UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2021

OR

☐ **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: 001-38942

ARCTURUS THERAPEUTICS HOLDINGS INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware **(State or other jurisdiction of incorporation or organization)**	**32-0595345** **(I.R.S. Employer Identification No.)**
10628 Science Center Drive, Suite 250 **San Diego, California** **(Address of principal executive offices)**	**92121** **(Zip Code)**

Registrant's telephone number, including area code: (858) 900-2660

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

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
Common Stock, par value $0.001 per share	ARCT	The NASDAQ Stock Market LLC

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, 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 Exchange Act. ☐

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

As of November 3, 2021, the registrant had 26,360,521 shares of voting common stock outstanding.

ARCTURUS THERAPEUTICS HOLDINGS INC. AND ITS SUBSIDIARIES

TABLE OF CONTENTS

Special Note Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q, or this quarterly report, including the section entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations," and the documents incorporated by reference herein may contain "forward-looking statements" within the meaning of the federal securities laws made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth below under Part II, Item 1A, "Risk Factors" in this quarterly report. Except as required by law, we assume no obligation to update these forward-looking statements, whether as a result of new information, future events or otherwise. These statements, which represent our current expectations or beliefs concerning various future events, may contain words such as "may," "will," "expect," "anticipate," "intend," "plan," "believe," "estimate" or other words indicating future results, though not all forward-looking statements necessarily contain these identifying words. Such statements may include, but are not limited to, statements concerning the following:

- the initiation, cost, timing, progress and results of, and our expected ability to undertake certain activities and accomplish certain goals with respect to, our research and development activities, preclinical studies and clinical trials;
- our ability to obtain and maintain regulatory approval of our product candidates, and any related restrictions, limitations, and/or warnings in the label of an approved product candidate;
- our ability to obtain and deploy funding for our operations;
- our ability to continue as a going concern;
- our plans to research, develop and commercialize our product candidates;
- our strategic alliance partners' election to pursue development and commercialization of any programs or product candidates that are subject to our collaboration and license agreements with such partners;
- our ability to attract collaborators with relevant development, regulatory and commercialization expertise;
- future activities to be undertaken by our strategic alliance partners, collaborators, joint ventures and other third parties;
- our ability to avoid, settle or be victorious at costly litigation with shareholders, former executives or others, should these situations arise;
- our ability to obtain and maintain intellectual property protection for our product candidates;
- the size and growth potential of the markets for our product candidates, and our ability to serve those markets;
- our ability to successfully commercialize, and our expectations regarding future therapeutic and commercial potential with respect to, our product candidates;
- the rate and degree of market acceptance of our product candidates;
- our ability to develop sales and marketing capabilities, whether alone or with potential future collaborators;
- regulatory developments in the United States and foreign countries;
- our ability to attract and retain experienced and seasoned scientific and management professionals;
- our ability to identify and consummate arrangements with strategic partners or foreign governments to defray the costs of clinical trials for our product candidates;
- our ability to establish, maintain and scale-up manufacturing operations, including those of our contract manufacturers;
- the performance of our third-party suppliers and manufacturers;
- the success of competing therapies that are or may become available; and
- the accuracy of our estimates regarding future expenses, future revenues, capital requirements and need for additional financing.

Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause actual results or performance to differ materially from those projected. These statements are only current predictions and are subject to known and unknown risks, uncertainties, and other factors that may cause our or our industry's actual results, levels of activity, performance or achievements to be materially different from those anticipated by the forward-looking statements. In addition, historic results of scientific research, preclinical and clinical trials do not guarantee that future research or trials will suggest the same conclusions, nor that historic results referred to herein will be interpreted the same in light of additional research, preclinical and clinical trial results. The forward-looking statements contained in this quarterly report are subject to risks and uncertainties, including those discussed in our other filings with the United States Securities and Exchange Commission, or the SEC. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance, or achievements. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason, even if new information becomes available in the future.

PART I—FINANCIAL INFORMATION

Item 1. Financial Statements.

ARCTURUS THERAPEUTICS HOLDINGS INC. AND ITS SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEETS
(in thousands, except par value information)

	September 30, 2021 (unaudited)	December 31, 2020
Assets		
Current assets:		
Cash and cash equivalents	$ 413,880	$ 462,895
Accounts receivable	2,015	2,125
Prepaid expenses and other current assets	5,071	2,769
Total current assets	420,966	467,789
Property and equipment, net	4,843	3,378
Operating lease right-of-use asset, net	5,983	5,182
Equity-method investment	670	—
Non-current restricted cash	2,074	107
Total assets	$ 434,536	$ 476,456
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 8,265	$ 10,774
Accrued liabilities	52,358	20,639
Deferred revenue	57,616	18,108
Total current liabilities	118,239	49,521
Deferred revenue, net of current portion	8,497	12,512
Long-term debt, net of current portion	42,345	13,845
Operating lease liability, net of current portion	4,935	4,025
Other long-term liabilities	1,394	—
Total liabilities	$ 175,410	$ 79,903
Stockholders' equity		
Common stock: $0.001 par value; 60,000 shares authorized; 26,349 issued and outstanding at September 30, 2021 and 26,192 issued and outstanding at December 31, 2020	26	26
Additional paid-in capital	567,927	540,343
Accumulated deficit	(308,827)	(143,816)
Total stockholders' equity	259,126	396,553
Total liabilities and stockholders' equity	$ 434,536	$ 476,456

The accompanying notes are an integral part of these condensed consolidated financial statements.

ARCTURUS THERAPEUTICS HOLDINGS INC. AND ITS SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(unaudited)
(in thousands except per share data)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Revenue	$ 2,437	$ 2,333	$ 6,565	$ 7,301
Operating expenses:				
Research and development, net	45,398	17,699	141,127	33,560
General and administrative	10,860	5,572	30,645	14,183
Total operating expenses	56,258	23,271	171,772	47,743
Loss from operations	(53,821)	(20,938)	(165,207)	(40,442)
(Loss) gain from equity-method investment	(250)	—	670	(263)
Gain from foreign currency	506	—	923	—
Finance expense, net	(519)	(66)	(1,397)	(339)
Net loss	$ (54,084)	$ (21,004)	$ (165,011)	$ (41,044)
Net loss per share, basic and diluted	$ (2.05)	$ (0.92)	$ (6.27)	$ (2.19)
Weighted-average shares outstanding, basic and diluted	26,338	22,938	26,302	18,766
Comprehensive loss:				
Net loss	$ (54,084)	$ (21,004)	$ (165,011)	$ (41,044)
Comprehensive loss	$ (54,084)	$ (21,004)	$ (165,011)	$ (41,044)

The accompanying notes are an integral part of these condensed consolidated financial statements.

ARCTURUS THERAPEUTICS HOLDINGS INC. AND ITS SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(unaudited)
in thousands

Three Months Ended September 30, 2021

	Common Stock		Additional Paid-In	Accumulated	Total Stockholders'
	Shares	Amount	Capital	Deficit	Equity
BALANCE – June 30, 2021	**26,327**	**$ 26**	**$ 560,365**	**$ (254,743)**	**$ 305,648**
Net loss	—	—	—	(54,084)	(54,084)
Share-based compensation expense	—	—	6,870	—	6,870
Issuance of common stock upon exercise of stock options	9	—	177	—	177
Issuance of common stock under equity plans	13	—	515		515
BALANCE – September 30, 2021	**26,349**	**$ 26**	**$ 567,927**	**$ (308,827)**	**$ 259,126**

Three Months Ended September 30, 2020

	Common Stock		Additional Paid-In	Accumulated	Total Stockholders'
	Shares	Amount	Capital	Deficit	Equity
BALANCE – June 30, 2020	**20,610**	**$ 21**	**$ 185,110**	**$ (91,708)**	**$ 93,423**
Net loss	—	—	—	(21,004)	(21,004)
Issuance of common stock, net of issuance costs	3,754	4	186,574	—	186,578
Issuance of common stock upon exercise of stock options	109	—	645	—	645
Share-based compensation expense	—	—	1,988	—	1,988
BALANCE – September 30, 2020	**24,473**	**$ 25**	**$ 374,317**	**$ (112,712)**	**$ 261,630**

ARCTURUS THERAPEUTICS HOLDINGS INC. AND ITS SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(unaudited)
in thousands

Nine Months Ended September 30, 2021

	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Deficit	Total Stockholders' Equity
BALANCE – December 31, 2020	**26,192**	**$ 26**	**$ 540,343**	**$ (143,816)**	**$ 396,553**
Net loss	—	—	—	(165,011)	(165,011)
Issuance of common stock related to acquired in-process research and development	75	—	5,000	—	5,000
Share-based compensation expense	—	—	21,397	—	21,397
Issuance of common stock upon exercise of stock options	69	—	672	—	672
Issuance of common stock under equity plans	13	—	515	—	515
BALANCE – September 30, 2021	**26,349**	**$ 26**	**$ 567,927**	**$ (308,827)**	**$ 259,126**

Nine Months Ended September 30, 2020

	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Deficit	Total Stockholders' Equity
BALANCE – December 31, 2019	**15,138**	**$ 15**	**$ 97,445**	**$ (71,668)**	**$ 25,792**
Net loss	—	—	—	(41,044)	(41,044)
Issuance of common stock, net of issuance costs	8,489	9	261,874	—	261,883
Issuance of common stock to Ultragenyx on option exercise	600	1	9,599	—	9,600
Issuance of common stock upon exercise of stock options	246	—	1,461	—	1,461
Share-based compensation expense	—	—	3,938	—	3,938
BALANCE – September 30, 2020	**24,473**	**$ 25**	**$ 374,317**	**$ (112,712)**	**$ 261,630**

The accompanying notes are an integral part of these condensed consolidated financial statements.

ARCTURUS THERAPEUTICS HOLDINGS INC. AND ITS SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(unaudited)
in thousands

	Nine Months Ended September 30,	
	2021	**2020**
OPERATING ACTIVITIES:		
Net loss	$ (165,011)	$ (41,044)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	883	613
Share-based compensation expense	21,397	3,938
Acquired in-process research and development expense	5,000	—
(Gain) loss from equity-method investment	(670)	263
Foreign currency transaction gain	(923)	—
Other non-cash expenses	2,477	1,027
Changes in operating assets and liabilities		
Accounts receivable	110	(268)
Prepaid expense and other assets	(2,302)	(3,872)
Accounts payable	(2,569)	15
Accrued liabilities	13,569	7,335
Deferred revenue	35,493	(4,236)
Net cash used in operating activities	(92,546)	(36,229)
INVESTING ACTIVITIES:		
Acquisition of property and equipment	(2,288)	(1,045)
Net cash used in investing activities	(2,288)	(1,045)
FINANCING ACTIVITIES:		
Proceeds from debt	46,599	—
Proceeds from issuance of common stock, net of issuance costs	—	261,883
Proceeds from the issuance of common stock to Ultragenyx on option exercise	—	9,600
Proceeds from exercise of stock options	672	1,461
Proceeds from the issuance of common stock under equity plans	515	—
Net cash provided by financing activities	47,786	272,944
NET (DECREASE) INCREASE IN CASH, CASH EQUIVALENTS AND RESTRICTED CASH	(47,048)	235,670
Cash, cash equivalents and restricted cash at beginning of the period	463,002	71,460
Cash, cash equivalents and restricted cash at end of the period	$ 415,954	$ 307,130

	Nine Months Ended September 30,	
	2021	**2020**
Supplemental disclosure of cash flow information		
Cash paid for interest	$ 173	$ 173
Non-cash investing activities		
Right-of-use asset obtained in exchange for lease liabilities	$ 1,828	$ 674
Acquisition of in-process research and development through issuance of common stock	$ 5,000	$ —
Purchase of property and equipment in accounts payable	$ 60	$ 670

The accompanying notes are an integral part of these condensed consolidated financial statements.

Note 1. Description of Business, Basis of Presentation and Summary of Significant Accounting Policies

Description of Business

Arcturus Therapeutics Holdings Inc. (the "Company") is a global clinical-stage messenger RNA medicines company focused on development of infectious disease vaccines and significant opportunities within liver and respiratory rare diseases. The Company became a clinical stage company during 2020 when it announced that its Investigational New Drug ("IND") application for ornithine transcarbamylase ("OTC") deficiency was deemed allowed to proceed by the U.S. Food and Drug Administration ("FDA"), and its Clinical Trial Application ("CTA") candidate LUNAR-COV19 was approved to proceed by the Singapore Health Sciences Authority.

Basis of Presentation

The accompanying condensed consolidated financial statements include the accounts of Arcturus Therapeutics Holdings Inc. and its subsidiaries and are unaudited. All intercompany accounts and transactions have been eliminated in consolidation. These condensed consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles ("GAAP") for interim financial information. Accordingly, they do not include all of the information and footnotes required by GAAP for complete financial statements. In management's opinion, the accompanying condensed consolidated financial statements reflect all adjustments, consisting of normal recurring adjustments, considered necessary for a fair presentation of the results for the interim periods presented.

Interim financial results are not necessarily indicative of results anticipated for the full year. These condensed consolidated financial statements should be read in conjunction with the audited financial statements and footnotes included in the Company's Annual Report on Form 10-K for the year ended December 31, 2020.

These condensed consolidated financial statements are prepared in accordance with GAAP, which requires management to make estimates and assumptions regarding the valuation of debt instruments, the equity-method investment, share-based compensation expense, accruals for liabilities, income taxes, revenue and deferred revenue, leases, and other matters that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Although these estimates are based on management's knowledge of current events and actions the Company may undertake in the future, actual results may ultimately differ from these estimates and assumptions.

Joint Ventures, Equity Method Investments and Variable Interest Entities

Investments for which the Company exercises significant influence but does not have control are accounted for under the equity method. Equity method investment activity is related to a 49% joint venture with Axcelead, Inc. (see the following paragraph for further details) and a 12% ownership in Vallon Pharmaceuticals, Inc. (see "*Note 10*, *Related Party Transactions*" for further details). The Company's share of the investees results is presented as either income or loss from equity method investees in the accompanying condensed consolidated statements of operations.

In April 2021, Arcturus and Axcelead, Inc., a company existing under the laws of Japan ("Axcelead"), formed a joint venture entity, named Arcalis, Inc. ("JV Entity"), which operates as a corporation under the laws of Japan. Axcelead is an integrated drug discovery solutions provider to the pharmaceutical industry in Japan, having succeeded to a portion of the drug discovery research department of Takeda Pharmaceutical Company Limited on July 1, 2017. The goal of the JV Entity is to be a contract development and manufacturing organization focused on mRNA manufacturing that would provide manufacturing services to the Company and also to third parties. The joint venture includes a shareholders agreement setting forth initial funding of the JV Entity and rights of the shareholders, including certain approval rights of Arcturus. As part of the joint venture, the Company entered into a License and Technology Transfer Agreement with the JV Entity, pursuant to which Arcturus grants to JV Entity a nonexclusive license to certain intellectual property for use at the JV Entity's facilities, and obligates Arcturus to conduct certain technology transfer activities.

The Company consolidates variable interest entities ("VIEs") where it has been determined that the Company is the primary beneficiary of those entities' operations. Management believes that power is shared between Arcturus and Axcelead, as unrelated parties. The consent of each of the parties is substantive and is required to make the decisions about the JV Entity's significant activities. Management does not believe that Arcturus has the power to direct the activities of the JV Entity that most significantly impact the JV Entity's economic performance. Therefore, the Company concluded it is not required to consolidate the JV Entity under the VIE model.

The equity method of accounting is applicable for the JV Entity as the Company does not own more than 50% of voting power, but has influence over the operation and financial policies of the investee. The Company will account for its investment in the JV Entity using the equity method of accounting as specified in ASC 323, *Investments — Equity Method and Joint Ventures*. Under ASC 323, equity method investments are recorded initially at cost. The Company's initial investment in the JV Entity totaled $9.2 million. However, Arcalis paid the Company back the initial investment of $9.2 million as an upfront fee/consideration for the License and Technology Transfer Agreement. In substance, there was no cash consideration paid by the Company for its 49% equity interest in the JV Entity. After this initial measurement, an equity method investment is adjusted at each reporting period to recognize the investor's share of the earnings, losses and/or changes in capital of the investee after the date of acquisition. Losses are only recognized to the extent the value of the investment is greater than zero.

Liquidity

The Company has incurred significant operating losses since its inception. As of September 30, 2021 and December 31, 2020, the Company had an accumulated deficit of $308.8 million and $143.8 million, respectively.

The Company's activities since inception have consisted principally of research and development activities, general and administrative activities, and raising capital. The Company's activities are subject to significant risks and uncertainties, including failing to secure additional funding before the Company achieves sustainable revenues and profit from operations. From the Company's inception through September 30, 2021, the Company has funded its operations principally with the sale of capital stock, revenues earned through collaboration agreements, and proceeds from long-term debt. During the third quarter of 2021, the Company entered into an agreement with Vinbiotech Research and Manufacture Joint Stock Company ("Vinbiotech") in which the Company received a nonrefundable upfront payment of $40.0 million to allow Vinbiotech to establish a manufacturing facility in Vietnam for the manufacture of Arcturus' investigational COVID-19 vaccines, for sale and use within Vietnam. During the first quarter of 2021, the Company elected to borrow and the Economic Development Board of the Republic of Singapore (the "EDB") agreed to make a term loan of S$62.1 million (approximately USD$46.6 million) to support the manufacture of the LUNAR-COV19 vaccine candidate. Additionally, through underwritten public offerings during fiscal year 2020, the Company raised net proceeds of $423.8 million, after deducting underwriting discounts, commissions, and offering expenses.

Management believes that it has sufficient working capital on hand to fund operations through at least the next twelve months from the date these condensed consolidated financial statements were available to be issued. There can be no assurance that the Company will be successful in securing additional funding, that the Company's projections of its future working capital needs will prove accurate, or that any additional funding would be sufficient to continue operations in future years.

Segment Information

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision-maker in making decisions regarding resource allocation and assessing performance. The Company and its chief operating decision-maker view the Company's operations and manage its business in one operating segment, which is the research and development of medical applications for the Company's nucleic acid-focused technology.

Revenue Recognition

The Company determines revenue recognition for arrangements within the scope of Topic 606 by performing the following five steps: (i) identify the contract; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when, or as, the company satisfies a performance obligation.

The terms of the Company's revenue agreements include license fees, upfront payments, milestone payments, and reimbursement for research and development activities, option exercise fees, consulting and related technology transfer fees and royalties on sales of commercialized products. Arrangements that include upfront payments are recorded as deferred revenue upon receipt or when due and may require deferral of revenue recognition to a future period until the Company performs obligations under these arrangements. The event-based milestone payments represent variable consideration, and the Company uses the most likely amount method to estimate this variable consideration because the Company will either receive the milestone payment or will not, which makes the potential milestone payment a binary event. The most-likely-amount method requires the Company to determine the likelihood of earning the milestone payment. Given the high degree of uncertainty around achievement of these milestones, the Company determines the milestone amounts to be fully constrained and does not recognize revenue until the uncertainty associated with these payments is resolved. The Company will recognize revenue from sales-based royalty payments when or as the sales occur. The Company will re-evaluate the transaction price in each reporting period as uncertain events are resolved and other changes in circumstances occur.

A performance obligation is a promise in a contract to transfer a distinct good or service to the collaborative partner and is the unit of account in Topic 606. A contract's transaction price is allocated to each distinct performance obligation based on relative standalone selling price and recognized as revenue when, or as, the performance obligation is satisfied.

See *"Note 2, Collaboration Revenue"* for specific details surrounding the Company's collaboration arrangements.

