entire understanding between the parties hereto with respect to the subject matter hereof and supersede all other understandings and negotiations with respect thereto.

Section 9.6 No Third Party Beneficiaries. This Agreement is for the sole benefit of the Seller, Akcea and the Buyer and their permitted successors and assigns and nothing herein expressed or implied shall give or be construed to give to any Person, other than the parties hereto and such successors and assigns, any legal or equitable rights hereunder; except that the Indemnified Parties shall be third party beneficiaries of the benefits provided for in Article 7.

Section 9.7 Governing Law. This Agreement shall be governed by, and construed in accordance with, the laws of the State of New York without giving effect to any choice or conflict of law provision or rule that would cause the application of the laws of any other jurisdiction.

Section 9.8 JURISDICTION; VENUE.

(a) EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY AND UNCONDITIONALLY SUBMITS, FOR ITSELF AND ITS RESPECTIVE PROPERTY AND ASSETS, TO THE EXCLUSIVE JURISDICTION OF ANY NEW YORK STATE COURT OR FEDERAL COURT OF THE UNITED STATES OF AMERICA SITTING IN NEW YORK COUNTY, NEW YORK, AND ANY APPELLATE COURT THEREOF, IN ANY ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT, OR FOR RECOGNITION OR ENFORCEMENT OF ANY JUDGMENT IN RESPECT THEREOF, AND THE BUYER AND THE SELLER HEREBY IRREVOCABLY AND UNCONDITIONALLY AGREE THAT ALL CLAIMS IN RESPECT OF ANY SUCH ACTION OR PROCEEDING MAY BE HEARD AND DETERMINED IN ANY SUCH NEW YORK STATE COURT OR, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, IN SUCH FEDERAL COURT. THE BUYER AND THE SELLER HEREBY AGREE THAT A FINAL JUDGMENT IN ANY SUCH ACTION OR PROCEEDING SHALL BE CONCLUSIVE AND MAY BE ENFORCED IN OTHER JURISDICTIONS BY SUIT ON THE JUDGMENT OR IN ANY OTHER MANNER PROVIDED BY APPLICABLE LAW. EACH OF THE BUYER AND THE SELLER HEREBY SUBMITS TO THE EXCLUSIVE PERSONAL JURISDICTION AND VENUE OF SUCH NEW YORK STATE AND FEDERAL COURTS. THE BUYER AND THE SELLER AGREE, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, THAT PROCESS MAY BE SERVED ON THE BUYER OR THE SELLER IN THE SAME MANNER THAT NOTICES MAY BE GIVEN PURSUANT TO SECTION 9.1 HEREOF.

(b) EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY AND UNCONDITIONALLY WAIVES, TO THE FULLEST EXTENT IT MAY LEGALLY AND EFFECTIVELY DO SO, ANY OBJECTION THAT IT MAY NOW OR HEREAFTER HAVE TO THE LAYING OF VENUE OF ANY ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT IN ANY NEW YORK STATE OR FEDERAL COURT. EACH OF THE BUYER AND THE SELLER HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, THE DEFENSE OF AN INCONVENIENT FORUM TO THE MAINTENANCE OF SUCH ACTION OR PROCEEDING IN ANY SUCH COURT.

(c) EACH PARTY HEREBY JOINTLY AND SEVERALLY WAIVES ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY ACTION OR PROCEEDING RELATING TO THIS AGREEMENT OR ANY OTHER DOCUMENT DELIVERED HEREUNDER OR IN CONNECTION HEREWITH, OR ANY TRANSACTION ARISING FROM OR CONNECTED TO ANY OF THE FOREGOING. EACH OF THE PARTIES REPRESENTS THAT THIS WAIVER IS KNOWINGLY, WILLINGLY, AND VOLUNTARILY GIVEN.

Section 9.9 Severability. If any term or provision of this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any situation in any jurisdiction, then, to the extent that the economic and legal substance of the transactions contemplated hereby is not affected in a manner that is materially adverse to either party hereto, all other terms and provisions of this Agreement shall nevertheless remain in full force and effect and the enforceability and validity of the offending term or provision shall not be affected in any other situation or jurisdiction.