Leases

See *"Note 9, Commitments and Contingencies"* for specific details surrounding the Company's leases.

Research and Development, Net

All research and development costs are expensed as incurred. Research and development costs consist primarily of salaries, employee benefits, costs associated with preclinical studies and clinical trials (including amounts paid to clinical research organizations and other professional services), in process research and development expenses and license agreement expenses, net of any grants and prelaunch inventory. Payments made prior to the receipt of goods or services to be used in research and development are capitalized until the goods or services are received.

The Company records accruals for estimated research and development costs, comprising payments for work performed by third party contractors, laboratories, participating clinical trial sites, and others. Some of these contractors bill monthly based on actual services performed, while others bill periodically based upon achieving certain contractual milestones. For the latter, the Company accrues the expenses as goods or services are used or rendered. Clinical trial site costs related to patient enrollment are accrued as patients enter and progress through the trial.

Pre-Launch Inventory

Prior to obtaining initial regulatory approval for an investigational product candidate, the Company expenses costs relating to production of inventory as research and development expense in its condensed consolidated statements of operations, in the period incurred. When the Company believes regulatory approval and subsequent commercialization of an investigational product candidate is probable, and the Company also expects future economic benefit from the sales of the investigational product candidate to be realized, it will then capitalize the costs of production as inventory.

Statement of Cash Flows

The following table provides a reconciliation of cash and cash equivalents and restricted cash reported within the condensed consolidated balance sheet to the total of the same such amounts shown in the condensed consolidated statement of cash flows:

(in thousands)	September 30, 2021	September 30, 2020
Cash and cash equivalents	$ 413,880	$ 307,023
Non-current restricted cash	2,074	107
Total cash, cash equivalents and restricted cash shown in the statement of cash flows	$ 415,954	$ 307,130

Net Loss per Share

Basic net loss per share is calculated by dividing the net loss by the weighted-average number of shares of common stock outstanding for the period, without consideration for common stock equivalents. Diluted net loss per share is calculated by dividing the net loss by the weighted-average number of shares of common stock and dilutive common stock equivalents outstanding for the period determined using the treasury-stock method. Dilutive shares of common stock are comprised of stock options.

No dividends were declared or paid during the reported periods.

Note 2. Revenue

The Company has entered into license agreements and collaborative research and development arrangements with pharmaceutical and biotechnology companies, as well as consulting, related technology transfer and product revenue agreements. Under these arrangements, the Company is entitled to receive license fees, consulting fees, product fees, technological transfer fees, upfront payments, milestone payments if and when certain research and development milestones or technology transfer milestones are achieved, royalties on approved product sales and reimbursement for research and development activities. The Company's costs of

performing these services are included within research and development expenses, and within cost of sales for expenses related to revenue that is earned as product sales that have regulatory approval or subsequent commercialization of an investigational product candidate is probable. The Company's milestone payments are typically defined by achievement of certain preclinical, clinical, and commercial success criteria. Preclinical milestones may include *in vivo* proof of concept in disease animal models, lead candidate identification, and completion of IND-enabling toxicology studies. Clinical milestones may, for example, include successful enrollment of the first patient in or completion of Phase 1, 2 and 3 clinical trials, and commercial milestones are often tiered based on net or aggregate sale amounts. The Company cannot guarantee the achievement of these milestones due to risks associated with preclinical and clinical activities required for development of nucleic acid medicine-based therapeutics and vaccines.

The following table presents changes during the nine months ended September 30, 2021 in the balances of contract assets, including receivables from collaborative partners, consulting and related technology transfer partners, and contract liabilities, including deferred revenue, as compared to what was disclosed in the Company's Annual Report.

(in thousands)	Contract Assets
BALANCE - December 31, 2020	$ 2,125
Additions for revenue recognized from billings	32,058
Deductions for cash collections	(32,168)
BALANCE – September 30, 2021	$ 2,015

(in thousands)	Contract Liabilities
BALANCE - December 31, 2020	$ 30,620
Additions for advanced billings	42,058
Deductions for promised services provided in current period	(6,565)
BALANCE – September 30, 2021	$ 66,113

The following table summarizes the Company's revenues for the periods indicated (in thousands).

	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
(Dollars in thousands)	2021	2020	2021	2020
Vinbiotech	$ 600	$ —	$ 600	$ —
Janssen	636	879	2,229	2,469
Ultragenyx	926	912	2,776	2,736
CureVac	241	241	713	782
Other	34	301	247	1,314
Total revenue	$ 2,437	$ 2,333	$ 6,565	$ 7,301

The following paragraphs provide information regarding the nature and purpose of the Company's most significant collaboration arrangements.

Vinbiotech

From June 11, 2021 through August 2, 2021, the Company entered into a series of agreements with Vinbiotech, a member of Vingroup Joint Stock Company (collectively the "Vinbiotech Agreement"), whereby the Company will provide technical expertise and support services to Vinbiotech to assist in the build out of a manufacturing facility in Vietnam. Such expertise shall include a specified level of access to the Company's personnel and drug substance necessary to validate the successful set up of the facility. Under the terms of the arrangements, the Company will also provide a specified number of doses of ARCT-154 for use by Vinbiotech in a phase 3 clinical study within Vietnam. The Company received an upfront payment in aggregate of $40 million and subsequent to achieving emergency use authorization, the Company will receive low single digit payments per dose for drug substance and related royalties.

In evaluating the Vinbiotech Agreement in accordance with Accounting Standards Codification ("ASC") Topic 606, the Company concluded that Vinbiotech is a customer. The Company identified all promised goods/services within the Vinbiotech Agreement, and when combining certain promised goods/services, the Company concluded that there are four distinct performance obligations. The four performance obligations include (i) consulting to support the build out of the manufacturing facility and technical transfer, (ii) shipment of 80 grams of drug substance to validate the manufacturing facility, (iii) the sale of 2,500 vials of drug product to support the phase 3 clinical trial and (iv) consulting to support the phase 3 clinical trial. For each performance obligation, the Company estimated the standalone selling price based on cost plus margin for drug substance and drug product as well

as estimated headcount and full-time equivalent ("FTE") rates for consulting services to support the phase 3 clinical trial, the build out of the manufacturing facility and the technology transfer.

As of September 30, 2021, the transaction price consists of upfront consideration received and budgeted reimbursable out-of-pocket costs to support the build out of the manufacturing facility and technology transfer. Using the estimated stand-alone selling price for each of the four performance obligations, the Company allocated the transaction price to the performance obligations in proportion to their standalone selling price, the relative standalone selling price basis. The Company recognizes revenue when the performance obligation is transferred, meaning when Vinbiotech obtains control of the promised good or service. The drug substance and drug product performance obligations are recognized at the point in time the goods are transferred. The consulting performance obligations are recognized over a period of time based on the percentage of services rendered, meaning actual costs incurred divided by total costs budgeted to satisfy the performance obligation. Any consideration related to sales-based royalties will be recognized when the drug product is manufactured as they are constrained.

Total deferred revenue as of September 30, 2021 for the Vinbiotech agreement was $39.4 million.

For Janssen Pharmaceuticals, Inc. ("Janssen"), Ultragenyx Pharmaceutical Inc. ("Ultragenyx") and CureVac AG ("CureVac"), the Company evaluated the respective agreement in accordance with Accounting Standards Codification ("ASC") Topic 606. The Company concluded that the contract counterparty is a customer. The Company identified all promised goods/services within each agreement, and concluded that the promised goods/services are incapable of being distinct and consequently do not have any value on a standalone basis. Accordingly, the promised goods/services within each agreement were determined to represent a single performance obligation. Lastly, the Company concluded that any options to select additional collaboration targets and to license rights to selected targets were not priced at a discount and therefore do not represent performance obligations for which the transaction price would be allocated.

Janssen

In October 2017, the Company entered into a research collaboration and license agreement with Janssen (the "2017 Agreement") to collaborate on developing candidates for treating HBV with RNA therapeutics. The 2017 Agreement allocated discovery, development, funding obligations, and ownership of related intellectual property among the Company and Janssen. The Company received an upfront payment of $7.7 million and may receive preclinical, development and sales milestone payments of up to $56.5 million, as well as royalty payments on any future licensed product sales. In October, the LUNAR-HBV program reached an incremental milestone based on demonstration of in vivo efficacy and safety for which Janssen will pay the Company $1.0 million. Janssen began reimbursing the Company for research costs during the first quarter of 2019 upon the completion of the first of three research periods. Janssen will pay royalties as a low to mid-single digit percentage of net sales of licensed products, subject to reduction on a country-by-country and licensed-product-by-licensed-product basis and subject to certain events, such as expiration of program patents. In addition, the 2017 Agreement includes an exclusivity period.

As of September 30, 2021, the remaining transaction price consisting of upfront consideration received and budgeted reimbursable out-of-pocket costs, is expected to be recognized using an input method over the remaining research period of 12 months. None of the development and commercialization milestones were included in the transaction price as they are outside the control of the Company and contingent upon success in future clinical trials and the collaborator's efforts. The development milestone achieved in October 2021 will be included in the transaction price during the fourth quarter of 2021. Any consideration related to sales-based royalties will be recognized when the related sales occur, provided that the reported sales are reliably measurable, and the Company has no remaining promised goods/services, as such sales were determined to relate predominantly to the license granted to Janssen and therefore have also been excluded from the transaction price.

Total deferred revenue as of September 30, 2021 and December 31, 2020 for Janssen was $5.7 million and $5.9 million, respectively.

Ultragenyx

In October 2015 the Company entered into a research collaboration and license agreement with Ultragenyx (the "Ultragenyx Agreement"), whereby Arcturus granted to Ultragenyx a co-exclusive license to certain Arcturus technology, which is in effect only during the reserve target exclusivity term as discussed in the following paragraphs. This collaboration agreement was amended in 2017, 2018 and during the second quarter of 2019. During the initial phase of the collaboration, the Company will design and optimize therapeutics for certain rare disease targets. Ultragenyx has the option under the Ultragenyx Agreement to add additional rare disease targets during the collaborative development period. Additionally, during the collaborative development period, the Company will participate with Ultragenyx in a joint steering committee. The Ultragenyx Agreement also includes an initial exclusivity period with an option to extend such period.

As part of the Ultragenyx Agreement and related amendments, Ultragenyx has paid $27.9 million in upfront fees, exclusivity extension fees and additional consideration. Ultragenyx also reimburses the Company for all internal and external development costs incurred. Pursuant to the Ultragenyx Agreement, Ultragenyx is required to make additional payments upon exercise of the Ultragenyx expansion option or exclusivity extension (if any) and if Ultragenyx achieves certain, clinical, regulatory and sales milestones, then the Company is eligible to receive royalty payments. For each development target for which Ultragenyx exercises its option, Ultragenyx will pay the Company a one-time option exercise fee that increases based upon the number of development targets selected by Ultragenyx and ranges from $0.5 million to $1.5 million. During the fourth quarter of 2020, Ultragenyx exercised its option to move forward with Preclinical Candidate Designation for its development target, Glycogen Storage Disease III, and paid an option fee to the Company of $0.5 million.

The current potential development, regulatory and commercial milestone payments for the existing development targets as of September 30, 2021 are $138.0 million. Ultragenyx will pay royalties as a single-digit percentage of net sales on a product-by-product and country-by-country basis during the applicable royalty term. As of September 30, 2021, Ultragenyx is working to identify and enroll patients in a Phase 1/2 study.

On June 18, 2019, Arcturus and Ultragenyx amended the collaboration agreement for a third time ("Amendment 3"). As part of Amendment 3, the total number of targets was increased from 10 to 12, and reserve targets will be exclusively reserved for Ultragenyx with no fees for four years after execution of the amendment. An equity component was also added as part of Amendment 3 wherein Ultragenyx purchased 2.4 million shares of common stock at a premium price. Along with the equity purchase, Ultragenyx received an option to purchase 0.6 million additional shares of common stock at $16.00 per share. In May 2020, the option was exercised.

The consideration received from Ultragenyx as a result of Amendment 3 was equal to $30.0 million and was comprised of a $24.0 million common stock purchase and a $6.0 million upfront payment. Specifically for Amendment 3, management determined the transaction price to be $14.4 million. See further discussion below regarding determining the transaction price. Management determined the fair value of the premium received by using the opening stock price subsequent to execution of Amendment 3 and applying a lack of marketability discount, as the shares received by Ultragenyx were initially restricted for up to two years. These restrictions have since expired.

As of September 30, 2021, the transaction price included the upfront consideration received, option payments, exclusivity extension payments and additional consideration received pursuant to Amendment 3. The Company recognizes the reimbursement of labor and expenses as costs are incurred and none of the development and commercialization milestones were included in the transaction price, as all milestone amounts were fully constrained. As part of its evaluation of the constraint, the Company considered numerous factors, including that the consideration is outside the control of the Company and contingent upon success in future clinical trials, approval from the FDA and the collaborator's efforts. Any consideration related to sales-based royalties will be recognized when the related sales occur as they are constrained, provided that the reported sales are reliably measurable and the Company has no remaining promised goods/services, as such sales were determined to relate predominantly to the license granted to Ultragenyx and therefore have also been excluded from the transaction price.

Amendment 3 was deemed a contract modification and accounted for as part of the original Ultragenyx Agreement. The transaction price is recognized to revenue on a straight-line basis using an input method over the 4-year reserve target exclusivity period. The reserve target exclusivity period represents the timing over which promised goods/services will be provided. Total deferred revenue at September 30, 2021 and December 31, 2020 from Ultragenyx was $6.5 million and $9.2 million, respectively.

CureVac

In January 2018, the Company entered into a Development and Option Agreement (the "Development and Option Agreement") with CureVac. Under the terms of the Development and Option Agreement, the parties agreed to conduct joint preclinical development programs once CureVac makes a payment to pull down a target on the basis of which CureVac is granted options for taking a license on pre-agreed license terms to develop and commercialize certain products incorporating the Company's patents and know-how related to LUNAR delivery technology (the "Arcturus Delivery Technology"), and CureVac patents and know-how related to mRNA technology.

Prior to expiration of the initial term of eight years (which was subsequently amended, as discussed below), the Development and Option Agreement also includes an option to extend the term on an annual basis for up to three years, subject to payment by CureVac to Arcturus of a non-refundable annual extension fee. The Development and Option Agreement includes potential milestone payments from CureVac to the Company for selected targets. The current potential milestone payments for the remaining targets as of September 30, 2021 are $14.0 million for rare disease targets and $23.0 million for non-rare disease targets. CureVac will pay royalties as a percentage of net sales on a product-by-product and country-by-country basis during the applicable royalty term in the low single-digit range. As of September 30, 2021, CureVac has not yet reached the clinical phase of the contract. Pursuant to a May 2018 amendment to the Development and Option Agreement (and as amended and restated on September 28, 2018), the Company increased the number of targets available to CureVac under the Development and Option Agreement and agreed upon the license forms to be executed upon selection of the targets by CureVac.

On July 26, 2019, the Company entered into an amendment ("CureVac Amendment") to its Development and Option Agreement with CureVac (as amended, the "Development and Option Agreement"), pursuant to which the Company and CureVac agreed to shorten the time period during which CureVac may select potential targets to be licensed from the Company from eight years to four years, and to reduce the overall number of maximum targets that may be reserved and licensed. In connection with the

July 2019 CureVac Amendment, the Company and CureVac also entered into a Termination Agreement (the "Termination Agreement") terminating the January 1, 2018 Co-Development Agreement between the Company and CureVac.

As of September 30, 2021, the transaction price included the upfront consideration received. The Company recognizes the reimbursement of labor and expenses as costs are incurred and none of the development and commercialization milestones were included in the transaction price, as all milestone amounts were fully constrained. As part of its evaluation of the constraint, the Company considered numerous factors, including that receipt of the milestones is outside the control of the Company and contingent upon success in future clinical trials and the collaborator's efforts. Any consideration related to sales-based royalties will be recognized when the related sales occur as they are constrained, provided that the reported sales are reliably measurable and the Company has no remaining promised goods/services, as such sales were determined to relate predominantly to the license granted to CureVac and therefore have also been excluded from the transaction price. As of September 30, 2021, no adjustments were made to the transaction price.

The upfront consideration of $5.0 million was recorded as deferred revenue in the Company's balance sheet upon receipt and is currently being recognized as revenue on a straight-line basis using an input method over the remaining 22 month contractual term as of September 30, 2021. Total deferred revenue as of September 30, 2021 and December 31, 2020 for CureVac was $1.6 million and $2.3 million, respectively.

Other Agreements

Other Revenue

The remaining revenue from smaller collaboration agreements and material transaction agreements primarily relates to the agreement with Millennium Pharmaceuticals, Inc., a wholly owned subsidiary of Takeda Pharmaceutical Company Limited ("Takeda"). Total deferred revenue as of September 30, 2021 and December 31, 2020 for Takeda was $0.2 million and $0.4 million, respectively. The current agreement was entered into on March 18, 2019 and is expected to be completed during fiscal year 2021.

Israeli Ministry of Health

On August 17, 2020, the Company entered into an agreement with the Israeli Ministry of Health ("MOH") to supply the Company's COVID-19 vaccine candidate to Israel (the "Israel Supply Agreement") subject to certain conditions, including applicable regulatory approvals. In October 2020, and in association with the Israel Supply Agreement, the Company received a non-refundable payment of $12.5 million from the MOH which is included in deferred revenue as of September 30, 2021. This payment of $12.5 million is associated with a specified clinical trial milestone and serves as an initial reserve payment for a specified number of doses of the LUNAR-COV19 vaccine candidate pursuant to the Israel Supply Agreement. As a result of the making of this payment, the MOH became bound to purchase an initial quantity of 500,000 reserved vaccine doses, as set forth in and subject to the terms and conditions of the Israel Supply Agreement. The payment is not refundable under any circumstance, including any termination of the Israel Supply Agreement. Furthermore, the Israel Supply Agreement may be terminated immediately by the MOH upon written notice to Arcturus if the Company has not obtained the required regulatory approvals by December 31, 2021.

Note 3. Fair Value Measurements

The Company establishes the fair value of its assets and liabilities using the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The Company establishes a fair value hierarchy based on the inputs used to measure fair value.

The three levels of the fair value hierarchy are as follows:

Level 1: Quoted prices in active markets for identical assets or liabilities.

Level 2: Inputs, other than the quoted prices in active markets, that are observable either directly or indirectly.

Level 3: Unobservable inputs in which little or no market data exists and are therefore determined using estimates and assumptions developed by the Company, which reflect those that a market participant would use.

The carrying value of cash, restricted cash, accounts receivable, accounts payable, and accrued liabilities approximate their respective fair values due to their relative short maturities. The carrying amounts of long-term debt for the amount drawn on the Company's debt facility approximates fair value as the interest rate is variable and reflects current market rates.

As of September 30, 2021 and December 31, 2020, all assets measured at fair value on a recurring basis consisted of cash equivalents and money market funds, which were classified within Level 1 of the fair value hierarchy. The fair value of these financial instruments was measured based on quoted prices.

Note 4. Balance Sheet Details

Property and equipment, net balances consisted of the following:

(in thousands)	September 30, 2021	December 31, 2020
Research equipment	$ 6,485	$ 5,539
Computers and software	284	284
Office equipment and furniture	574	574
Leasehold improvements	44	44
Construction in progress	1,402	-
Total	8,789	6,441
Less accumulated depreciation and amortization	(3,946)	(3,063)
Property and equipment, net	$ 4,843	$ 3,378

Depreciation and amortization expense was $0.3 million and $0.2 million for the three months ended September 30, 2021 and 2020, respectively, and $0.9 million and $0.6 million for the nine months ended September 30, 2021 and 2020, respectively.

Accrued liabilities consisted of the following:

(in thousands)	September 30, 2021	December 31, 2020
Accrued compensation	$ 6,376	$ 2,097
Cystic Fibrosis Foundation Liability (Note 9)	3,444	6,585
Singapore Economic Development Board liability	—	1,761
Current portion of operating lease liability	1,483	1,630
Current portion of long-term debt	18,482	1,250
Clinical accruals	8,910	4,067
Other accrued research and development expenses	13,663	3,249
Total	$ 52,358	$ 20,639

Note 5. Debt

Manufacturing Supply Agreement

On November 7, 2020, the Company's wholly-owned subsidiary, Arcturus Therapeutics, Inc., entered into a Manufacturing Support Agreement (the "Support Agreement") with the Economic Development Board of the Republic of Singapore (the "EDB"). Pursuant to the Support Agreement, the EDB agreed to make a term loan of S$62.1 million to the Company, subject to the satisfaction of customary deliveries, to support the manufacture of the LUNAR-COV19 vaccine candidate (the "Singapore Loan"). The EDB has agreed to an extension of the reconciliation period to March 31, 2022 with unused funds as of such date to be subsequently returned within thirty days, subject to any further agreed upon extension of the reconciliation date. The parties are in continued negotiations with respect to amendments of the Singapore Loan terms. Under current terms, (i) the Company will provide a quarterly reconciliation report within forty-five days of each financial quarter end, (ii) the Company will provide a projection of expenditures through March 31, 2022 followed by an audited statement of actual expenditures through March 31, 2022 by June 30, 2022, (iii) the Company will provide EDB with a right of first refusal on GMP manufacturing slots of the LUNAR-COV19 vaccine candidate up to an agreed-upon maximum amount, (iv) and the obligation to repay the Singapore Loan will be secured by an interest in the raw materials and manufacturing equipment purchased by the Company with the funds from the Singapore Loan in form and substance satisfactory to the EDB in its sole discretion. The Company elected to borrow the full amount available under the Support Agreement of S$62.1 million ($46.6 million) on January 29, 2021.

The Singapore Loan accrues interest at a rate of 4.5% per annum calculated on a daily basis. Subject to certain exceptions, the Singapore Loan is intended to be a limited recourse loan that will be repaid solely through a royalty payment of 10% of net sales proceeds of the LUNAR-COV19 vaccine candidate, up to the amount of the outstanding principal and interest under the Singapore Loan. However, all unpaid principal and interest under the Singapore Loan will be due and payable five years after draw date, if net sales of the LUNAR-COV19 vaccine exceed a certain minimum threshold during this five year period or the Company obtains clearance to sell the vaccine in specified jurisdictions. Unpaid principal and interest under the Singapore Loan will also become due and payable upon an event of default under the Support Agreement. The first vaccine sales, including the amount of net sales, shall be reported to EDB within 10 days of delivery and quarterly reports of aggregate vaccine sales, including net sales proceeds shall be provided within 30 days after quarter end.

The Singapore Loan is forgivable if the Company has not obtained regulatory approval by the final repayment date and net sales of the LUNAR-COV19 vaccine candidate are less than $100 million. If, any portion of the Singapore Loan is required to be forgiven pursuant to the terms of the Support Agreement, the EDB has the right to take ownership of certain raw materials and equipment that

were purchased by the Company with proceeds of the Singapore Loan (the "Specified Assets"). The Company entered into a security agreement (the "Security Agreement") for the benefit of the EDB to provide that repayment of the Singapore Loan and related obligations are secured by a lien on the Specified Assets.

In connection with the entry into the Support Agreement, the Company entered into a consent agreement with Western Alliance Bank (the "Bank") and an amendment to the Loan and Security Agreement, dated as of October 12, 2018, between Western Alliance Bank and the Company (the "Loan Agreement"), to exclude the Specified Assets from Western Alliance Bank's lien on certain assets of the Company.

The Singapore Loan was initially recorded as long-term debt at $46.6 million, the amount of cash proceeds at the time the Company received the funding. As of September 30, 2021, the debt balance was adjusted to reflect the current exchange rate resulting in a debt balance of $45.7 million and a net foreign currency transaction gain of $0.9 million for the nine months ended September 30, 2021. For the three and nine months ended September 30, 2021, the Company recorded interest expense and a corresponding liability of $0.5 million and $1.4 million, respectively. As of September 30, 2021, the Company was in compliance with all covenants under the Singapore Loan and related commitments.

Long-term debt with Western Alliance Bank

On October 12, 2018, Arcturus Therapeutics, Inc. entered into the Loan with the Bank, whereby it received $10.0 million.

The Loan is collateralized by all of the assets of Arcturus Therapeutics, Inc., excluding intellectual property, which is subject to a negative pledge. The Loan contains customary conditions of borrowing, events of default and covenants, including covenants that restrict Arcturus Therapeutics, Inc.'s ability to dispose of assets, merge with or acquire other entities, incur indebtedness and make distributions to holders of its capital stock. In addition, Arcturus Therapeutics, Inc. is required to maintain at least 100% of its consolidated, unrestricted cash, or $15.0 million, whichever is lower, with the Bank.

On October 30, 2019, Arcturus Therapeutics, Inc. and the Bank entered into a Third Amendment (the "Third Amendment") to the Loan Agreement and on December 31, 2020 Arcturus Therapeutics, Inc. and the Bank entered into a Fourth Amendment (the "Fourth Amendment") to the Loan Agreement (as amended, the "Loan Agreement").

Pursuant to the amendment, the Bank agreed to make a term loan to Arcturus Therapeutics, Inc. on October 30, 2019, in the amount of $15.0 million (the "Term Loan"). The resulting net increase in the indebtedness of Arcturus Therapeutics, Inc. was $5.0 million. The Term Loan bears interest at a floating rate ranging from 1.25% to 2.75% above the prime rate. The amendment further provides that the Term Loan has a maturity date of October 30, 2023. Arcturus Therapeutics, Inc. will make monthly payments of interest only until October 1, 2021. The Fourth Amendment was executed in connection with the Singapore Loan. In October of 2021, the Company and the Bank entered into a Fifth Amendment to Loan Agreement that provides for a six month extension to the interest only period which moves the first principal payment to May 1, 2022.

Arcturus Therapeutics, Inc. paid a loan origination fee of $54,000 which was recorded as a debt discount along with the remaining loan origination fee from the Loan and is being accreted over the term of the Term Loan. In addition, Arcturus Therapeutics, Inc. is required to pay a fee of $525,000 upon certain change of control events.

The Term Loan may be prepaid in full at any time, subject to a prepayment fee ranging from 0.50% to 2.00% of the prepaid principal amount depending upon the date of the prepayment.

Upon maturity or prepayment (as previously discussed), Arcturus Therapeutics, Inc. will be required to pay a 2% fee as a result of the FDA's approval to proceed with the Company's LUNAR-OTC program based on its IND submission. Such fee is accreted to the long-term debt balance using the effective interest method over the term of the Loan Agreement.

Should an event of default occur, including the occurrence of a material adverse effect, the Company could be liable for immediate repayment of all obligations under the Loan Agreement. As of September 30, 2021, the Company was in compliance with all covenants under the Loan Agreement.

Principal payments, including the final payment due at repayment, on the long-term debt are as follows as of September 30, 2021:

2021	$	—
2022		6,666,667
2023		8,633,333
Total	$	15,300,000

The Company recognized interest expense related to its long-term debt of $0.7 million and $0.2 million during the three months ended September 30, 2021 and 2020, respectively, and $2.0 million and $0.6 million during the nine months ended September 30, 2021 and 2020, respectively.

Note 6. Stockholders' Equity

Alexion Pharmaceuticals License Agreement

On February 17, 2021, the Company entered into an exclusive license agreement with Alexion Pharmaceuticals, Inc. ("Alexion") pursuant to which Alexion granted to the Company an exclusive, worldwide license to exploit certain specified Alexion patent applications. In accordance with the terms of the license agreement, and in exchange for the license, the Company issued 74,713 shares of its common stock to Alexion on February 19, 2021 valued at approximately $5.0 million. The number of shares issued under the agreement was calculated by dividing (i) five million dollars ($5.0 million) by (ii) the volume-weighted average price per share of the Company's common stock on the Nasdaq Global Market for the thirty (30) trading days immediately preceding the Effective Date (rounded to the nearest whole share). The Company recorded the transaction as an asset purchase as management concluded that all of the value received was related to a single identifiable asset. Further, the Company concluded that there was no alternative future use for the asset and recorded a charge at the closing of the transaction for the full $5.0 million value assigned to the shares issued in connection with the license agreement. This non-cash charge was recorded as acquired in-process research and development expense in the statements of operations and comprehensive loss.

Net Loss per Share

Dilutive securities that were not included in the calculation of diluted net loss per share for the three and nine months ended September 30, 2021 as they were anti-dilutive totaled 1,457,223 and 1,514,023, respectively, and 1,405,378 and 1,129,949 for the three and nine months ended September 30, 2020, respectively.

Note 7. Share-Based Compensation Expense

In June 2020, the stockholders of the Company approved an increase to the number of shares authorized for use in making awards under the 2019 Omnibus Equity Incentive Plan (the "2019 Plan") by 2,400,000 shares to 5,000,000. Accordingly, as of September 30, 2021, a total of 590,030 shares remain available for future issuance under the 2019 Plan, subject to the terms of the 2019 Plan.

Subsequent to September 30, 2021, the Company adopted the 2021 Inducement Equity Incentive Plan which covers the award of up to 1,000,000 shared of common stock (the "2021 Plan") effective as of October 15, 2021. Approval of the Company's stockholders will not be required as a condition to the effectiveness of the 2021 Plan for so long as the plan is in compliance with Nasdaq inducement plan rules. On October 20, 2021, the Company filed a Form S-8 with the United States Securities and Exchange Commission to register 1,000,000 awards.

Employee Stock Purchase Plan

In June 2020, the stockholders of the Company approved the 2020 Employee Stock Purchase Plan (the "2020 Plan") which provides for 600,000 shares of Company common stock reserved for future issuance. The first accumulation period under the 2020 Plan commenced on August 17, 2020 and ended on the purchase date, August 13, 2021. At which point 12,601 shares of common stock were purchased. The next accumulation period commenced on August 16, 2021.

Under the 2020 Plan, eligible employees may purchase shares of the Company's common stock at a discount annually, subject to a maximum of $25,000 per year. The discounted purchase price is equal to the lower of 85% of (i) the market value per share of the common stock on the first day of the accumulation period or (ii) the market value per share of common stock on the purchase date. Share-based compensation expense recognized under the 2020 Plan was $0.1 million and $0.3 million for the three and nine months ended September 30, 2021, respectively.

Stock Options

Share-based compensation expense included in the Company's condensed consolidated statements of operations and comprehensive loss for the three and nine months ended September 30, 2021 and 2020 was:

	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
(in thousands)	2021	2020	2021	2020
Research and development	$ 3,304	$ 798	$ 10,132	$ 1,460
General and administrative	3,566	1,190	11,265	2,478
Total	$ 6,870	$ 1,988	$ 21,397	$ 3,938

Note 8. Income Taxes

The Company is subject to taxation in the United States and various states. The Company computes its quarterly income tax provision by using a forecasted annual effective tax rate and adjusts for any discrete items arising during the quarter. The primary difference between the effective tax rate and the federal statutory tax rate relates to the valuation allowances on the Company's net operating losses.

For the three and nine months ended September 30, 2021 and 2020, the Company recorded no income tax expense. No tax benefit was provided for losses incurred in United States because those losses are offset by a full valuation allowance.

Note 9. Commitments and Contingencies

COVID-19 Vaccine Development

On March 4, 2020, the Company was awarded a grant ("Grant 1") from the Singapore EDB to support the co-development of a potential COVID-19 vaccine with the Duke-NUS Medical School. The Grant provides for up to S$14.0 million (approximately US$10.0 million using the exchange rate at the time the grant contract was entered into) in grants to support the development of the vaccine. The Grant has been paid in full by the EDB as a result of the achievement of certain milestones related to the progress of the development of the vaccine, as set forth in the award agreement. The funds received have been recognized as contra research and development expense. The parties are in continued negotiations with respect to amendments of Grant 1. Currently, the Company is liable for certain expenses during the program and is also subject to certain conditions including the requirement to pay an agreed upon royalty rate to Duke-NUS on future net sales of the LUNAR-COV19 vaccine candidate developed with Duke-NUS in markets or jurisdictions outside of Singapore. No contra research and development expense was recognized for the three months ended September 30, 2021 and $3.7 million was recognized for the three months ended September 30, 2020. For the nine months ended September 30, 2021 and 2020, the Company recognized $1.3 million and $7.9 million, respectively, of contra expense for Grant 1. At September 30, 2021, no amount remained in accrued expenses.

On October 2, 2020, the Company was awarded another grant ("Grant 2") from the Singapore EDB to support the clinical development of a potential COVID-19 vaccine (ARCT-021). The grant provides for up to S$9.3 million (approximately US$6.7 million) to support the clinical development of the vaccine candidate for costs incurred in Singapore subject to certain conditions. The grant is paid in two installments upon the achievement of certain milestones related to the progress of the development of the vaccine candidate. The Company received the first installment of $3.6 million in the fourth quarter of 2020. The funds received are recognized as contra research and development expense as costs are incurred. As of September 30, 2021, the Company recognized the remaining amount of the first installment as contra expense for Grant 2. The parties are in continued negotiations with respect to amendments of Grant 2 that could include initiation of a clinical trial for a next generation COVID-19 vaccine that has variant coverage.

Cystic Fibrosis Foundation Agreement

On August 1, 2019, the Company amended its Development Program Letter Agreement, dated May 16, 2017 and as amended July 13, 2018, with the Cystic Fibrosis Foundation ("CFF"). Pursuant to the amendment, (i) CFF increased the amount it will award to advance LUNAR-CF to $15.0 million from approximately $3.2 million, (ii) the Company will provide $5.0 million in matching funds for remaining budgeted costs and (iii) the related disbursement schedule from CFF to Arcturus was modified such that (a) $4.0 million was disbursed upon execution of the CFF Amendment, (b) $2.0 million will be disbursed within 30 days of the first day of each of January, April, July and October 2020 upon Arcturus invoicing CFF to meet project goals, and (c) the last payment of $3.0 million less the prior award previously paid out, equaling approximately $2.3 million, will be disbursed upon the Company invoicing CFF to meet good manufacturing practices and opening an Investigational New Drug ("IND") application. The funds received from CFF will be recognized as contra research and development expense in proportion to the percentage covered by CFF of the overall budget. For the three months ended September 30, 2021 and 2020, the Company recognized contra expense of $1.6 million and $0.7 million, respectively, and for the nine months ended September 30, 2021 and 2020, the Company recognized contra expense of $3.1 million and $3.7 million, respectively. As of September 30, 2021, $3.4 million remained in accrued expenses.

Leases

In October 2017, the Company entered into a non-cancellable operating lease agreement for office space adjacent to its previously occupied headquarters. The commencement of the lease began in March 2018 and the lease extends for approximately 84 months from the commencement date with a remaining lease term through March 2025. Monthly rental payments are due under the lease and there are escalating rent payments during the term of the lease. The Company is also responsible for its proportional share of operating expenses of the building and common areas. In conjunction with the new lease, the Company received free rent for four months and received a tenant improvement allowance of $74,000. The lease may be extended for one five-year period at the then current market rate with annual escalations; however, the Company deemed the extension option not reasonably certain to be exercised and therefore excluded the option from the lease terms. The Company entered into an irrevocable standby letter of credit with the landlord for a security deposit of $96,000 upon executing the lease which is included (along with additional funds required to secure the letter of credit) in the balance of non-current restricted cash.

In February 2020, the Company entered into a non-cancellable operating lease agreement for office space near its current headquarters. The lease extended for 13 months from the commencement date and included a right to extend the lease for one twelve-month period. In February 2021, the Company opted to extend the lease through March 2025 to coincide with the lease term of the Company's headquarters.

In February 2021, the Company entered into a third non-cancellable operating lease agreement for office space near its current headquarters. The lease extends for 12 months from the commencement date with monthly base rent of approximately $11,000. During the third quarter of 2021, the Company opted to extend the lease for an additional 12 months.

In September 2021, the Company entered into a non-cancellable lease agreement for office, research and development, engineering and laboratory space near its current headquarters. The initial term of the lease will extend ten years and eight months from the date of possession, and the Company will have the right to extend the term of the lease for an additional five-year period. The lease has a monthly base rent ranging from $268,000 to $360,000 which escalates over the lease term. The Company will gain access to the space in the first quarter of 2022.

Operating lease right-of-use asset and liability on the condensed consolidated balance sheets represent the present value of remaining lease payments over the remaining lease terms. The Company does not allocate lease payments to non-lease components; therefore, payments for common-area-maintenance and administrative services are not included in the operating lease right-of-use asset and liability. The Company uses its incremental borrowing rate to calculate the present value of the lease payments, as the implicit rate in the lease is not readily determinable.

As of September 30, 2021, the remaining payments of the operating lease liability were as follows:

(in thousands)	Remaining Lease Payments
2021	$ 512
2022	1,987
2023	2,185
2024	2,250
Thereafter	521
Total remaining lease payments	7,455
Less: imputed interest	(1,037)
Total operating lease liabilities	$ 6,418
Weighted-average remaining lease term	3.5 years
Weighted-average discount rate	8.4%

Operating lease costs consist of the fixed lease payments included in operating lease liability and are recorded on a straight-line basis over the lease terms. Operating lease costs were $0.5 million and $0.5 million for the three months ended September 30, 2021 and 2020, respectively, and $1.4 million and $1.3 million for the nine months ended September 30, 2021 and 2020, respectively.

Note 10. Related Party Transactions

Ultragenyx

On June 17, 2019, Arcturus and Ultragenyx executed Amendment 3 to the Ultragenyx Agreement. Pursuant to the amended Ultragenyx Agreement, the Company also granted Ultragenyx a two-year option to purchase up to 600,000 additional shares of common stock at a price of $16.00 per share. Ultragenyx exercised the option in May 2020 and sold an additional 800,000 shares of common stock in August 2021. As a result, Ultragenyx owns 5.3% of the outstanding common stock of the Company as of September 30, 2021. For the three months ended September 30, 2021 and 2020, the Company recognized revenue of $0.9 million related to the Ultragenyx Agreement. For the nine months ended September 30, 2021 and 2020, the Company recognized revenue of $2.8 million and $2.7 million, respectively. As of September 30, 2021, the Company holds an accounts receivable balance of a negligible amount related to the Ultragenyx Agreement.

Equity-Method Investment

In June 2018, the Company completed the sale of its intangible asset related to the ADAIR technology. Pursuant to the asset purchase agreement for ADAIR, the Company received a 30% ownership interest in the common stock of Vallon Pharmaceuticals, Inc. ("Vallon") in consideration for the sale of the ADAIR technology. The Company has no requirement to invest further in Vallon. Vallon completed an initial public offering and began trading on The Nasdaq Stock Market under the ticker "VLON" in February 2021. Immediately after this offering, Arcturus owned 843,750 shares of Vallon, or approximately 12%. Based on the Company's ownership and the Vallon board of directors seat held by an executive of Arcturus, the Company has the ability to exercise significant influence over the operating and financial policies of Vallon; therefore, the Company accounts for this investment as an equity-method investment. The Company accounts for its share of the earnings or losses of the investee with a reporting lag of three months, as the financial statements of the investee are not completed on a basis that is sufficient for the Company to apply the equity method on a current basis. The offering was at a share price of $8.00, greater than the initial investment which resulted in the Company recording a gain in its equity-method investment. Using a three month lag, the gain has been offset by losses incurred by Vallon through June 30, 2021.