Section 9.10 Specific Performance. Each of the parties acknowledges and agrees that the other party would be damaged irreparably in the event any of the provisions of this Agreement are not performed in accordance with their specific terms or otherwise are breached or violated. Accordingly, notwithstanding Section 7.5, each of the parties agrees that, without posting bond or other undertaking, the other parties shall be entitled to an injunction or injunctions to prevent breaches or violations of the provisions of this Agreement and to enforce specifically this Agreement and the terms and provisions hereof in any action, suit or other proceeding instituted in any court of the United States or any state thereof having jurisdiction over the parties and the matter in addition to any other remedy to which it may be entitled, at law or in equity. Each party further agrees that, in the event of any action for specific performance in respect of such breach or violation, it shall not assert that the defense that a remedy at law would be adequate.

Section 9.11 Counterparts. This Agreement may be executed in any number of counterparts and by the parties hereto in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same agreement. Copies of executed counterparts transmitted by telecopy, facsimile or other similar means of electronic transmission, including "PDF," shall be considered original executed counterparts, provided receipt of such counterparts is confirmed.

Section 9.12 Relationships of the Parties. The relationship between the Buyer and the Seller is solely that of purchaser and seller, and neither the Buyer nor the Seller has any fiduciary or other special relationship with the other party or any of its Affiliates. This Agreement is not a partnership or similar agreement, and nothing contained herein shall be deemed to constitute the Buyer and the Seller as a partnership, an association, a joint venture or any other kind of entity or legal form for any purposes, including any Tax purposes. The Buyer and the Seller agree that they shall not take any inconsistent position with respect to such treatment in a filing with any Governmental Entity.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties hereto have caused this Royalty Purchase Agreement to be executed and delivered by their respective representatives thereunto duly authorized as of the date first above written.

IONIS PHARMACEUTICALS, INC.

By: /s/Brett Monia
Name: Brett Monia
Title: Chief Executive Officer

AKCEA THERAPEUTICS, INC.

By: /s/Elizabeth Hougen
Name: Elizabeth Hougen
Title: Treasurer

(solely for the limited purposes set forth herein)

ROYALTY PHARMA INVESTMENTS 2019 ICAV

By: RP Management, LLC, its Manager and lawfully appointed attorney

By: /s/George Lloyd
Name: George Lloyd
Title: EVP & Chief Legal Officer

MESSAGE FROM THE CEO

At Ionis, we dream big and are committed to bringing life-changing medicines to patients with unmet medical needs. With that goal comes a responsibility to behave ethically and conduct ourselves with integrity.

Doing the right thing is not always easy. But we owe it to all stakeholders, especially patients, to make good decisions in a responsible manner. The Ionis Code of Ethics and Business Conduct (the "Code of Ethics") is designed to help us achieve this objective. It describes the fundamental principles that guide us in all aspects of our business.

Of course, no code of conduct can cover all circumstances or anticipate every situation. For that reason, when faced with situations not addressed specifically by this Code of Ethics, we should apply our underlying principles and overall philosophy embedded within the Code of Ethics to the situation. We each have a responsibility to approach every situation ethically and with integrity.

Thank you for your commitment to uphold the standards, principles and philosophy of this Code of Ethics. Together, we are a force for life.

Brett P. Monia, Ph.D.

Chief Executive Officer

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I. Introduction

A. Purpose

This Code of Ethics is intended to help us act with integrity in our business, wherever we are and in whatever we do.

In addition to the Code of Ethics, we also rely on policies and procedures to provide more specific guidance on the subject matter in question. If you have any questions about how to apply this Code of Ethics or related Company policies, please contact any member of management, Legal, Compliance, or Human Resources.

B. Scope

This Code of Ethics applies to all Ionis employees whether full-time, part-time or temporary, including our executive officers, and each member of the Ionis Board of Directors. This Code of Ethics also applies to all employees of Ionis' subsidiaries and affiliates world-wide. References to Ionis and "the Company" are references to Ionis and its subsidiaries and affiliates.

Any waiver of this Code of Ethics for executive officers or members of the Board of Directors must be approved by the Board of Directors and must be promptly disclosed to the Company's stockholders, including the reasons for the waiver.

C. Compliance with Laws and Regulations

As a company based in the U.S., Ionis is governed by and required to comply with U.S. federal law. In addition to complying with federal law, we conduct our activities in compliance with all applicable national, state, and local laws, regulations, and judicial decrees wherever we conduct business.