See "*Note 2, Joint Ventures, Equity Method Investments and Variable Interest Entities*" for specific details surrounding the Company's agreement with Axcelead to form the joint venture entity, Arcalis, Inc.

Note 11. Subsequent Events

In October of 2021, the Company entered into a Fifth Amendment to the Loan Agreement with Western Alliance Bank to finalize the negotiation for a six month extension to the interest only period which moves the first principal payment to May 1, 2022.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The following is a discussion of the financial condition and results of operations of Arcturus Therapeutics Holdings Inc. for the three and nine-month periods ended September 30, 2021. Unless otherwise specified herein, references to the "Company," "Arcturus," "we," "our" and "us" mean Arcturus Therapeutics Holdings Inc. and its consolidated subsidiaries. You should read the following discussion and analysis together with the interim condensed consolidated financial statements and related notes included elsewhere herein. For additional information relating to our management's discussion and analysis of financial conditions and results of operations, please see our Annual Report on Form 10-K for the year ended December 31, 2020 (the "2020 Annual Report"), which was filed with the U.S. Securities and Exchange Commission (the "Commission") on March 1, 2021. Unless otherwise defined herein, capitalized words and expressions used herein shall have the same meanings ascribed to them in the 2020 Annual Report.

This report includes forward-looking statements which, although based on assumptions that we consider reasonable, are subject to risks and uncertainties which could cause actual events or conditions to differ materially from those currently anticipated and expressed or implied by such forward-looking statements.

You should read this report and the documents that we reference in this report and have filed as exhibits to this report completely and with the understanding that our actual future results may be materially different from what we expect. You should also review the factors and risks we describe in the reports we will file or submit from time to time with the Commission after the date of this report.

Overview

Arcturus is a global clinical-stage messenger RNA medicines company focused on the development of infectious disease vaccines and significant opportunities within liver and respiratory rare diseases. In addition to our mRNA platform, our proprietary lipid nanoparticle delivery system, LUNAR, has the potential to enable multiple nucleic acid medicines, and our proprietary STARR technology has the potential to provide longer-lasting RNA and sustained protein expression, resulting in a six to twenty times lower dose than is needed for other mRNA vaccines. Our platform may provide a lower overall manufacturing cost compared to our competitors.

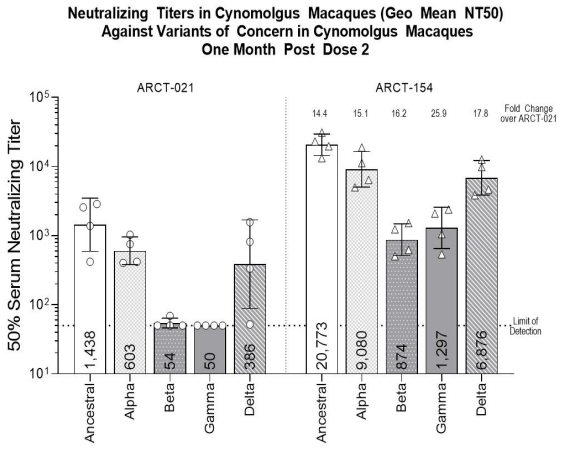
Our key proprietary technology has the potential to address the major hurdles in RNA development, namely the effective and safe delivery of RNA therapeutics to disease-relevant target tissues. We believe that the versatility of our platform to target multiple tissues, its compatibility with various nucleic acid therapeutics, and our expertise in developing scalable manufacturing processes put us in a good position to deliver on the next generation of nucleic medicines.

In January 2021, we announced completion of the Phase 1 clinical study of our lead LUNAR-COV19 vaccine candidate ("ARCT-021"). The study was conducted with CTI Clinical Trial and Consulting Services, a global CRO, and in collaboration with Duke-NUS Medical School in Singapore. In January 2021, we commenced a Phase 2 clinical study of ARCT-021 in the United States and Singapore. In March 2021, we completed enrollment of the Phase 2 study, with 579 subjects randomized and dosed. We have completed three interim analyses of the Phase 2 safety data, which have been reviewed by the Data and Safety Monitoring Board and support continuation of the Phase 2 trial without amendment. The data demonstrate immunogenicity and an acceptable safety profile after both one and two doses. These favorable safety and single-dose immunogenicity data of ARCT-021 support the rationale to initiate a Phase 3 efficacy study. ARCT-021 has been selected by a global entity for inclusion in a multinational Phase 3 vaccine trial against COVID-19. The placebo-controlled study plans to enroll tens of thousands of participants and may evaluate a 5-µg dose of ARCT-021 administered as a single injection regimen. The Phase 3 study, upon commencement, will be sponsored and funded by the entity. However, the entity may determine at any time not to proceed with ARCT-021, or to delay or halt, the Phase 3 clinical trial.

In August 2021, our strategic partner, Vinbiotech Research and Manufacture Joint Stock Company ("Vinbiotech") received approval for a Clinical Trial Application (CTA) from the Vietnam Ministry of Health to advance ARCT-154, a next generation self-replicating LUNAR-COV19 vaccine candidate targeting the SARS-CoV-2 delta variant and other variants of concern, into a Phase 1/2/3 clinical study. The trial is a randomized, observer-blind, placebo and active-controlled design with a target enrollment of approximately 19,000 adults, and is being funded by Vinbiotech, a subsidiary of Vingroup Joint Stock Company, the largest private industry conglomerate in Vietnam. The study is to assess the safety, immunogenicity and efficacy of the SARS-CoV-2 self-amplifying mRNA vaccine. Preclinical data demonstrate strong neutralizing immunogenicity in non-human primates to SARS-CoV-2 Alpha, Beta, Gamma, and Delta variants. ARCT-154 elicits 14.4 to 25.9-fold higher neutralizing antibody titers than ARCT-021 in non-human primates, including an observed increase of 17.8-fold higher neutralizing antibody titers against the Delta variant. In October 2021, the Vietnam Ministry of Health approved initiation of the Phase 3b part (randomized, placebo-controlled trial) of the Phase 1/2/3 clinical trial of ARCT-154. In November, the Phase 3b part of the study was modified to approximately 16,120 participants (from 20,000 participants) with a Phase 3c sub-study of approximately 2,000 participants added to evaluate immunogenicity non-inferiority against AstraZeneca COVID-19 vaccine. The Phase 1/2/3a/3b parts of the study have achieved full enrollment and we expect the Phase 3c part of the study to achieve full enrollment imminently. The total study enrollment is expected to reach over 19,000 participants with approximately half of the participants receiving ARCT-154 under a two-dose regimen with injections 28 days apart, while the other half will receive placebo or, in the sub-study, the active comparator vaccine. The Phase 1 part of the trial has

completed the priming vaccination series with two administrations in 100 participants (75 in ARCT-154 arm). The Phase 2, Phase 3a, and Phase 3b parts of the trial are ongoing with 300 (225 in ARCT-154 arm), 600 (450 in ARCT-154 arm), and approximately 16,000 (8,000 in ARCT-154) participants, respectively. Depending on the outcome of the study, we expect to file an Emergency Use Authorization (EUA) application for ARCT-154 in Vietnam in December 2021.

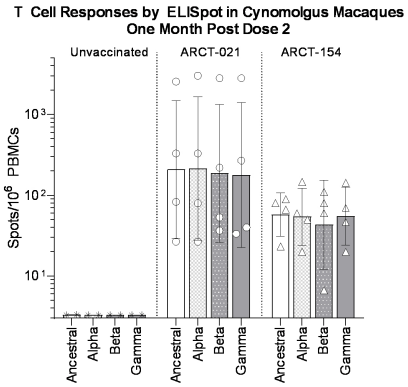
ARCT-154 utilizes an optimized STARR™ mRNA with multiple improvements, including modifications for stability and translation, increased immunogenicity of the spike protein antigen via amino acid substitution, expressing the spike protein in a pre-fusion state, and inactivating the furin cleavage site.



Neutralizing Titers (Geo Mean NT50) Against Variants of Concern in Cynomolgus Macaques One Month Post Dose 2					
STARR™ Vaccine	**Ancestral**	**Alpha**	**Beta**	**Gamma**	**Delta**
ARCT-021 (7.5 mcg x 2)	1,438	603	54	50	386
ARCT-154 (7.5 mcg x 2)	20,773	9,080	874	1,297	6,876
Fold Improvement	**14.4**	**15.1**	**16.2**	**25.9**	**17.8**

Non-Human Primate (NHP) data collected one month after second dose of 7.5 mcg; analysis of NHP serum was performed using non-replicating vesicular stomatitis virus pseudo-typed with the spike protein of the SARS-CoV-2 variants of concern indicated. Titers were determined by calculating the dilution that resulted in 50% inhibition of cells expressing GFP encoded by the pseudovirus, a surrogate of virus infection. No assurances can be given that non-human primate data will be replicated in human subjects, that ARTC-154 will prove to be effective or if effective, will receive regulatory approval in any jurisdiction or be manufactured and commercialized effectively.

T-cell responses for ARCT-021 and ARCT-154 are robust and similar in non-human primates. Notably, STARR™ mRNA vaccines elicit T-cell responses consistent against all variants of concern tested. The robust T-cell responses are attributed to the self-amplifying mRNA mechanism of antigen expression.



T-cell responses from non-human primates assessed one month after second dose of 7.5 mcg; SARS-CoV-2 spike specific T-cell responses were analyzed by ELISpot assay using overlapping 15-mer peptides spanning the entire spike antigen from the ancestral SARS-CoV-2 strains or the Alpha, Beta, and Gamma variants of concern. Spot Forming Units (SFU) were determined after background subtraction of unstimulated controls.

On August 3, 2021, we announced the approval for a Clinical Trial Application (CTA) from the Singapore Health Sciences Authority (HSA) to enable the advancement of ARCT-154 and ARCT-165 into a Phase ½ clinical trial to evaluate the vaccines both as a primary vaccination series and as a booster following initial vaccination with Comirnaty®. The Comirnaty booster cohorts (with ARCT-021, ARCT-154, ARCT-165) in this study are now fully enrolled.

In November 2020, we completed our Phase 1 dose escalation study in healthy subjects, at doses up to 0.4 mg/kg for ARCT-810, a novel mRNA-based therapeutic candidate for Ornithine Transcarbamylase ("OTC") Deficiency. On July 28, 2021, we announced that we received approval from the UK Health Research Authority to initiate a Phase 2 clinical study for ARCT-810. The ARCT-810 Phase 2 study is a randomized, double-blind, placebo-controlled, nested single and multiple ascending dose study designed to enroll 12 adolescents and adults with OTC deficiency.

We anticipate filing a Clinical Trial Application (CTA) for ARCT-032, our mRNA therapeutic candidate for cystic fibrosis, in the first half of 2022.

We anticipate filing a CTA for LUNAR-FLU, our mRNA vaccine candidate targeting influenza, in the second half of 2022.

Our activities since inception have consisted principally of performing research and development activities, conducting clinical trials, manufacturing drug substance and drug product, general and administrative activities and raising capital to fund those efforts. Our activities are subject to significant risks and uncertainties, including failing to secure additional funding before we achieve sustainable revenues and profit from operations. As of September 30, 2021, we had cash of $413.9 million and an accumulated deficit of $308.8 million.

Results of Operations

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our condensed consolidated financial statements and related notes appearing elsewhere in this Report and our audited financial statements and related notes for the year ended December 31, 2020. Our historical results of operations and the year-to-year comparisons of our results of operations that follow are not necessarily indicative of future results.

Revenue

We enter into arrangements with pharmaceutical and biotechnology partners and government agencies that may contain upfront payments, license fees for research and development arrangements, research and development funding, milestone payments, option exercise and exclusivity fees, royalties on future sales, consulting fees and payments for technology transfers. The following table summarizes our total revenues for the periods indicated (in thousands):

	Three Months Ended September 30,		2020 to 2021	
(Dollars in thousands)	2021	2020	$ change	% change
Revenue	$ 2,437	$ 2,333	$ 104	4.5%

	Nine Months Ended September 30,		2020 to 2021	
(Dollars in thousands)	2021	2020	$ change	% change
Revenue	$ 6,565	$ 7,301	$ (736)	-10.1%

Revenue increased by $0.1 million during the three months ended September 30, 2021 as compared to the three months ended September 30, 2020. The increase in revenue primarily relates to $0.6 million revenue from the new agreement with Vinbiotech. The increase was offset by an overall decrease in revenue of $0.5 million from our existing collaboration partners.

Revenue decreased by $0.7 million during the nine months ended September 30, 2021 as compared to the nine months ended September 30, 2020. The decrease in revenue primarily relates to (i) a decrease in collaboration revenue from Janssen of $0.2 million due to fewer hours incurred during the first nine months of 2021 as compared to 2020 (ii) a decrease in collaboration revenue from Takeda of $0.5 million due to a slowdown in the program (iii) a decrease in sublicense revenue of approximately $0.3 million that was received during the first nine months of 2020 that did not reoccur in 2021 and (iv) a $0.3 million decrease in revenue from material transfer agreements as we have shifted more resources into the COVID-19 vaccine program. The decrease in revenue was partly offset by $0.6 million of revenue from the new agreements with Vinbiotech.

Our operating expenses consist of research and development and general and administrative expenses.

	Three Months Ended September 30,		2020 to 2021		Nine Months Ended September 30,		2020 to 2021	
(Dollars in thousands)	2021	2020	$ change	% change	2021	2020	$ change	% change
Operating expenses:								
Research and development, net	$ 45,398	$ 17,699	$ 27,699	*	$ 141,127	$ 33,560	$ 107,567	*
General and administrative	10,860	5,572	5,288	*	30,645	14,183	16,462	*
Total	$ 56,258	$ 23,271	$ 32,987	*	$ 171,772	$ 47,743	$ 124,029	*

* *Greater than 100%*

The following table presents our total research and development expenses by category:

	Three Months Ended September 30,		2020 to 2021		Nine Months Ended September 30,		2020 to 2021	
(Dollars in thousands)	2021	2020	$ change	% change	2021	2020	$ change	% change
External pipeline development expenses:								
LUNAR-COVID, net	$ 29,392	$ 6,247	$ 23,145	*	$ 85,790	$ 8,806	$ 76,984	*
LUNAR-CF, net	644	837	(193)	-23.1%	2,883	2,141	742	34.7%
LUNAR-OTC	1,478	5,444	(3,966)	-72.9%	6,631	10,318	(3,687)	-35.7%
Discovery technologies	3,708	816	2,892	*	17,259	1,051	16,208	*
External platform development expenses:								
Partnered discovery technologies	83	470	(387)	*	718	1,250	(532)	*
Total development expenses	$ 35,305	$ 13,814	$ 21,491	*	$ 113,281	$ 23,566	$ 89,715	*
Personnel related expenses	$ 8,719	$ 3,025	$ 5,694	*	$ 24,191	$ 7,402	$ 16,789	*
Facilities and equipment expenses	1,374	860	514	59.8%	3,655	2,592	1,063	41.0%
Total research and development expenses, net	$ 45,398	$ 17,699	$ 27,699	*	$ 141,127	$ 33,560	$ 107,567	*

* *Greater than 100%*

Research and Development Expenses, net

Our research and development expenses consist primarily of external manufacturing costs, in-vivo research studies performed by contract research organizations, clinical and regulatory consultants, personnel related expenses and laboratory supplies related to conducting research and development activities. Costs to acquire and manufacture pre-launch inventory, mRNA supply for preclinical studies and clinical trials are recognized and included in external pipeline development expenses for the specific program.

LUNAR-COVID expenses increased by $23.1 million and $77.0 million during the three and nine months ended September 30, 2021, respectively, as compared to 2020. The increase is due to the fact that the LUNAR-COV19 program did not commence until late in the first quarter of 2020 and is now in clinical trials. Expenses related to pre-launch inventory represent $17.3 million and $43.6 million of the increase for the three and nine months ended September 30, 2021, respectively, with no expense incurred during the 2020 periods. We expect that the program costs and pre-launch inventory costs will continue to increase as clinical trials progress and we advance program development.

LUNAR-CF expenses were relatively consistent during the three months ended September 30, 2021 when compared to the three months ended September 30, 2020, decreasing by $0.2 million. LUNAR-CF expenses increased by $0.7 million during the nine months ended September 30, 2021 when compared to the nine months ended September 30, 2020. Expenses incurred were partially offset with funds awarded by the CFF. The increase in LUNAR-CF expenses was due primarily to increased research and development cost incurred in association with the amendment to the CFF Agreement executed in July 2019, and we expect that our development efforts and associated costs will increase over the next several years as the LUNAR-CF program moves toward expected CTA submission in the first half of 2022.

LUNAR-OTC expenses decreased by $4.0 million and $3.7 million during the three and nine months ended September 30, 2021, respectively, as compared to 2020. The decrease is related to slower than expected recruiting for the ARCT-810 clinical trial caused in part by the ongoing Covid environment.

Discovery technologies represents our efforts to expand our product pipeline and are expected to continually increase in the near future. Partnered discovery technologies increased by $2.9 million and $16.2 million during the three and nine months ended September 30, 2021, respectively, as compared to 2020. The increase is primarily due to the addition of several new development programs during 2020. Further, in the first quarter of 2021 we acquired an exclusive license from Alexion Pharmaceuticals to certain intellectual property for approximately $5.0 million of our common stock, which we expensed in 2021.

Within our platform development expenses, our partnered discovery expenses with our current partners are expected to fluctuate based on the needs of our collaboration partners. Platform development expenses decreased by $0.4 million and $0.5 million during the three and nine months ended September 30, 2021 primarily due to the completion and termination of a collaboration agreement with a former collaborator.

Personnel related expenses, net of funds received from CFF and the Singapore EDB, increased by $5.7 million and $16.8 million during the three and nine months ended September 30, 2021, respectively, as compared to 2020. The increases were associated with increased headcount costs necessary to advance our external pipeline, platform and clinical trial efforts as well as increased share-based compensation expense.

Facilities and equipment expenses increased by $0.5 million and $1.1 million during the three and nine months ended September 30, 2021, respectively, as compared to 2020. The increases resulted primarily from higher rent and related costs associated with an additional lease that we entered into in February 2020.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries and related benefits for our executive, administrative and accounting functions and professional service fees for legal and accounting services as well as other general and administrative expenses.

General and administrative expenses increased by $5.3 million and $16.5 million during the three and nine months ended September 30, 2021, respectively, as compared to 2020. The increases resulted primarily from personnel expense due to increased headcount and increased share-based compensation expense.

Finance (expense) income, net

(Dollars in thousands)	Three Months Ended September 30, 2021	2020	2020 to 2021 $ change	2020 to 2021 % change	Nine Months Ended September 30, 2021	2020	$ change	% change
Interest income	$ 192	$ 124	$ 68	54.8%	$ 569	$ 301	$ 268	89.0%
Interest expense	(711)	(190)	(521)	*	(1,966)	(640)	(1,326)	*
Total	$ (519)	$ (66)	$ (453)	*	$ (1,397)	$ (339)	$ (1,058)	*

* *Greater than 100%*

Interest income is generated on cash and cash equivalents. The increase in interest income for the three and nine months ended September 30, 2021 as compared to the prior year period was a result of increased cash and cash equivalents balances. Interest expense was incurred in conjunction with our Loan and Security Agreement with Western Alliance Bank and the Singapore Loan. The increase in interest expense for the three and nine months ended September 30, 2021 as compared to the prior year period was primarily a result of additional accrued interest expense related to the Singapore Loan that was funded in January 2021.

Other income and expense

Other income and expense items relate to gains and losses from foreign currency transactions and from equity-method investments. During the three months ended September 30, 2021 we recorded a loss of $0.2 million in connection with our equity-method investment in Vallon Pharmaceuticals, Inc., of which we hold approximately 12%. However, during the first nine months of 2021 we recorded a total net gain of $0.7 million due to the gain recorded as a result of the Vallon Pharmaceuticals, Inc. initial public offering.

Off-balance sheet arrangements

Through September 30, 2021, we have not entered into and did not have any relationships with unconsolidated entities or financial collaborations, such as entities often referred to as structured finance or special purpose entities, established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

Liquidity and Capital Resources

From the Company's inception through the quarter ended September 30, 2021, the Company has funded its operations principally with the proceeds from the sale of capital stock, long-term debt and revenues earned through collaboration agreements. At September 30, 2021, we had $413.9 million in unrestricted cash and cash equivalents.

Loan and Security Agreement

On October 12, 2018, we entered into a Loan and Security Agreement with Western Alliance Bank whereby we received gross proceeds of $10.0 million under a long-term debt agreement (the "Loan Agreement").

On October 30, 2019, we and the Bank entered into a Third Amendment (the "Third Amendment") to the Loan Agreement and on December 31, 2020 Arcturus Therapeutics, Inc. and the Bank entered into a Fourth Amendment (the "Fourth Amendment") to the Loan Agreement (as amended, the "Loan Agreement"). The Fourth Amendment was executed in connection with the Singapore Loan.

Pursuant to the Third Amendment, the Bank agreed to make a term loan to us on October 30, 2019, in the amount of $15.0 million (the "Term Loan"). The resulting net increase in the indebtedness of us was $5.0 million. The Term Loan bears interest at a floating rate ranging from 1.25% to 2.75% above the prime rate. The amendment further provides that the Term Loan has a maturity date of October 30, 2023. We shall make monthly payments of interest only until the interest-only end date of October 1, 2021. However, in October of 2021, we entered into a Fifth Amendment to Loan Agreement which provided for a six month extension to the interest only period which moves the first principal payment to May 1, 2022.

Grants from the Economic Development Board of the Republic of Singapore

On March 4, 2020, we were awarded a grant ("Grant 1") from the Economic Development Board of the Republic of Singapore (the "EDB") to support the co-development of a potential COVID-19 vaccine program with the Duke-NUS Medical School. The Grant provides for up to S$14.0 million (approximately US$10.0 million using the exchange rate at the time the grant contract was entered into) in grants to support the development of the vaccine. The Grant has been paid in full by the EDB as a result of the achievement of certain milestones related to the progress of the development of the vaccine, as set forth in the award agreement. The funds received have been recognized as contra research and development expense. The parties are in continued negotiations with respect to amendments of Grant 1. Currently, are liable for certain expenses during the program and is also subject to certain

conditions including the requirement to pay an agreed upon royalty rate to Duke-NUS on future net sales of the LUNAR-COV19 vaccine candidate developed with Duke-NUS in markets or jurisdictions outside of Singapore.

On October 2, 2020, we were awarded another grant ("Grant 2") from the Singapore EDB to support the clinical development of a potential COVID-19 vaccine (ARCT-021). The grant provides for up to S$9.3 million (approximately US$6.7 million) to support the clinical development of the vaccine candidate for costs incurred in Singapore subject to certain conditions. The grant is paid in two installments upon the achievement of certain milestones related to the progress of the development of the vaccine candidate. We received the first installment of $3.6 million in the fourth quarter of 2020. The funds received are recognized as contra research and development expense as costs are incurred. As of September 30, 2021, we recognized the remaining amount of the first installment as contra expense for Grant 2. The parties are in continued negotiations with respect to amendments of Grant 2 that could include initiation of a clinical trial for a variant COVID-19 vaccine.

Manufacturing Support Agreement

On November 7, 2020, we entered into a Manufacturing Support Agreement (the "Support Agreement") with the EDB. Pursuant to the Support Agreement, the EDB agreed to make a term loan of S$62.1 million, subject to the satisfaction of customary deliveries, to support the manufacture of the LUNAR-COV19 vaccine candidate (the "Singapore Loan"). The EDB has agreed to an extension of the reconciliation period to March 31, 2022 with unused funds as of such date to be subsequently returned within thirty days, subject to any further agreed upon extension of the reconciliation date. The parties are in continued negotiations with respect to amendments of the Singapore Loan terms. Under current terms, (i) we are to provide a quarterly reconciliation report within forty-five days of each financial quarter end, (ii) we will provide a projection of expenditures through March 31, 2022 followed by an audited statement of actual expenditures through March 31, 2022 by June 30, 2022, (iii) we are to provide EDB with a right of first refusal on GMP manufacturing slots of the LUNAR-COV19 vaccine candidate up to an agreed-upon maximum amount, (iv) and the obligation to repay the Singapore Loan will be secured by an interest in the raw materials and manufacturing equipment purchased by us with the funds from the Singapore Loan in form and substance satisfactory to the EDB in its sole discretion. We elected to borrow the full amount available under the Support Agreement of S$62.1 million ($46.6 million) on January 29, 2021.

The Singapore Loan accrues interest at a rate of 4.5% per anum calculated on a daily basis. Subject to certain exceptions, the Singapore Loan is intended to be a limited recourse loan that will be repaid solely through a royalty payment of 10% of net sales proceeds of the LUNAR-COV19 vaccine candidate, up to the amount of the outstanding principal and interest under the Singapore Loan. However, all unpaid principal and interest under the Singapore Loan will be due and payable five years after draw date, if net sales of the LUNAR-COV19 vaccine exceed a certain minimum threshold during this five year period or we obtain clearance to sell the vaccine in specified jurisdictions. Unpaid principal and interest under the Singapore Loan will also become due and payable upon an event of default under the Support Agreement. The first vaccine sales, including the amount of net sales, shall be reported to EDB within 10 days of delivery and quarterly reports of aggregate vaccine sales, including net sales proceeds shall be provided within 30 days after quarter end.

The Singapore Loan is forgivable if we have not obtained regulatory approval by the final repayment date and net sales of LUNAR-COV19 are less than $100 million. If, any portion of the Singapore Loan is required to be forgiven pursuant to the terms of the Support Agreement, the EDB has the right to take ownership of certain raw materials and equipment that were purchased by us with proceeds of the Singapore Loan (the "Specified Assets"). We entered into a security agreement (the "Security Agreement") for the benefit of the EDB to provide that repayment of the Singapore Loan and related obligations are secured by a lien on the Specified Assets.

In connection with the entry into the Support Agreement, we entered into a consent agreement with Western Alliance Bank (the "Bank") and an amendment to the Loan and Security Agreement, dated as of October 12, 2018, to exclude the Specified Assets from Western Alliance Bank's lien on certain assets.

Vinbiotech Agreement

On August 2, 2021, we announced an agreement with Vinbiotech, a member of Vingroup Joint Stock Company, to establish a manufacturing facility in Vietnam for the manufacture of our investigational COVID-19 vaccine program, for sale and use within Vietnam.

Under the terms of the arrangement, Vinbiotech is building out a manufacturing facility in Vietnam, and we have provided to Vinbiotech access to proprietary technologies and processes for the manufacture of our investigational COVID-19 vaccine program. We also provided Vinbiotech with an exclusive license to manufacture the vaccines in Vietnam at the facility solely for distribution in Vietnam. The license and technology transfer applies toward drug product manufacturing but not toward mRNA drug substance manufacturing. Vinbiotech made an upfront payment of $40 million and is responsible for costs associated with the technology transfer. Vinbiotech will also pay for mRNA drug substance supplied by us and royalties on vaccines produced at the manufacturing facility.

General Financial Resources

A significant portion of our current unrestricted cash and cash equivalents balance of $413.9 million is expected to be utilized during fiscal year 2021 and into 2022 to fund (i) clinical and manufacturing costs related to ARCT-154 global activities (ii) the continued Phase 1 trial and anticipated Phase 2 trial of ARCT-810, our LUNAR-OTC candidate, (iii) advancing our new LUNAR-FLU program toward submission of an IND, (iv) and other programs and administrative costs.

If we are unable to maintain sufficient financial resources, our business, financial condition and results of operations will be materially and adversely affected. There can be no assurance that we will be able to obtain additional needed financing on acceptable terms or at all. Additionally, equity or debt financings may have a dilutive effect on the holdings of our existing shareholders. Our future capital requirements are difficult to forecast and will depend on many factors.

We expect to continue to incur additional losses for the foreseeable future, and we will need to raise additional debt or equity financing or enter into additional partnerships to fund development. The ability of our Company to transition to profitability is dependent on identifying and developing successful mRNA drug candidates. If we are not able to achieve planned milestones, incur costs in excess of our forecasts, or do not meet covenant requirements of our debt, we will need to reduce discretionary spending, discontinue the development of some or all of our products, which will delay part of our development programs, all of which will have a material adverse effect on our ability to achieve our intended business objectives.

Overview

The following table shows a summary of our cash flows for the nine months ended September 30, 2021 and 2020 (in thousands):

	Nine Months Ended September 30,	
(Dollars in thousands)	**2021**	**2020**
Cash provided by (used in):		
Operating activities	$ (92,546)	$ (36,229)
Investing activities	(2,288)	(1,045)
Financing activities	47,786	272,944
Net (decrease) increase in cash, cash equivalents and restricted cash	$ (47,048)	$ 235,670

Operating Activities

Our primary use of cash is to fund operating expenses, which consist mainly of research and development, clinical studies, manufacturing drug substance and drug product and general and administrative expenditures. We have incurred significant expenses which have been partially offset by cash collected through our collaboration agreements. Cash collections under the collaboration agreements can vary from year to year depending on the terms of the agreement and work performed. These changes in cash flows primarily relate to the timing of cash receipts for upfront payments, reimbursable expenses and achievement of milestones under these collaborative agreements.

Net cash used in operating activities was $92.5 million on a net loss of $165.0 million for the nine months ended September 30, 2021, compared to net cash used of $36.2 million on a net loss of $41.0 million for the nine months ended September 30, 2020. Adjustments for non-cash charges were $28.2 million and $5.8 million for the nine months ended September 30, 2021 and 2020, respectively. Changes in working capital resulted in adjustments to operating net cash inflows of $44.3 million and outflows of $1.0 million for the nine months ended September 30, 2021 and 2020, respectively. Changes in working capital for the nine months ended September 30, 2021 were primarily driven by increases in deferred revenue and accrued liabilities due to the new agreement with Vinbiotech, partly offset by decreases in accounts payable, prepaid expenses and accounts receivable. Changes in working capital for the nine months ended September 30, 2020 were primarily driven by decreases in deferred revenue, prepaid expenses and accounts receivable and was partly offset by an increase to accrued liabilities and accounts payable.

Investing Activities

Net cash used in investing activities of $2.3 million and $0.1 million for the nine months ended September 30, 2021 and 2020, respectively, reflects cash used to purchase property and equipment.

Financing Activities

Net cash provided by financing activities of $47.8 million for the nine months ended September 30, 2021 consisted of net proceeds from the Singapore Loan of $46.6 million, proceeds from the exercise of stock options of $0.7 million and proceeds from the issuance of common stock related to our employee stock purchase plan of $0.5 million. Net cash provided by financing activities for

the nine months ended September 30, 2020 reflects proceeds of $9.6 million from the issuance of common stock to Ultragenyx, proceeds from the issuance of common stock of $261.9 million, and proceeds from the exercise of stock options of $1.5 million.

Funding Requirements

We anticipate that we will continue to generate net losses for the foreseeable future, and we expect the losses to increase as we continue the development of, and seek regulatory approvals for, our product candidates, and begin commercialization of our products. As a result, we will require additional capital to fund our operations in order to support our long-term plans. The Company intends to seek additional capital through equity or debt financings, collaborative or other funding arrangements with partners or through other sources of financing. Should we seek additional financing from outside sources, we may not be able to raise such financing on terms acceptable to us or at all. If we are unable to raise additional capital when required or on acceptable terms, we may be required to scale back or discontinue the advancement of product candidates, reduce headcount or merge with another entity.

Our future funding requirements are difficult to forecast and will depend on many factors, including the following:

- the demonstration of safety and efficacy of our product candidates, particularly ARCT-154 and ARCT-021, in ongoing clinical trials;
- the achievement of milestones under our strategic alliance agreements;
- the terms and timing of any other strategic alliance, licensing and other arrangements that we may establish;
- the initiation, progress, timing and completion of preclinical studies and clinical trials for our product candidates;
- the number and characteristics of product candidates that we pursue;
- the outcome, timing and cost of regulatory approvals;
- delays that may be caused by changing regulatory requirements;
- the cost and timing of hiring new employees to support our continued growth;
- the costs involved in filing and prosecuting patent applications and enforcing and defending patent claims;
- the costs and timing of procuring clinical and commercial supplies of our product candidates;
- the costs and timing of establishing sales, marketing and distribution capabilities;
- the costs associated with legal proceedings;
- the extent to which we acquire or invest in businesses, products or technologies; and
- the identification and consummation of funding arrangements with third parties, including foreign governments and United States government agencies.

Critical Accounting Policies and Estimates

We prepare our condensed consolidated financial statements in conformity with GAAP. As such, we make certain estimates, judgements and assumptions that we believe are reasonable, based upon information available to us. These judgements involve making estimates about the effect of matters that are inherently uncertain and may significantly impact our reported results of operations and financial condition. We describe our significant accounting policies more fully in Note 2 to our consolidated financial statements for the year ended December 31, 2020.

There have been no material changes to our critical accounting policies and estimates from the information provided in Item 7, Management’s Discussion and Analysis of Financial Condition and Results of Operations, included in our Annual Report on Form 10-K for the year ended December 31, 2020.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Our primary exposure to market risk is interest income and expense sensitivity and foreign currency exchange rates. Interest income and expense sensitivity is affected by changes in the general level of interest rates in the United States. Foreign exchange market risks relate to the grants and loan from the Singapore Economic Development Board which is discussed in this Quarterly Report in "Notes to Condensed Consolidated Financial Statements, Note 1. Description of Business." When deemed appropriate, we may manage our exposure to foreign exchange market risks through the use of derivative financial instruments. We may utilize such derivative financial instruments for hedging or risk management purposes. Due to the nature of our cash and cash equivalents and our evaluation of the potential impact of foreign currency exchange rates, we believe that we are not currently subject to any material market risk exposure.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

As required by Rule 13a-15(b) and Rule 15d-15(b) of the Exchange Act, our management, including our principal executive officer, our principal financial officer and our principal accounting officer, conducted an evaluation as of the end of the period covered by this Quarterly Report on Form 10-Q of the effectiveness of the design and operation of our disclosure controls and procedures. Based on that evaluation, management has concluded that as of September 30, 2021, the Company's disclosure controls and procedures were effective at the reasonable assurance level, and we believe the condensed consolidated financial statements included in this Form 10-Q for the quarterly period ended September 30, 2021 fairly present, in all material respects, our financial position, results of operations, comprehensive loss, statements of stockholders' equity and cash flows for the periods presented in conformity with U.S. generally accepted accounting principles.

Changes in Internal Control over Financial Reporting

As required by Rule 13a-15(d) and Rule 15d-15(d) of the Exchange Act, our management, including our principal executive officer, our principal financial officer and our principal accounting officer, conducted an evaluation of the internal control over financial reporting to determine whether any other changes occurred during the period covered by this Quarterly Report on Form 10-Q that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. Based on that evaluation, our principal executive officer, principal financial officer and principal accounting officer concluded that there were no changes in our internal controls over financial reporting during the period covered by this Quarterly Report on Form 10-Q that materially affected, or were reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings.

From time to time, we may be involved in various legal proceedings and subject to claims that arise in the ordinary course of business. Although the results of litigation and claims are inherently unpredictable and uncertain, we are not currently a party to any legal proceedings

Item 1A. Risk Factors.

Our business is subject to various risks, including those described in Item 1A of our Annual Report on Form 10-K for the fiscal year ended December 31, 2020, which we strongly encourage you to review. Other than as set forth below, there have been no material changes to the risk factors described in our Annual Report on Form 10-K for the year ended December 31, 2020 filed with the SEC on March 1, 2021.

The recent coronavirus outbreak has caused interruptions or delays of our business plan and may have a significant adverse effect on our business.

In December 2019, a strain of coronavirus, COVID-19, was reported to have surfaced in Wuhan, China, and on March 12, 2020, the World Health Organization declared COVID-19 to be a pandemic. In an effort to contain and mitigate the spread of COVID-19, many countries, including the United States, Canada and China, have imposed unprecedented restrictions on travel, quarantines, vaccine mandates and other public health safety measures. The extent to which the pandemic may impact our business will depend on future developments, which are highly uncertain and cannot be predicted, but the development of clinical supply materials have been and will continue to be delayed and enrollment of patients in our study for ARCT-810 (LUNAR-OTC) and ARCT-021 (LUNAR-COV19 Vaccine) may be delayed or suspended, as hospitals and clinics in areas where we are conducting trials shift resources to cope with the COVID-19 pandemic and may limit access or close clinical facilities due to the COVID-19 pandemic. Additionally, if our trial participants are unable to travel to our clinical study sites as a result of quarantines or other restrictions resulting from the COVID-19 pandemic, we may experience higher drop-out rates or delays in our clinical studies.

Government-imposed quarantines, restrictions and vaccine mandates may also require us to temporarily suspend or terminate activity at our clinical sites. On November 4, 2021, the Occupational Safety and Health Administration ("OSHA") issued an emergency temporary standard whereby employers with more than 100 employees, such as us, must begin allowing employees to take time off to get vaccinated, and require unvaccinated employees to wear masks, starting on December 5, 2021. Thereafter, we must ensure all our employees are either fully vaccinated or subject to weekly testing and mask wearing starting on January 4, 2022. In addition, President Biden issued an executive order requiring all on-site and remote federal employees, contractors and sub-contractors to be vaccinated against COVID-19 or receive an approved medical or religious exemption by December 8, 2021, which could apply to us if we receive funding from the U.S. government for any of our research and clinical trials. Failure to comply with the executive order and OSHA's standard could lead to a loss of funding and substantial monetary fines, which could have a material adverse effect on our business, revenues, financial condition and results of operations. Furthermore, if we determine that our trial participants may suffer from exposure to COVID-19 as a result of their participation in our clinical trials, we may voluntarily terminate certain clinical sites as a safety measure until we reasonably believe that the likelihood of exposure has subsided. As a result, our expected development timelines for our product candidates may be negatively impacted. We cannot predict the ultimate continued impact of the COVID-19 pandemic as consequences of such an event are highly uncertain and subject to change. We do not yet know the full extent of potential delays or impacts on our business, our clinical studies or as a whole; however, the COVID-19 outbreak may materially disrupt or delay our business operations, further divert the attention and efforts of the medical community to coping with COVID-19, disrupt the marketplace in which we operate, and/or have a material adverse effect on our operations.

Notwithstanding the ongoing rollout of vaccines, it will still take a substantial amount of time to produce, distribute and administer the vaccines worldwide and, as a result, to achieve broad protection of the global population. It is also still unclear if the vaccines will enable adequate protection, as (i) some vaccinated individuals may still become ill or transmit the virus, (ii) there are individuals who may refuse to be vaccinated or who cannot be vaccinated due to pre-existing conditions, (iii) it is unclear how long the vaccine protection will last, and (iv) genetic mutations of the virus may have an impact on the efficacy of available vaccines.