When conducting business for Ionis, we strive to comply with the spirit of the law, and we will not take any action that we know, or reasonably should know, violates any law, regulation or judicial decree.

D. Our Responsibilities

As representatives of Ionis, we all have responsibilities to uphold this Code of Ethics, and those responsibilities include:

- Know and comply with the Code of Ethics and Company policies that apply to business activities.
- Be honest, fair, and trustworthy in all business activities and relationships.
- Provide and support a culture that values integrity and ethical conduct.
- Avoid conflicts of interest between work and personal affairs.
- Report suspected violations of law, the Code of Ethics, or Company policies.
- Cooperate in any investigation into possible violations of law, the Code of Ethics, or Company policies.

Managers' Responsibilities

In addition to the above responsibilities, managers at the Company have the following responsibilities with respect to their teams:

- To be fair and maintain a level playing field for all.
- To be honest and transparent, having frequent, high integrity communications, sharing both good news and bad.
- To trust others with the truth and to do the right thing.
- To lead by setting clear objectives and high standards, providing support, giving frequent feedback, being a mentor, and responding fairly, timely and equitably to issues as they arise.

II. Putting Patients First

At Ionis, our efforts begin and end with the patient in mind; we know there are sick people who depend on us and we strive to understand their journey and meet their needs. To appropriately serve patients, we prioritize research and development, product quality and safety, protection of privacy and appropriately commercializing medicines.

A. Research and Development

Science is built upon a foundation of trust and integrity. We conduct research and the pursuit of new and novel therapeutics with the highest degree of integrity. Participants of clinical research put their trust in us, and they play a vital role in the advancement of science. For that reason, we must always appropriately protect the health, safety, and privacy of all clinical research participants. As members of the scientific community, we respect and adhere to applicable laws, regulations, and industry standards regarding ethical conduct in research. We share the findings of our research in a transparent and accurate manner, regardless of the outcome, so as to further science and move closer to improving the lives of patients.

B. Product Quality and Safety

The quality and safety of our products is of the utmost importance. Our commitment to product quality and safety is another way in which we meet the needs of those patients who depend on us. We are committed to monitoring our products at all phases and reporting any quality and safety information as required by applicable laws and regulations. At Ionis, we have a policy and procedure for adverse event reporting and each of us is obligated to report any adverse events promptly after learning about the event.

C. Protecting Patient Privacy

Patient information is highly sensitive and protected under international, federal, and state laws. We have an obligation under the law to appropriately protect patient information, but we also have a deep sense of commitment to patients who entrust us with their private information. We must always handle such information with the appropriate safeguards in place and will not collect, store, transfer, or share any patient information unless we have the express authorization or right to do so.

D. Commercializing Medicines

We seek to bring our medicines to the market to fulfill unmet patient needs. We will commercialize our medicines consistent with the principles set forth in section III below.

III. Interacting with Healthcare Professionals and Promoting Products

Healthcare is a highly regulated industry, and we must adhere to strict guidelines, especially when we are interacting with healthcare professionals or promoting products. The sections below address our obligations in this area, and our internal policies and procedures provide further guidance.

A. Interactions with Healthcare Professionals (HCPs)

Strict regulations govern not only our promotional activities but also our educational and commercial relationships with healthcare providers (HCPs) and healthcare organizations (HCOs), including our interactions with physicians, nurses, pharmacists and others who administer, prescribe, purchase or recommend prescription medicines, and organizations that employ HCPs or otherwise provide healthcare services.

All interactions with HCPs and HCOs must be guided by applicable laws, regulations, relevant industry codes, and Company policies, including this Code of Ethics.

The following general principles govern our interactions with HCPs and HCOs worldwide:

- We will not use any unlawful inducement to sell or to arrange for the recommendation or prescribing of our products.
- We believe that enduring customer relationships are based on integrity and trust. We seek to gain advantage over our competitors through superior products, quality, manufacturing, and service, but never through improper business practices.
- Our relationships with HCPs and HCOs are intended to benefit patient care and enhance the practice of medicine. Interactions should not tempt HCPs to place their own personal interests above those of the organizations they represent or the patients who will use or need our products.
- We will not, directly or indirectly, offer or solicit any improper payment, contribution or other transfer of value for the purpose of obtaining, giving or keeping business.