Moreover, the various precautionary measures taken by many governmental authorities around the world in order to limit the spread of the coronavirus has had and may continue to have an adverse effect on the global markets and global economy generally, including on the availability and pricing of employees, resources, materials, manufacturing and delivery efforts and other aspects of the global economy. There have been business closures and a substantial reduction in economic activity in countries that have had significant outbreaks of COVID-19. Significant uncertainty remains as to the potential impact of the COVID-19 pandemic on the global economy as a whole. It is currently not possible to predict how long the pandemic will last or the time that it will take for economic activity to return to prior levels. The COVID-19 pandemic could materially disrupt our business and operations, interrupt our sources of supply, hamper our ability to raise additional funds or sell our securities, or continue to slow down the overall economy.

ARCT-021 has been selected by a global entity for inclusion in a Phase 3 trial against COVID-19. The global entity could determine not to proceed with ARCT-021, or to halt or delay the trial. If the Phase 3 clinical trial is not initiated or experiences significant delays in doing so, we may be unable to fund or timely initiate a Phase 3 clinical trial on ARCT-021. If any clinical trial does not generate successful results, we may be unable to market and sell ARCT-021 or any other COVID-19 vaccine.

We have commenced a Phase 2 trial of ARCT-021 and the candidate has been selected by a global entity for inclusion in a Phase 3 clinical trial. However, the entity may determine not to proceed with ARCT-021, or to delay or halt, the Phase 3 clinical trial. If the Phase 3 clinical trial is not initiated or experiences significant delays, we may be unable to fund or to timely initiate a Phase 3 clinical trial of ARCT-021. If we were to determine to initiate an additional or separate Phase 3 clinical trial, we would need to identify additional funding sources to conduct and complete any Phase 3 trial commenced. The data received to date, although providing sufficient information to allow us to proceed further is not complete enough to provide conclusive evidence with respect to safety and potential efficacy of ARCT-021.

Clinical trial results are inherently uncertain, and a significant portion of our success and business prospects depend on the progress of this program. Our failure to demonstrate safety or obtain positive clinical trial results, inability to meet the expected timeline for release of data for this trial, or failure to successfully develop a single-dose vaccine could have an adverse effect on our business operations and financial condition. Furthermore, we will not have a detailed understanding of the efficacy of ARCT-021 until infection of a sufficient number of subjects in a Phase 3 trial, enrollment for which may be delayed or prevented by rollout of competing vaccines for COVID-19, competing clinical trials and the refusal of certain countries' regulatory authorities to allow placebo-controlled trials for COVID-19 vaccine candidates. We cannot be certain if we will receive approval to proceed with a Phase 3 study, when we will begin enrollment, or the nature of the protocols that may eventually be approved. If the data is not positive or is inconclusive, we may not be able to continue our studies or identify additional funding to continue the studies. No assurance can be given that the results of the trials will produce adequate results to allow us to commence or continue expected trials or that adequate efficacy will be demonstrated such that ARCT-021 will be a viable commercial product.

Our strategic partner, Vinbiotech, has received approval to conduct a Phase 1/2/3 clinical trial for ARCT-154, our next generation COVID-19 vaccine candidate, in Vietnam. If the Phase 1/2/3 clinical trial is halted or experiences significant delays, we may be unable to fund or timely initiate another pivotal clinical trial on ARCT-154 or any other COVID-19 vaccine candidate. If the planned clinical trial does not generate successful results, or the results are not accepted by government authorities outside of Vietnam, then we may be unable to, or be significantly limited in our ability to, market and sell ARCT-154 or any other COVID-19 vaccine.

Our strategic partner may determine to delay or halt the clinical trial. If our strategic partner halts or delays the clinical trial, we may be unable to fund or to timely initiate another pivotal clinical trial of ARCT-154 or any other COVID-19 vaccine programs. If we were to determine to initiate an additional or separate Phase 3 clinical trial, we would need to identify additional funding sources to conduct and complete any Phase 3 trial commenced. If we were to determine to initiate additional or separate clinical trials, we would need to identify additional funding sources to conduct and complete any trial commenced. If the clinical trial does not generate successful results, or if the results are not accepted by government authorities outside of Vietnam, then we may be unable to, or be significantly limited in our ability to, market and sell ARCT-154 or any other COVID-19 vaccine.

If government bodies in the United States or elsewhere implement a waiver on patents on COVID-19 vaccines, there could be a significant adverse effect on our business.

On May 5, 2021, the Biden Administration announced that it supports a waiver for patents on vaccines protecting against the coronavirus. Any action by governments of the United States or other countries, or by global governmental authorities, that limit the ability of companies to enforce their patents or other technology could limit the value of the Company's intellectual property and revenue potential for the Company's product candidates.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

None.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

None.

Item 6. Exhibits.

Exhibit Index

Exhibit Number	Description
1.1	Underwriting Agreement, dated December 7, 2020, by and among Arcturus Therapeutics Holdings Inc., Piper Sandler & Co., Guggenheim Securities, LLC and Wells Fargo Securities, LLC. Incorporated by reference to Exhibit 1.1 to Current Report on Form 8-K filed on December 8, 2020 (File No. 001-38942).
3.1	Certificate of Incorporation. Incorporated by reference to Annex B to the proxy statement/prospectus which forms part of the Registration Statement on Form S-4 filed on March 18, 2019 (File No. 333-230353).
3.2	Certificate of Amendment, dated November 25, 2020. Incorporated by reference to Exhibit 3.1 to Form 8-K filed on November 25, 2020 (File No. 001-38942).
3.3	Bylaws of Arcturus Therapeutics Holdings Inc. Incorporated by reference to Exhibit 3.2 to the Company's Registration Statement on Form S-3, filed with the SEC on May 8, 2020 (File No. 333-238139).
4.1	Description of Registrant's Securities. Incorporated by reference to Exhibit 4.1 to the Company's Annual Report on Form 10-K for the year ended December 31, 2020 filed on March 1, 2020 (File No. 001-38942).
10.1†	Form of Indemnification Agreement. Incorporated by reference to Exhibit 10.1 to the Company's Annual Report on Form 10-K for the year ended December 31, 2019 filed on March 16, 2020 (File No. 001-38942).
10.2†	Amended and Restated 2019 Omnibus Equity Incentive Plan. Incorporated by reference Exhibit 4.3 to the Registration Statement on Form S-8 filed on August 5, 2019 (File No. 333-240397).
10.3†	Arcturus Therapeutics Ltd. Amended and Restated Compensation Policy for Company Office Holders. Incorporated by reference to Exhibit 99.2 to the Company's Report of Foreign Private Issuer on Form 6-K filed on July 27, 2018 (File No. 001-35932).
10.4**	Loan and Security Agreement, dated October 12, 2018, by and between Western Alliance Bank and Arcturus Therapeutics, Inc. Incorporated by reference to Exhibit 10.1 to the Company's Report of Foreign Private Issuer on Form 6-K filed on October 15, 2018 (File No. 001-35932).
10.5**	Amended and Restated Amendment to Development and Option Agreement, dated as of September 28, 2018, by and between CureVac AG and Arcturus Therapeutics Inc. Incorporated by reference to Exhibit 99.2 to the Company's Report of Foreign Private Issuer on Form 6-K filed on October 1, 2018 (File No. 001-35932).
10.6**	Research Collaboration and License Agreement, by and between Arcturus Therapeutics, Inc. and Janssen Pharmaceuticals, Inc., dated October 18, 2017. Incorporated by reference to Exhibit 4.7 to Form 20-F filed on May 14, 2018 (File No. 001-35932).
10.7**	Research and Exclusive License Agreement, by and between Arcturus Therapeutics, Inc. and Synthetic Genomics, Inc., effective October 24, 2017. Incorporated by reference to Exhibit 4.8 to Form 20-F filed on May 14, 2018 (File No. 001-35932).
10.8**	Research Agreement, by and between Arcturus Therapeutics, Inc. and Millennium Pharmaceuticals, Inc., a wholly-owned subsidiary of Takeda Pharmaceutical Company Limited, effective December 6, 2016, as amended December 21, 2017. Incorporated by reference to Exhibit 4.9 to Form 20-F filed on May 14, 2018 (File No. 001-35932).
10.9**	Research Collaboration and License Agreement, by and between Arcturus Therapeutics, Inc. and Ultragenyx Pharmaceutical Inc., entered into as of October 26, 2015, as amended October 17, 2017 and April 20, 2018. Incorporated by reference to Exhibit 4.10 to Form 20-F filed on May 14, 2018 (File No. 001-35932).
10.10**	Third Amendment to Research Collaboration and License Agreement, by and between Arcturus Therapeutics, Inc. and Ultragenyx Pharmaceutical Inc., effective June 18, 2019. Incorporated by reference to Exhibit 10.2 to Form 8-K filed on June 20, 2019 (File No. 001- 38942).
10.11**	Letter Agreement, by and between Arcturus Therapeutics, Inc. and the Cystic Fibrosis Foundation, dated May 16, 2017. Incorporated by reference to Exhibit 4.11 to Form 20-F filed on May 14, 2018 (File No. 001-35932).
10.12**	Amendment No. 2 to Letter Agreement, by and between Arcturus Therapeutics, Inc. and the Cystic Fibrosis Foundation, dated August 1, 2019. Incorporated by reference to Exhibit 10.16 to Form 10-Q filed on August 14, 2019.

10.13**	Development and Option Agreement, by and between Arcturus Therapeutics, Inc. and CureVac AG, dated January 1, 2018, as amended May 3, 2018. Incorporated by reference to Exhibit 4.12 to Form 20-F filed on May 14, 2018 (File No. 001-35932).
10.14**	Third Amendment to Development and Option Agreement, by and between Arcturus Therapeutics, Inc. and CureVac AG, dated July 26, 2019. Incorporated by reference to Exhibit 10.20 to Form 10-Q filed on August 14, 2019 (File No. 001-38942).
10.15**	Co-Development and Co-Commercialization Agreement, by and between Arcturus Therapeutics, Inc. and CureVac AG, dated January 1, 2018. Incorporated by reference to Exhibit 4.13 to Form 20-F filed on May 14, 2018 (File No. 001-35932).
10.16	Termination Agreement, by and between Arcturus Therapeutics, Inc. and CureVac AG, dated July 26, 2019. Incorporated by reference to Exhibit 10.21 to Form 10-Q filed on August 14, 2019 (File No. 001-38942).
10.17**	License Agreement, by and between Arcturus Therapeutics, Inc., as successor-in-interest to Marina Biotech, Inc., and Protiva Biotherapeutics Inc., dated as of November 28, 2012. Incorporated by reference to Exhibit 4.14 to Form 20-F/A filed on July 10, 2018 (File No. 001-35932).
10.18**	Patent Assignment and License Agreement, by and between Arcturus Therapeutics, Inc. and Marina Biotech, Inc., dated as of August 9, 2013. Incorporated by reference to Exhibit 4.15 to Form 20-F filed on May 14, 2018 (File No. 001-35932).
10.19	Share Exchange Agreement, dated as of February 11, 2019, by and between Arcturus Therapeutics Ltd. and Arcturus Therapeutics Holdings Inc. Incorporated by reference to Exhibit 10.13 to the Company's Annual Report on Form 10-K for the year ended December 31, 2018 filed on March 18, 2019 (File No. 001-35932).
10.20**	Amended and Restated Joint Venture, Research Collaboration and License Agreement, dated as of July 14, 2018 by and between Arcturus Therapeutics, Inc. and Providence Therapeutics, Inc. Incorporated by reference to Exhibit 10.14 to the Company's Amendment No. 1 to Annual Report on Form 10-K for the year ended December 31, 2018 filed on April 10, 2019 (File No. 001-35932).
10.21**	Research Collaboration Agreement, dated as of March 8, 2019 by and between Arcturus Therapeutics, Inc. and Millennium Pharmaceuticals, Inc., a wholly-owned subsidiary of Takeda Pharmaceutical Company Limited. Incorporated by reference to Exhibit 10.15 to the Company's Annual Report on Form 10-K for the year ended December 31, 2018 filed on March 18, 2019 (File No. 001-35932).
10.22	Lease Agreement, by and between Arcturus Therapeutics, Inc. and ARE-SD Region No. 44, LLC, dated October 4, 2017. Incorporated by reference to Exhibit 4.6 to Form 20-F filed on May 14, 2018 (File No. 001-35932).
10.23	First Amendment to Lease Agreement, by and between Arcturus Therapeutics Holdings Inc. and ARE-SD Region No. 44, LLC dated February 1, 2020. Incorporated by reference to Exhibit 10.23 to the Company's Annual Report on Form 10-K for the year ended December 31, 2019 filed on March 16, 2020 (File No. 001-38942).
10.24**	Acceptance Letter, dated March 4, 2020, by and between Arcturus Therapeutics Holdings Inc. and the Economic Development Board of Singapore. Incorporated by reference to Exhibit 10.24 to the Company's Annual Report on Form 10-K for the year ended December 31, 2019 filed on March 16, 2020 (File No. 001-38942).
10.25**	Supply Agreement, dated August 17, 2020, by and between Arcturus Therapeutics, Inc. and the Israeli Ministry of Health. Incorporated by reference to Exhibit 10.32 to Quarterly Report on Form 10-Q filed on November 9, 2020 (File No. 001-38942).
10.26**	Manufacturing Support Agreement, dated November 7, 2020, by and between Arcturus Therapeutics Holdings Inc. and the Economic Development Board of Singapore. Incorporated by reference to Exhibit 10.33 to Quarterly Report on Form 10-Q filed on November 9, 2020 (File No. 001-38942).
10.27	Fourth Amendment to Loan and Security Agreement, dated December 1, 2020, by and between Arcturus Therapeutics, Inc. and Western Alliance Bank. Incorporated by reference to Exhibit 10.1 to Form 8-K filed on December 7, 2020 (File No. 001-38942).
10.28†	2020 Employee Stock Purchase Plan. Incorporated by reference to Exhibit 4.3 to Form S-8 filed on August 5, 2020 (File No. 001-38942).
10.29	Second Amendment to Lease, by and between Arcturus Therapeutics, Inc. and ARE-SD Region No. 44, LLC, dated November 13, 2020. Incorporated by reference to Exhibit 10.29 to the Company's Annual Report on Form 10-K for the year ended December 31, 2020 filed on March 1, 2020 (File No. 001-38942).

10.30	Third Amendment to Lease, by and between Arcturus Therapeutics, Inc. and ARE-SD Region No. 44, LLC, dated February 25, 2021. Incorporated by reference to Exhibit 10.30 to the Company's Annual Report on Form 10-K for the year ended December 31, 2020 filed on March 1, 2020 (File No. 001-38942).
10.31	Arcturus Therapeutics Holdings Inc. Severance Policy for Executives. Incorporated by reference to Exhibit 10.1 to Current Report on Form 8-K filed on April 26, 2021 (File No. 001-38942).
10.32	Technology License and Technical Support Agreement, signed July 29, 2021 and effective July 30, 2021, by and between Arcturus Therapeutics, Inc. and Vinbiotech Research and Manufacture Joint Stock Company. Incorporated by reference to Exhibit 10.32 to Quarterly Report on Form 10-Q filed on August 10, 2021 (File No. 001-38942).
10.33	Framework Drug Substance Supply Agreement, signed July 29, 2021 and effective July 30, 2021, by and between Arcturus Therapeutics, Inc. and Vinbiotech Research and Manufacture Joint Stock Company. Incorporated by reference to Exhibit 10.33 to Quarterly Report on Form 10-Q filed on August 10, 2021 (File No. 001-38942).
10.34*	Fifth Amendment to Loan and Security Agreement, dated October 27, 2021, by and between Arcturus Therapeutics, Inc. and Western Alliance Bank.
10.35* **	Lease, by and between Arcturus Therapeutics, Inc. and TPSC IX, LLC, dated September 29, 2021.
10.36†	Arcturus Therapeutics Holdings Inc. 2021 Inducement Equity Incentive Plan. Incorporated by reference Exhibit 4.1 to the Registration Statement on Form S-8 filed on October 20, 2021 (File No. 333-260391).
31.1*	Certification of Principal Executive Officer Pursuant to Rule 13a-14(a) or 15d-14(a) under the Securities Exchange Act of 1934, as amended.
31.2*	Certification by Principal Financial Officer pursuant to Rule 13a-14(a) or 15d-14(a) under the Securities Exchange Act of 1934, as amended.
32.1*	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2*	Certification of Principal Financial Officer 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 and footnotes from the Registrant's Quarterly Report on Form 10-Q for the fiscal quarter ended September 30, 2021 formatted in Inline Extensible Business Reporting Language (Inline XBRL): 101.INS Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document 101.SCH Inline XBRL Taxonomy Extension Schema 101.CAL Inline XBRL Taxonomy Extension Calculation Linkbase 101.DEF Inline XBRL Taxonomy Extension Definition Linkbase 101.LAB Inline XBRL Taxonomy Extension Label Linkbase 101.PRE Inline XBRL Taxonomy Extension Presentation Linkbase
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

* Filed herewith.

** Certain confidential portions of this exhibit have been redacted from the publicly filed document because such portions are (i) not material and (ii) would be competitively harmful of publicly disclosed.

† Management compensatory plan, contract or arrangement.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ARCTURUS THERAPEUTICS HOLDINGS INC.

Date: November 8, 2021

By: /s/ Andy Sassine
Andy Sassine
Chief Financial Officer

Exhibit 10.34

FIFTH AMENDMENT TO LOAN AND SECURITY AGREEMENT

This Fifth Amendment to Loan and Security Agreement (this "Amendment") is entered into as of October 27, 2021, by and between WESTERN ALLIANCE BANK, an Arizona corporation ("Bank"), and ARCTURUS THERAPEUTICS, INC., a Delaware corporation ("Borrower").

RECITALS

Borrower and Bank are parties to that certain Loan and Security Agreement dated as of October 12, 2018, as amended from time to time (the "Agreement"). The parties desire to amend the Agreement in accordance with the terms of this Amendment.

NOW, THEREFORE, the parties agree as follows:

1. The following definitions in Section 1.1 of the Agreement hereby are added, amended or restated to read as follows:

"Amortization Date" means May 1, 2022.

"Interest Only End Date" means April 1, 2022.

2. Subsection (ii) of Section 2.1(a) of the Agreement hereby is amended and restated in its entirety to read as follows:

"(ii) Repayment. Borrower shall make monthly payments of interest only on each Payment Date through and including the Payment Date immediately preceding the Amortization Date. Commencing on the Amortization Date, and continuing on the Payment Date of each month thereafter, Borrower shall make consecutive equal monthly payments of principal, together with applicable interest, in arrears, to Bank, as calculated by Bank (which calculations shall be deemed correct absent manifest error) based upon: (1) the amount of the Term Loan, (2) the effective rate of interest, as determined in Section 2.3(a), and (3) a repayment schedule equal to eighteen (18) months. All unpaid principal and accrued and unpaid interest with respect to the Term Loan is due and payable in full on the Term Loan Maturity Date. The Term Loan may only be prepaid in accordance with Section 2.1(a)(iii)."

3. No course of dealing on the part of Bank or its officers, nor any failure or delay in the exercise of any right by Bank, shall operate as a waiver thereof, and any single or partial exercise of any such right shall not preclude any later exercise of any such right. Bank's failure at any time to require strict performance by Borrower of any provision shall not affect any right of Bank thereafter to demand strict compliance and performance. Any suspension or waiver of a right must be in writing signed by an officer of Bank.

4. Unless otherwise defined, all initially capitalized terms in this Amendment shall be as defined in the Agreement. The Agreement, as amended hereby, shall be and remain in full force and effect in accordance with its respective terms and hereby is ratified and confirmed in all respects. Except as expressly set forth herein, the execution, delivery, and performance of this Amendment shall not operate as a waiver of, or as an amendment of, any right, power, or remedy of Bank under the Agreement, as in effect prior to the date hereof.

5. Borrower represents and warrants that the Representations and Warranties contained in the Agreement are true and correct in all material respects as of the date of this Amendment (except to the extent any such representation or warranty is expressly stated to have been made as of a specific date, in which case such representation or warranty shall be true and correct in all material respects as of such date), and that no Event of Default has occurred and is continuing.

6. As a condition to the effectiveness of this Amendment, Bank shall have received, in form and substance satisfactory to Bank, the following:

(a) this Amendment, duly executed by Borrower;

(b) a Certificate of the Secretary of Borrower with respect to incumbency and resolutions authorizing the execution and delivery of this Amendment;

(c) all reasonable Bank Expenses incurred through the date of this Amendment, which, following notice from Bank to Borrower, may be debited from any of Borrower's accounts; and

(d) such other documents, and completion of such other matters, as Bank may reasonably deem necessary or appropriate.

7. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one instrument.

[Balance of Page Intentionally Left Blank.]

IN WITNESS WHEREOF, the undersigned have executed this Amendment as of the first date above written.

ARCTURUS THERAPEUTICS, INC., a Delaware corporation

By:

Name: Joseph E. Payne
Title: President and CEO

WESTERN ALLIANCE BANK, an Arizona corporation

By:

Name: Brian Kirkpatrick
Title: Vice President

CORPORATE RESOLUTIONS TO BORROW

Borrower: ARCTURUS THERAPEUTICS, INC.

I, the undersigned Secretary or Assistant Secretary of ARCTURUS THERAPEUTICS, INC. (the "Corporation"), HEREBY CERTIFY that the Corporation is organized and existing under and by virtue of the laws of the State of Delaware.

I FURTHER CERTIFY that attached hereto as Attachments 1 and 2 are true and complete copies of the Certificate of Incorporation, as amended, and the Bylaws of the Corporation, each of which is in full force and effect on the date hereof.

I FURTHER CERTIFY that at a meeting of the Directors of the Corporation, duly called and held, at which a quorum was present and voting (or by other duly authorized corporate action in lieu of a meeting), the following resolutions (the "Resolutions") were adopted.

BE IT RESOLVED, that any one (1) of the following named officers, employees, or agents of this Corporation, whose actual signatures are shown below:

NAMES	POSITION	ACTUAL SIGNATURES
Joseph Payne	President and CEO	
Pad Chiviukula	COO, CSO and Secretary	

acting for and on behalf of this Corporation and as its act and deed be, and they hereby are, authorized and empowered:

Borrow Money. To borrow from time to time from Western Alliance Bank, an Arizona corporation ("Bank"), on such terms as may be agreed upon between the officers, employees, or agents of the Corporation and Bank, such sum or sums of money as in their judgment should be borrowed, without limitation.

Execute Loan Documents. To execute and deliver to Bank one or more renewals, extensions, modifications, refinancings, consolidations, or substitutions to that certain Loan and Security Agreement dated as October 12, 2018 (the "Loan Agreement") and any other agreement entered into between Corporation and Bank in connection with the Loan Agreement, including any amendments, all as amended or extended from time to time, including but not limited to that certain Fifth Amendment to Loan and Security Agreement dated as of October 27, 2021 (collectively, with the Loan Agreement, the "Loan Documents"), or any portion thereof.

Grant Security. To grant a security interest to Bank in the Collateral described in the Loan Documents, which security interest shall secure all of the Corporation's Obligations, as described in the Loan Documents.

Negotiate Items. To draw, endorse, and discount with Bank all drafts, trade acceptances, promissory notes, or other evidences of indebtedness payable to or belonging to the Corporation or in which the Corporation may have an interest, and either to receive cash for the same or to cause such proceeds to be credited to the account of the Corporation with Bank, or to cause such other disposition of the proceeds derived therefrom as they may deem advisable.

Letters of Credit. To execute letter of credit applications and other related documents pertaining to Bank's issuance of letters of credit.

Corporate Credit Cards. To execute corporate credit card applications and agreements and other related documents pertaining to Bank's provision of corporate credit cards.

Further Acts. In the case of lines of credit, to designate additional or alternate individuals as being authorized to request advances thereunder, and in all cases, to do and perform such other acts and things, to pay any and all fees and costs, and to execute and deliver such other documents and agreements as they may in their discretion deem reasonably necessary or proper in order to carry into effect the provisions of these Resolutions.

BE IT FURTHER RESOLVED, that any and all acts authorized pursuant to these resolutions and performed prior to the passage of these resolutions are hereby ratified and approved, that these Resolutions shall remain in full force and effect and Bank may rely on these Resolutions until written notice of their revocation shall have been delivered to and received by Bank. Any such notice shall not affect any of the Corporation's agreements or commitments in effect at the time notice is given.

I FURTHER CERTIFY that the officers, employees, and agents named above are duly elected, appointed, or employed by or for the Corporation, as the case may be, and occupy the positions set forth opposite their respective names; that the foregoing Resolutions now stand of record on the books of the Corporation; and that the Resolutions are in full force and effect and have not been modified or revoked in any manner whatsoever.

IN WITNESS WHEREOF, I have hereunto set my hand on October 27, 2021 and attest that the signatures set opposite the names listed above are their genuine signatures.

CERTIFIED AND ATTESTED BY:

X
Pad Chiviukula, Secretary of Borrower

ATTACHMENT A

CERTIFICATE OF INCORPORATION

The First State

I,
JEFFREY
W.
BULLOCK,
SECRETARY
OF
STATE
OF
THE
STATE
OF
DELAWARE,
DO
HEREBY
CERTIFY
THE
ATTACHED
ARE
TRUE
AND
CORRECT
COPIES
OF
ALL
DOCUMENTS
FILED
FROM
AND
INCLUDING
THE
RESTATED
CERTIFICATE
OR
A
MERGER
WITH
A
RESTATED
CERTIFICATE
ATTACHED
OF
“ARCTURUS
THERAPEUTICS,
INC.”
AS
RECEIVED
AND

FILED

IN

THIS

OFFICE.

CERTIFICATE

OF

MERGER,

FILED

THE

FIFTEENTH

DAY

OF

NOVEMBER,

A.D.

2017,

AT

6:27

O`CLOCK

P.M.

5285465 8100X Authentication: 204482738
SR# 20213585726 Date: 10-22-21
You may verify this certificate online at corp.delaware.gov/authver.shtml

State of Delaware
Secretary of State
Division of Corporations
Delivered 06:27 PM 11/15/2017
FILED 06:27 PM 11/15/2017
SR 20177110256 - File Number 5285465

CERTIFICATE OF MERGER
OF
ALEPH MERGERSUB, INC.
WITH AND INTO
ARCTURUS THERAPEUTICS, INC.

November 15, 2017

Pursuant to Section 251 of the General Corporation Law of the State of Delaware (the "DGCL"), Arcturus Therapeutics, Inc., a Delaware corporation, does hereby certify the following information in connection with the merger of Aleph MergerSub, Inc., a Delaware corporation, with and into Arcturus Therapeutics, Inc. (the "Merger"):

FIRST: The name and state of incorporation of each of the constituent corporations in the Merger (the "Constituent Corporations") are as follows:

Name	**State of Incorporation**
Arcturus Therapeutics, Inc.	Delaware
Aleph MergerSub, Inc.	Delaware

SECOND: The Agreement and Plan of Merger and Reorganization, dated as of September 27, 2017, by and among Alcobra Ltd., Aleph MergerSub, Inc. and Arcturus Therapeutics, Inc. (as amended, modified, and supplemented from time to time, the "Merger Agreement"), setting forth the terms and conditions of the Merger, has been approved, adopted, executed and acknowledged by each of the Constituent Corporations pursuant to and in accordance with the requirements of Section 251 of the DGCL (and, with respect to Aleph MergerSub, Inc., by the written consent of its sole stockholder in accordance with Section 228 of the DGCL).

THIRD: The name of the surviving corporation in the Merger (the "Surviving Corporation") shall be "Arcturus Therapeutics, Inc.".

FOURTH: The certificate of incorporation of Arcturus Therapeutics, Inc. as in effect immediately prior to the Merger shall be amended and restated in its entirety at the effective time of the Merger as set forth in **ANNEX A** attached hereto and, as so amended and restated, shall be the certificate of incorporation of the Surviving Corporation until thereafter amended as provided therein or by applicable law.

FIFTH: The executed Merger Agreement is on file at the principal place of business of the Surviving Corporation, the address of which is 10628 Science Center Drive, Suite 200, San Diego, CA 92121.

SIXTH: A copy of the Merger Agreement will be furnished by the Surviving Corporation, on request and without cost, to any stockholder of either Constituent Corporation.

SEVENTH: The Merger shall become effective immediately upon the filing of this Certificate of Merger with the Secretary of State of the State of Delaware.

IN WITNESS WHEREOF, the undersigned has executed this Certificate of Merger on the date first written above.

ARCTURUS THERAPEUTICS, INC.

By: /s/ Joseph E. Payne
Name: Joseph E. Payne
Title: President and Chief Executive Officer

[Signature Page to Delaware Certificate of Merger]

ANNEX A

CERTIFICATE OF INCORPORATION
OF
ARCTURUS THERAPEUTICS, INC.

ARTICLE I

The name of the corporation (hereinafter called the "Corporation") is Arcturus Therapeutics, Inc.

ARTICLE II

The address of the registered office of the Corporation is: 1013 Centre Road, Suite 403-B Wilmington, DE 19805 New Castle County, State of Delaware. The name of the registered agent of the Corporation at such address is Vcorp Services, LLC.

ARTICLE III

The nature of the business and the purposes to be conducted and promoted by the Corporation shall be to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware.

ARTICLE IV

The total number of shares of all classes of stock which the Corporation shall have authority to issue is 1,000 shares of Common Stock, $0.001 par value per share.

ARTICLE V

In furtherance and not in limitation of the power conferred upon the board of directors of the Corporation by law, the board of directors shall have power **to** make, adopt, alter, amend and repeal from time to time by-laws of the Corporation without the assent or vote of the stockholders. Elections of directors need not be by ballot unless the by-laws of **the** Corporation so provide.

ARTICLE VI

The personal liability of the directors of the Corporation is hereby eliminated **to the** fullest extent permitted by paragraph (7) of subsection (b) of Section 102 of the General Corporation Law of the State of Delaware, as the same may be amended and supplemented. Any repeal or modification of the foregoing provisions of this Article VI by the stockholders of the Corporation shall not adversely affect any right or protection of a director of the Corporation existing at the time, or increase the liability of any director of the Corporation with respect to any acts or omissions of such director occurring prior to such repeal or modification.

ARTICLE VII

The Corporation shall indemnify all persons whom it may indemnify to the fullest extent permitted by Section 145 of the General Corporation Law of the State of Delaware, as the same may be amended and supplemented. Such indemnification shall not be exclusive of other indemnification rights arising under any by-law, agreement, vote of directors or stockholders or otherwise and shall inure to the benefit of the heirs and legal representatives of such person. Any repeal or modification of any of the foregoing provisions of this Article VII shall not adversely affect any right or protection of a director or officer of this Corporation with respect to any acts or omissions of such director, officer, agent or other person existing at the time of, or increase liability of any director of the Corporation with respect to any acts or omissions of such director, officer or agent occurring prior to such repeal or modification.

ARTICLE VIII

Whenever a compromise or arrangement is proposed between this Corporation and its creditors or any class of them and/or between this Corporation and its stockholders or any class of them, any court of equitable jurisdiction within the State of Delaware may, on the application in a summary way of this Corporation, or of any creditor or stockholder thereof, or on the application of any receiver or receivers appointed for this Corporation under Section 291 of Title 8 of the Delaware Code, or on the application of trustees in dissolution or of any receiver or receivers appointed for this Corporation under Section 279 of Title 8 of the Delaware Code, order a meeting of the creditors or class of creditors and/or of the stockholders or class of stockholders of this Corporation, as the case may be, to be summoned in such manner as the court directs. If a majority in number representing three-fourths in value of the creditors or class of creditors, and/or of the stockholders or class of stockholders of this Corporation, as the case may be, agree to any compromise or arrangement and to any reorganization of this Corporation as a consequence of such compromise or arrangement, the said compromise or arrangement and the said reorganization shall, if sanctioned by the court to which application has been made, be binding on all of the creditors or class of creditors and/or on all of the stockholders or class of stockholders of this Corporation, as the case may be, and also shall be binding upon this Corporation.

ARTICLE IX

The Corporation reserves the right to amend, alter, change or repeal any provision contained in this Certificate of Incorporation in the manner now or hereafter prescribed by law, and all rights and power conferred herein on stockholders, directors and officers are subject to this reserved power.

ATTACHMENT B

BYLAWS OF THE CORPORATION

BY-LAWS

OF

ALEPH MERGERSUB, INC.

(A Delaware Corporation)

TABLE OF CONTENTS

BY-LAWS

OF

ALEPH MERGERSUB, INC.

ARTICLE I
OFFICES

Section 1. REGISTERED OFFICE. The registered office of Aleph MergerSub, Inc. (the "**Corporation**") in the State of Delaware shall be located at 1013 Centre Road, Suite 403-B Wilmington, DE 19805 New Castle County, State of Delaware. The name of the registered agent of the Corporation at such address is Vcorp Services, LLC.

Section 2. OTHER OFFICES. The Corporation may also have one or more other offices at such place or places within or without the State of Delaware as the board of directors of the Corporation (the "**Board**") may from time to time determine.

ARTICLE II
MEETINGS OF STOCKHOLDERS

Section 1. PLACE OF MEETINGS. Stockholders' meetings shall be held in such place within or without the State of Delaware as the Board may determine.

Section 2. ANNUAL MEETINGS. Unless directors are elected by written consent in lieu of an annual meeting as permitted by law and these By-Laws, the annual meeting of the stockholders of the Corporation shall be held at such place as is designated by the Board, on the date and at the time fixed, from time to time, by the Board, for the purpose of electing directors and for the transaction of such other business as may properly come before the meeting. If no annual meeting is held in accordance with the foregoing provisions, the Board shall cause the meeting to be held as soon thereafter as convenient, which meeting shall be designated a special meeting in lieu of annual meeting.

Section 3. SPECIAL MEETINGS. Special meetings of the stockholders for any purpose or purposes may be called at any time by the Chairman, if one is elected, by the Vice-Chairman, if one is elected, by the President, or by the Board. The President shall also call a special meeting of stockholders at the written request of a majority of the number of directors then in office, or at the written request of stockholders owning at least fifty-one percent (51%) in amount of the entire capital stock of the Corporation issued and outstanding and entitled to vote. Such request shall state the purpose or purposes of the proposed meeting. If the notice is not given within twenty (20) days after receipt of the request, the person or persons requesting the meeting may give the notice. Business transacted at any special meeting shall be limited to matters relating to the purpose or purposes stated in the notice of meeting.

Section 4. NOTICE OF STOCKHOLDERS' MEETINGS. Written notice of the time and place of holding each meeting, annual or special, of the stockholders shall be served either personally or by mail or by facsimile or by electronic transmission upon each stockholder of

record of the Corporation entitled to vote at such meeting, not less than ten (10) nor more than sixty (60) days before the date fixed for such meeting. If mailed, it shall be deposited in the United States mail, postage prepaid, and directed, unless otherwise provided by law, to each stockholder at his post office address as the same appears on the stock books of the Corporation. Written notice shall state the place, date and hour of the meeting, and, in the case of a special meeting, the purpose or purposes for which the meeting is called.

Section 5. QUORUM. Except as otherwise provided by law or by the Certificate of Incorporation, at all meetings of stockholders, annual or special, in order to constitute a quorum, there shall be present, either in person or by proxy, holders of a majority of the issued and outstanding shares of capital stock of the Corporation entitled to vote, and all questions shall be determined by a majority vote of the stockholders entitled to vote present in person or by proxy. Where a matter requires a vote, by class or by series, of the stockholders of the Corporation, the presence, in person or by proxy, of the holders of a majority of the issued and outstanding shares of each class or series of stock, as the case may be, shall be necessary to constitute a quorum. Notwithstanding the withdrawal of stockholders from a meeting at which a quorum is initially present, the remaining stockholders may act by approval of at least a majority of the required quorum.

When a meeting is adjourned to another time or place, notice need not be given of the adjourned meeting if the time, place, if any, thereof, and the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such adjourned meeting are announced at the meeting at which the adjournment is taken. At the adjourned meeting the corporation may transact any business which might have been transacted at the original meeting. If the adjournment is for more than thirty (30) days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting.

Section 6. STOCKHOLDER CONSENT. Any action required by the Certificate of Incorporation or the Delaware General Corporation Law or these By-Laws to be taken at the annual or special meeting of the stockholders of the Corporation, or any action which may be taken at any annual or special meeting of such stockholders, may be taken without a meeting, without prior notice and without a vote, if a consent in writing, setting forth the action so taken, shall be signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted, and shall be delivered to the Corporation by delivery to its registered office in the State of Delaware, its principal place of business, or an officer or agent of the Corporation having custody of the book in which proceedings of the meetings of stockholders are recorded. Delivery made to the Corporation's registered office shall be by hand, by facsimile, by electronic transmission, or by certified or registered mail, return receipt requested. Every written consent shall bear the date of signature of each stockholder who signs the consent and no written consent shall be effective to take the corporate action referred to therein unless, within sixty (60) days of the earliest dated consent, written consents signed by a sufficient number of holders to take action are delivered to the Corporation in the manner and to one or more of the locations set forth herein. Prompt notice of the taking of a corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing.

Section 7. VOTING AND PROXIES. Unless otherwise provided in the Certificate of Incorporation, each stockholder shall at every meeting of the stockholders be entitled to one (1) vote in person or by proxy for each share of the capital stock having voting power held by such stockholder. Each stockholder entitled to vote at a meeting of stockholders, or to express consent or dissent to corporate action in writing without a meeting, may authorize another person or persons to act for him by proxy, but no such proxy shall be voted or acted upon after three years from its date, unless the proxy provides for a longer period.

ARTICLE III
BOARD OF DIRECTORS

Section 1. GENERAL POWERS, QUALIFICATION AND NUMBER. The property, affairs and business of the Corporation shall be managed by the Board, consisting of one or more directors, none of whom needs to be a stockholder, a citizen of the United States, or a resident of the State of Delaware. The number of directors comprising the Board of shall be such number as may be from time to time fixed by resolution of the Board. In case of any increase, the Board shall have power to elect each additional director to hold office until the next annual meeting of stockholders and until his successor is elected and qualified or his earlier resignation or removal. Any decrease in the number of directors shall take effect at the time of such action by the Board only to the extent that vacancies then exist; to the extent that such decrease exceeds the number of such vacancies, the decrease shall not become effective, except as further vacancies may thereafter occur, until the time of and in connection with the election of directors at the next succeeding annual meeting of the stockholders.

Section 2. ELECTION AND TERM OF OFFICE. The directors shall be elected at the annual meeting of stockholders. Each director shall hold office until the next annual meeting of the stockholders, or until his or her successor shall have been duly elected and shall have qualified, or until his or her earlier resignation or removal.

Section 3. REMOVAL OF DIRECTORS. Any one or more of the directors, or the entire Board, may be removed, either with or without cause, at any time by vote of the stockholders holding a majority of the issued and outstanding stock then entitled to vote at any special meeting called for that purpose. No reduction of the authorized number of directors shall have the effect of removing any director before his or her term of office expires.