B. Product Promotion

Promotional activities and materials must always comply with all applicable laws, regulations and codes, and our own applicable policies. All promotional activities and materials must be truthful, accurate, not misleading, consistent with approved product labeling and properly substantiated. Promotional activities and materials must never involve promotion of drugs for off-label indications, uses, doses or populations.

In addition to the laws and regulations surrounding product promotion, we are also guided by our policy regarding the submission, review, and approval process for promotional materials. Use of unapproved promotional materials is prohibited; therefore, all personnel involved in the marketing and promotion of our products must familiarize themselves with and abide by such policy.

IV. Conducting Business Ethically

At Ionis, we understand that we have a responsibility to help create the future, and we pride ourselves on doing so both ethically and with integrity.

A. Interactions with Competitors

As a vigorous competitor in the marketplace, we seek economic knowledge about our competitors. However, we do not engage in illegal or improper acts to acquire any competitor information. In addition, we do not hire competitors' employees for the purpose of obtaining confidential information, urge competitors' personnel, customers or suppliers to disclose confidential information, or seek such information from competitors' employees subsequently hired by the Company.

B. Anti-Bribery & Anti-Corruption

We comply with anti-bribery and anti-corruption laws, including but not limited to the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act, and the Anti-Kickback Statute. We are prohibited from paying or receiving any bribe, kickback or other similar payment to or from any public official, or government, or other individual, to secure any concession, contract or other favorable treatment for Ionis or any one of us. This prohibition extends to the payment or receipt of money or anything else of value when we have reason to believe that some part of the payment or "fee" will be used for a bribe, kickback or other similar activity. We have adopted a detailed policy setting forth our expectations on these matters.

C. Books, Records, and Information Management

Our books of account and records must be accurately maintained and fully disclose the nature of transactions reflected in them. Penalties for violating the laws and regulations in this area could be severe for the Company and the employees involved. We maintain these books according to the following record-keeping requirements and in compliance with the spirit and letter of applicable laws and regulations:

- All books, records and accounts must be kept in reasonable detail and must accurately and fairly reflect all transactions and dispositions of the Company's assets.
- All disbursements of funds and all receipts must be properly and promptly recorded.
- No undisclosed or unrecorded fund or account may be established for any purposes.
- False or artificial entries must never be made in any of the books or records of the Company, or in any public record for any reason, nor should the Company's records be falsely altered in any way.

Record Retention

Various laws and regulations require the retention of certain records for certain periods of time, particularly those relating to taxes, personnel, contracts, and corporate structure. When litigation or a government investigation or audit is pending or imminent, we must not destroy any relevant records until the matter is closed. Destruction of records to avoid disclosure in a legal proceeding or investigation may constitute a criminal offense.

Audit Integrity

No officer or director of Ionis, or any other person acting under their direction, will take any action to fraudulently influence, coerce, manipulate, or mislead any independent accountant engaged in the performance of an audit of the Company's financial statements for the purpose of rendering the Company's financial statements materially misleading.

D. Conflicts of Interest

Employees of the Company cannot, without the Company's express written consent, engage in any employment or business activity other than for the Company. Unless expressly consented to in writing by the Company, our personal activities should not involve the use of Company property, facilities, influence, or other resources, and should not reflect discredit upon the Company.

We will not engage in any activity through which any one of us stands to benefit personally from any sale or purchase of goods and services by the Company. This provision does not apply to benefits arising out of your employment with the Company, or to your ownership of equity in a publicly traded company which was purchased on the open market and represents (i) less than 1% of such company's outstanding equity and (ii) less than 5% of your equity portfolio.

Each of us must promptly disclose in writing any actual or potential conflicts of interest to Ionis' CEO or Chief Legal Officer. Ionis will review the matter, as set forth above, and communicate its position in writing.

Pre-Clearance Procedure

All employees must pre-clear any employment or business activity other than for the Company. To do so, you should contact either (a) the CEO or (b) Chief Legal Officer and explain to them the proposed activity. If you are an executive officer, the Nominating, Governance and Review Committee will evaluate the proposed activity and will notify you whether such activity has been approved. For all other employees, the CEO or Chief Legal Officer will evaluate the proposed activity and will notify you whether such activity has been approved. In some cases, the individual(s) reviewing your request may discuss your request with other members of the Company's management team. Remember, just because you have to pre-clear a certain activity does not mean that the Company will prevent you doing it.

There are some business activities that the Company's management has already determined should not cause a conflict of interest. A list of such activities is available within the Company's policies and procedures. For these activities, employees generally do not need to obtain written permission from the Company; however, if in doubt, you should follow the pre-clearance procedures outlined above.

Members of the Board of Directors must request and receive a determination of no conflict from the Nominating, Governance and Review Committee before engaging in any activity, including acting as an employee or director for any entity that directly or indirectly competes with the Company.

E. Dishonesty & Theft

We will not knowingly:

- Engage in fraud or embezzlement affecting Company property, funds, securities, or other assets; or
- Willfully damage or destroy property or materials belonging to the Company, its employees, or customers.
- In addition, without proper supervisory authorization, we will not knowingly:
- Remove property, material or money from the Company, its employees, or its customers for personal gain, personal use, resale or to give to another party;
- Receive property, materials or money belonging to the Company, its employees or its customers for personal gain, personal use, resale or to give to another party;
- Access, remove, publish, destroy, or alter private or confidential information existing in physical Company records or electronically stored information;
- Remove, publish, destroy, or alter other physical Company records or electronically stored information affecting the Company, its employees, or corporate partners; or
- Copy, reprint, duplicate, or recreate in whole or in part, computer programs or related systems developed or modified by Ionis personnel or acquired from outside vendors.

F. Disclosures and Insider Trading

We are committed to complying with all applicable securities laws and to filing fair and accurate disclosures with the SEC. The Company prohibits the use of material nonpublic information in the trading of securities. We all accept and agree that we will, at all times, adhere to the Company's insider trading policy.

G. Protecting Intellectual Property & Confidential Information

As the leader in the discovery and development of RNA-targeted therapeutics, we recognize that our intellectual property (IP) is one of our greatest assets. Innovation is core to who we are. Each of us is responsible for protecting our existing IP and disclosing any new IP that we create during our employment with Ionis. Additionally, we respect the IP rights of others.

We also recognize the importance of safeguarding our confidential information, as well as confidential information that is disclosed to us by third parties. Such information can include but is not limited to, employee records, business plans, marketing strategies, lab notebooks, manufacturing information, and other similarly sensitive information. We each have a responsibility to maintain the confidentiality of this type of information and ensure that when we share such information, we do so with authorization, in a controlled environment, where only the intended parties can access it.

V. Reporting, Resources, & Questions

A. Reporting a Violation & Ionis Helpline

We all have the obligation to report when we see conduct that is not aligned with this Code of Ethics, or any of the laws, regulations or policies underpinning this Code of Ethics. Ethical conduct does not stop at the individual; it requires a communal effort that holds each of us accountable when something does not seem right. We strive to create an environment in which we all feel comfortable speaking up, including in situations where we believe violations of policies or standards may have occurred. We encourage everyone to raise any concerns or questions of compliance to any member of management, Human Resources, Legal or Compliance. However, we understand there may be situations where that could be awkward or challenging. As a result, we have a confidential helpline that allows us to raise questions or report concerns anonymously via phone or web submission.

The Ionis Helpline may be accessed at the following address: https://secure.ethicspoint.eu/domain/media/en/gui/105873/index.html.

B. Investigating a Violation

We take seriously any report of suspected violations of this Code of Ethics, Company policies, and applicable laws, and we will thoroughly investigate such reports. If our investigation substantiates the report, we will take swift and appropriate remedial action.

C. Non-Retaliation Policy

At Ionis, we strive for excellence and always expect ethical behavior, which is why we do not tolerate retaliation, in any form, against anyone who has, in good faith, reported a concern or a suspected violation of this Code of Ethics, Company policy, or any law or regulation. We have adopted a detailed policy prohibiting such retaliation. As noted above, it is our duty to report potential violations; therefore, we should all feel safe and confident knowing that we will not experience retaliation as a result of fulfilling our ethical obligations.

D. Consequences for Violating this Code of Ethics

If you violate this Code of Ethics, Company policies, or the law, you may be subject to disciplinary action, up to and including termination. If necessary, Ionis may suspend your employment during an investigation into an alleged breach. Additional actions may include reassignment of work duties and limitation in future job opportunities. Ionis may refer violations of law to local or federal law enforcement authorities for possible prosecution.

E. Contact Information for Questions

If you have any questions about this Code of Ethics or its application in specific situations, please contact any member of management, Legal, Compliance or Human Resources.

Exhibit 21.1

LIST OF SUBSIDIARIES FOR THE REGISTRANT

Akcea Therapeutics, Inc., a Delaware Corporation

Akcea Therapeutics Canada Inc., a Canadian Corporation

Akcea Therapeutics France SAS, a French Company*

Akcea Therapeutics Germany GmbH, a German Corporation

Akcea Therapeutics UK Limited, a United Kingdom Limited Private Company

Akcea Securities Corporation, a Massachusetts Corporation*

Akcea Therapeutics Ireland Limited, an Irish Private Company

Isis USA Limited, a United Kingdom Limited Private Company

Osprey Therapeutics, Inc., a Delaware Corporation

PerIsis I Development Corporation, a Delaware Corporation**

Symphony GenIsis, Inc., a Delaware Corporation**

Ionis Development (Ireland) Limited, an Irish Private Company

* Akcea Therapeutics France SAS and Akcea Securities Corporation were dissolved in December 2022.
** PerIsis I Development Corporation and Symphony GenIsis, Inc. were dissolved in September 2021.

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statements on Form S-3 (Nos. 333-71911, 333-90811, 333-38844, 333-71116, 333-71176, 333-89066, 333-89626, 333-128156, 333-130639, 333-134380, 333-141447, 333-151076, 333-188407, 333-217422 and 333-242382) and in the related Prospectuses, as applicable, and in the Registration Statements on Form S-8 (Nos. 333-05825, 333-55683, 333-40336, 333-59296, 333-91572, 333-106859, 333-116962, 333-125911, 333-133853, 333-142777, 333-151996, 333-160269, 333-168674, 333-176136, 333-184788, 333-190408, 333-207900, 333-219801, 333-233143, 333-242386, 333-251855, and 333-258503) of Ionis Pharmaceuticals, Inc. of our reports dated February 22, 2023, with respect to the consolidated financial statements of Ionis Pharmaceuticals, Inc. and the effectiveness of internal control over financial reporting of Ionis Pharmaceuticals, Inc. included in this Annual Report (Form 10-K) for the year ended December 31, 2022.

/s/ ERNST & YOUNG LLP

San Diego, California
February 22, 2023

Exhibit 31.1

CERTIFICATION

I, Brett P. Monia, certify that:

1. I have reviewed this Annual Report on Form 10-K of Ionis Pharmaceuticals, Inc.;

2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;

3. Based on my knowledge, the consolidated financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, consolidated results of operations and consolidated cash flows of the registrant as of, and for, the periods presented in this annual report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: February 22, 2023

/s/ BRETT P. MONIA
Brett P. Monia, Ph.D.
Chief Executive Officer

Exhibit 31.2

CERTIFICATION

I, Elizabeth L. Hougen, certify that:

1. I have reviewed this Annual Report on Form 10-K of Ionis Pharmaceuticals, Inc.;

2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;

3. Based on my knowledge, the consolidated financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, consolidated results of operations and consolidated cash flows of the registrant as of, and for, the periods presented in this annual report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: February 22, 2023

/s/ ELIZABETH L. HOUGEN
Elizabeth L. Hougen
Chief Financial Officer

Exhibit 32.1

CERTIFICATION

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), Brett P. Monia, the Chief Executive Officer of Ionis Pharmaceuticals, Inc., (the "Company"), and Elizabeth L. Hougen, the Chief Financial Officer of the Company, each hereby certifies that, to the best of his or her knowledge:

1. The Company's Annual Report on Form 10-K for the year ended December 31, 2022, to which this Certification is attached as Exhibit 32.1 (the "Annual Report"), fully complies with the requirements of Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934, as amended; and

2. The information contained in the Annual Report fairly presents, in all material respects, the financial condition of the Company at the end of the period covered by the Annual Report and the results of operations of the Company for the period covered by the Annual Report.

Dated: February 22, 2023

/s/ BRETT P. MONIA
Brett P. Monia, Ph.D.
Chief Executive Officer

/s/ ELIZABETH L. HOUGEN
Elizabeth L. Hougen
Chief Financial Officer

A signed original of this written statement required by Section 906 has been provided to Ionis Pharmaceuticals, Inc. and will be retained by Ionis Pharmaceuticals, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

This certification accompanies the Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Ionis Pharmaceuticals, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.