Section 4. VACANCIES. Vacancies in the Board resulting from death, resignation, removal, or other causes, and newly created directorships resulting from an increase in the number of directors, may be filled by a majority vote of the directors then in office, though less than a quorum, and the directors so chosen shall hold office until their successors are duly elected and qualified.

Section 5. MAINTENANCE OF BOOKS AND CONDUCT OF BUSINESS. The directors may hold meetings, have an office, and keep the books of the Corporation at such place or places as the Board may from time to time determine. At all meetings of the Board, business may be transacted in such order as the Board may determine.

Section 6. MEETINGS.

(a) Annual Meetings. The Board shall meet for its annual meeting immediately after the adjournment of the annual meeting of stockholders for the purpose of electing officers and for the transaction of any other business that shall come before the meeting. Notice of the annual meeting of directors shall not be required.

(b) Special Meetings. Special meetings of the Board shall be held whenever called by the Chairman or Vice-Chairman or by the President or a majority of the number of directors then in office. The Secretary shall give notice to each director of each special meeting by mail, by telephone, or other electronic means (including facsimile or electronic mail transmission), or personally. Such notice shall be given at the address of such director as it appears on the books of the Corporation. If given by mail, such notice shall be given at least ten (10) days before the meeting. If given by telephone, or other electronic means, or personally, such notice shall be given at least two (2) days before the meeting. Notice by mail shall be deemed to be given when the same is deposited in the United States mail, postage prepaid. The notice need not state the purpose of the meeting unless otherwise required to do so by statute or by the Certificate of Incorporation.

Section 7. QUORUM. A majority of the directors at the time in office shall constitute a quorum for the transaction of business and the affirmative vote of a majority of the directors present at any meeting at which a quorum is present shall be necessary for the transaction of business, except as may otherwise be required by statute, or by the Certificate of Incorporation or by some other provision of these By-Laws. A majority of those present at any annual or special meeting, although less than a quorum, may adjourn the same from time to time, without notice, until a quorum be had. Notwithstanding the withdrawal of directors from a meeting at which a quorum is initially present, the remaining directors may act by approval of at least a majority of the required quorum. A majority of the directors present, whether or not constituting a quorum, may adjourn any meeting to another time and place.

Section 8. ACTION WITHOUT MEETING. Any action which may be authorized or taken at a meeting of the directors or a committee may be authorized or taken without a meeting if all the directors or members of the committee, as the case may be, consent thereto in a writing or electronic transmission, which writing or writings or electronic transmission or transmissions shall be filed with or entered upon the records of the Corporation.

Section 9. MEETINGS BY CONFERENCE TELEPHONE. Members of the Board or any committee designated by the Board may participate in a meeting of such Board or committee by means of telephone conference or similar communication equipment by means of which all persons participating in the meeting can hear each other, and participation in a meeting pursuant to this section shall constitute presence in person at such meeting.

Section 10. PLACE OF MEETINGS. The Board may hold its meetings at such place or places as the Board may from time to time by resolution determine or as shall be designated in the respective notices or waivers of notice thereof.

Section 11. COMPENSATION. Each director, in consideration of his serving as such, shall be entitled to receive from the Corporation such amount per annum or such fees for attendance at meetings of the Board or of any committee, or both, as the Board shall from time to time, in its discretion, determine, provided that, nothing herein shall require the Board to pay any such amounts or fees. The Board may also, in its discretion, provide that the Corporation shall reimburse each director or member of a committee for any expenses incurred by him on account of his attendance at any such meeting. Nothing contained in this section shall be construed to preclude any director from serving the Corporation in any other capacity and receiving compensation therefor.

ARTICLE IV
COMMITTEES

The Board may designate one or more committees, each committee to consist of one or more of the directors of the Corporation. The Board may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members present at any meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board to act at the meeting in place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the Board, shall have and may exercise all the powers and authority of the Board in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority in reference to the following: (i) approving or adopting, or recommending to the stockholders, any action or matter (other than the election or removal of directors) expressly required by this chapter to be submitted to stockholders for approval; or (ii) adopting, amending or repealing any By-Law of the Corporation.

ARTICLE V
OFFICERS

Section 1. ENUMERATION. The officers of the Corporation shall be a President, a Treasurer and a Secretary. The Corporation may also have a Chairman of the Board, a Vice-Chairman of the Board, one or more Vice Presidents, and such other officers and assistant officers as the Board shall from time to time determine. Except as may be otherwise provided by law, any of the aforesaid offices may be held by the same person. No officer shall be ineligible to receive a regular salary, commission, or compensation by reason of being a director of the Corporation.

Section 2. ELECTION AND REMOVAL OF OFFICERS. The Board shall elect and may remove at their discretion the officers of the Corporation and shall appoint or employ such agents and employees as they deem advisable and remove the same at the Board's discretion. Each officer elected by the Board shall hold office until the first meeting of the Board following the next annual meeting of stockholders, or until his or her successor is elected and qualified, or until his or her earlier death, resignation, removal or disqualification, unless a shorter term is

specified by any agreement or other instrument appointing such officer. The directors shall from time to time fix the salaries and rates of compensation of all officers of the Corporation.

Section 3. VACANCIES AND RESIGNATIONS. A vacancy in any office may be filled for the unexpired portion of the term in the same manner as provided for election or appointment to such office. Written notice of the resignation of a director shall be given to the President or the Secretary of the Corporation, or to the Board at a meeting of the Board, and such resignation shall take effect at the time specified therein or, if the time when it shall become effective shall not be specified therein, it shall take effect when accepted by action of the Board. Except as aforesaid, the acceptance of such resignation shall not be necessary to make it effective. Any officer elected by the Board may be removed from office with or without cause by vote of a majority of the directors.

ARTICLE VI
POWERS AND DUTIES OF OFFICERS

Section 1. THE CHAIRMAN OF THE BOARD. The Chairman of the Board, if one is elected, shall preside at all meetings of the stockholders and of the Board and perform such other duties as the Board may assign to him.

Section 2. THE VICE-CHAIRMAN OF THE BOARD. The Vice-Chairman of the Board, if one is elected, shall, in the absence of the Chairman of the Board, preside at all meetings of the stockholders and of the Board and perform such other duties as the Board may assign to him.

Section 3. PRESIDENT. In the absence of the Chairman of the Board or Vice-Chairman, the President shall preside at all meetings of the stockholders and of the Board. The President shall be the chief executive officer of the Corporation, and, subject to the control of the Board, shall have general supervision, management, direction and control of the business and the officers of the Corporation. The President shall have the general powers and duties of management usually vested in the office of the chief executive officer of a corporation, and shall have such other powers and duties as may be prescribed by the Board or these By-Laws.

Section 4. VICE PRESIDENT. Each Vice President that is elected shall perform such duties as may from time to time be delegated to him or her by the Board, the Chairman, if one is elected, or the President.

Section 5. SECRETARY. The Secretary shall be ex-officio clerk of the Board and of any standing committee. The Secretary shall keep minutes of all meetings of the Board, the stockholders, and any standing committee, in books provided for that purpose. The Secretary shall attend to the giving and serving of all notices of meetings of stockholders and of directors of the Corporation. The Secretary shall have charge of and affix the corporate seal to all instruments requiring such seal, and shall have charge of such books, records, and papers as the Board may direct, although such books, records and papers need not be kept in his or her custody. The Secretary shall perform all duties incident to the office of Secretary and such other duties as from time to time may be assigned by the Board. In the absence of the Secretary, any officer or director may affix the seal of the Corporation to any instrument requiring such seal.

Section 6. TREASURER. The Treasurer shall be the chief financial officer of the Corporation and have supervision over the funds, securities, receipts, and disbursements of the Corporation. The Treasurer shall cause all moneys and other valuables to be deposited in the name and to the credit of the Corporation in such depositories as may be directed by the Board. The Treasurer shall disburse the funds of the Corporation and shall take proper vouchers for such disbursements. The Treasurer shall render to the Chairman of the Board, if one is elected, the President, and to the Board, whenever requested, an account of the financial condition of the Corporation and of his or her transactions as Treasurer; and as soon as may be practicable after the close of each fiscal year, the Treasurer shall make and submit to the Board a like report for each fiscal year. The Treasurer shall perform all duties incident to the office of Treasurer and such other duties as from time to time may be assigned to him or her by the Board.

ARTICLE VII
CAPITAL STOCK

Section 1. STOCK CERTIFICATES. Shares of the capital stock of the Corporation may be certificated or uncertificated as provided under the Delaware General Corporation Law. Each stockholder, upon written request to the transfer agent or registrar of the Corporation, shall be entitled to a certificate of the capital stock of the Corporation in such form as may from time to time be prescribed by the Board. Any such certificate shall be signed by the Chairman of the Board or the President or a Vice President and by the Treasurer or an Assistant Treasurer or the Secretary or an Assistant Secretary or as provided under the Delaware General Corporation Law.

Section 2. LOST CERTIFICATES. Any person claiming a certificate of stock to be lost, stolen or destroyed shall make an affidavit or other proof of that fact satisfactory to the Board and may be required by the Board to give the Corporation a good and sufficient bond or indemnity in such form and amount as is satisfactory to the Board, whereupon a new certificate shall be issued in its place.

Section 3. TRANSFER OF STOCK. The shares of stock of the Corporation shall be transferable only on the books of the Corporation and subject to such regulations as may be made by the Board. No transfer shall affect the right of the Corporation to pay any dividend or make any distribution upon such stock or to treat the holder of record as the lawful owner thereof until such transfer is recorded on the books of the Corporation and a new certificate is issued to the person to whom it has been so transferred. The Corporation shall be entitled to treat the holder of record of any share or shares as the lawful owner and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of any person other than such holder of record. Any restrictions on the transfer or registration of transfer of any shares of stock of any class or series shall be noted conspicuously on the certificate representing such shares.

ARTICLE VIII
INDEMNIFICATION

Section 1. THIRD PARTY ACTIONS. The Corporation shall indemnify any person who was or is a party, or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative third

party action, by reason of the fact that such person was or is a director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such third party action if such person acted in good faith and in a manner such person reasonably believed to be in, or not opposed to, the best interests of the Corporation and, with respect to any criminal third party proceeding, had no reasonable cause to believe such conduct was unlawful. The termination of any third party action by judgment, order, settlement, conviction or upon a plea of nolo contendere or its equivalent, shall not of itself create a presumption that the authorized representative did not act in good faith and in a manner which such person reasonably believed to be in or not opposed to, the best interests of the Corporation, or with respect to any criminal third party proceeding, had reasonable cause to believe that such conduct was unlawful.

Section 2. CORPORATE ACTIONS. The Corporation shall indemnify any person who was or is a party or is threatened, pending, or completed action or suit by or in the right of the Corporation, by reason of the fact that such person was or is a director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred against expenses actually and reasonably incurred by such person in connection with the defense or settlement of such corporate action if such person acted in good faith and in a manner reasonably believed to be in, or not opposed to, the best interests of the Corporation; provided, however, that, except as provided in this Article VIII with respect to proceedings to enforce rights to indemnification, the Corporation shall indemnify any such person in connection with an action, suit or proceeding (or part thereof) initiated by such person only if the initiation of such action, suit or proceeding (or part thereof) was authorized by the Board; provided further, however, that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the Corporation unless and only to the extent that the Court of Chancery or the court in which such corporate proceeding was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such director, officer, employee or agent of the Corporation is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Section 3. MANDATORY INDEMNIFICATION. To the extent that a director, officer, employee or agent of the Corporation has been successful on the merits or otherwise in defense of any third party or corporate action described in Section 1 or 2 above or in defense of any claim as, issue or matter in such action, such person shall be indemnified against expenses actually and reasonably incurred by such person in connection therewith.

Section 4. DETERMINATION OF ENTITLEMENT TO INDEMNIFICATION. Any indemnification under Sections 1, 2 or 3 of this Article VIII (unless ordered by a court) shall be made by the Corporation only as authorized in the specific case upon a determination that indemnification of the director, officer, employee or agent is proper in the circumstances because such person has either met the applicable standard of conduct set forth in Section 1 or 2 of this Article VIII or has been successful on the merits or otherwise as set forth in Section 3 of this

Article VIII and that the amount requested has been actually and reasonably incurred. Such determination shall be made:

a. by a majority vote of the directors who are not parties to such action, suit or proceeding even though less than a quorum, or

b. by a committee of such directors designated by majority vote of such directors, even though less than a quorum, or

c. if there are no such directors, or if no directors so direct, by independent legal counsel in a written opinion, or

d. by the stockholders.

Section 5. ADVANCING EXPENSES. Expenses (including attorneys' fees) actually and reasonably incurred in defending a third party or corporate action shall be paid on behalf of a director, officer, employee or agent by the Corporation in advance of the final disposition of such third party or corporate action and after receipt by the Secretary of the Corporation of (i) an application from such director, officer, employee or agent setting forth the basis for such indemnification, and (ii) if required by law at the time such application is made, an undertaking by or on behalf of the director, officer, employee or agent to repay such amount if it shall ultimately be determined that the authorized representative is not entitled to be indemnified by the Corporation as authorized in this Article VIII. The financial ability of any authorized representative to make a repayment contemplated by this section shall not be a prerequisite to the making of an advance.

Section 6. INSURANCE. The Corporation will purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the Corporation, or is or was serving at the request of the Corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against the person and incurred by the person in any such capacity, or arising out of his or her status as such, whether or not the Corporation would have the power or the obligation to indemnify such person against such liability under the provisions of this Article VIII.

Section 7. SCOPE OF ARTICLE. The indemnification of a director, officer, employee or agent of the Corporation and advancement of expenses, as authorized by the preceding provisions of this Article VIII, shall not be deemed exclusive of any other rights to which those seeking indemnification or advancement of expenses may be entitled under any agreement, vote of stockholders or disinterested directors or otherwise, both as to action in an official capacity and as to action in another capacity while holding such office. The indemnification and advancement of expenses provided by or granted pursuant to this Article VIII shall, unless otherwise provided when authorized or ratified, continue as to a person who has ceased to be director, officer, employee or agent and shall inure to the benefit of the heirs, executors and administrators of such a person.

Section 8. RELIANCE ON PROVISIONS. Each person who shall act as a director, officer, employee or agent of the Corporation shall be deemed to be doing so in reliance upon rights of indemnification provided by this Article VIII. Any repeal or modification of the

provisions of this Article VIII by the stockholders of the Corporation shall not adversely affect any right or benefit of a director, officer, employee or agent existing at the time of such repeal or modification.

Section 9. SEVERABILITY. If this Article VIII or any portion thereof shall be invalidated on any ground by any court of competent jurisdiction, then the Corporation shall nevertheless indemnify each director, officer, employee or agent of the Corporation as to expenses, judgments, fines and amounts paid in settlement with respect to any action, suit or proceeding, whether civil, criminal, administrative or investigative, including, without limitation, a grand jury proceeding and an action, suit or proceeding by or in the right of the Corporation, to the fullest extent permitted by any applicable portion of this Article VIII that shall not have been invalidated, by the General Corporation Law of the State of Delaware or by any other applicable law.

ARTICLE IX
FISCAL YEAR

The fiscal year of the Corporation shall be fixed by resolution of the Board.

ARTICLE X
DIVIDENDS

The Board in its discretion from time to time may declare dividends out of the surplus of the Corporation, and, subject to the provisions of the Certificate of Incorporation and these By-Laws, may fix dates for the declaration and payment thereof. Dividends may be paid in cash, in property, or in shares of the Corporation's capital stock, subject to the provisions of the Certificate of Incorporation.

ARTICLE XI
WAIVER OF NOTICE

Whenever any notice is required to be given under provisions of the General Corporation Law of the State of Delaware or of the Certificate of Incorporation, or of these By-Laws, a written waiver thereof, signed by the person or persons entitled to notice, whether before or after the time stated therein, shall be deemed the equivalent of notice.

ARTICLE XII
RECORD DATE

The record date shall be determined as provided by Section 213 of the General Corporation Law of the State of Delaware, as the same may be amended and supplemented.

ARTICLE XIII
AMENDMENTS

Section 1. ALTERATION BY STOCKHOLDERS. These By-Laws may be altered, amended, added to, or repealed at any annual meeting of stockholders, or at any special meeting

of stockholders called for that purpose, by the affirmative vote of a majority of all of the issued and outstanding shares of capital stock of the Corporation entitled to vote.

Section 2. ALTERATION BY DIRECTORS. These By-Laws may be altered, amended, added to, or repealed by action of the Board at any meeting thereof. Any such alteration, amendment, addition or repeal so authorized by the Board, however, may be altered or replaced by the stockholders entitled to vote at any subsequent meeting.

* * * *

Exhibit 10.35

CERTAIN INFORMATION IDENTIFIED BY BRACKETED ASTERISKS ([* * *]) HAS BEEN OMITTED FROM THIS EXHIBIT BECAUSE IT IS BOTH NOT MATERIAL AND WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED.

THE BOARDWALK

LEASE

This Lease (the "**Lease**"), dated as of the date set forth in Section 1 of the Summary of Basic Lease Information (the "**Summary**"), below, is made by and between TPSC IX, LLC, a Delaware limited liability company ("**Landlord**"), and ARCTURUS THERAPEUTICS, INC., a Delaware corporation ("**Tenant**").

SUMMARY OF BASIC LEASE INFORMATION

TERMS OF LEASE	DESCRIPTION
1.Date:	September 29, 2021.
2.Premises (Article 1).	
2.1.Building	That certain building located at 10285 Science Center Drive, San Diego, California (the "**Building**").
2.2.Premises:	Approximately **[* * *]** rentable square feet of space located on the entire first (1st) floor and the entire second (2nd) floor of the Building and which is all of the leasable space in the Building, as further set forth in **Exhibit A** to the Lease.
3.Lease Term (Article 2).	
3.1.Length of Term:	**[* * *]** and **[* * *]** months.
3.2.Lease Commencement Date:	The Possession Date (as that term is defined in Section 1.1.1 of this Lease).
3.3.Lease Expiration Date:	If the Lease Commencement Date shall be the first day of a calendar month, then the day immediately preceding the **[* * *]** year **[* * *]** anniversary of the Lease Commencement Date; or, if the Lease Commencement Date shall be other than the first day of a calendar month, then the last day of the month in which the **[* * *]** year **[* * *]** month anniversary of the Lease Commencement Date occurs.

4. Base Rent (Article 3):

Lease Year	Annual Base Rent	Monthly Installment of Base Rent	Approximate Monthly Base Rent per Rentable Square Foot*
[* * *]	**[* * *]**	**[* * *]**	**[* * *]**
[* * *]	**[* * *]**	**[* * *]**	**[* * *]**
[* * *]	**[* * *]**	**[* * *]**	**[* * *]**
[* * *]	**[* * *]**	**[* * *]**	**[* * *]**
[* * *]	**[* * *]**	**[* * *]**	**[* * *]**
[* * *]	**[* * *]**	**[* * *]**	**[* * *]**
[* * *]	**[* * *]**	**[* * *]**	**[* * *]**
[* * *]	**[* * *]**	**[* * *]**	**[* * *]**
[* * *]	**[* * *]**	**[* * *]**	**[* * *]**
[* * *]	**[* * *]**	**[* * *]**	**[* * *]**
[* * *]	**[* * *]**	**[* * *]**	**[* * *]**

* The calculation of the Approximate Monthly Base Rent per Rentable Square Foot reflects an annual increase of **[* * *]**%, rounded to the nearest cent, after the previous Lease Year.

** Tenant's obligation to pay Monthly Installment of Base Rent for the second (2nd) through fifth (5th) full calendar months following the Lease Commencement Date, shall be subject to the terms of Section 3.2 of the Lease.

5. Tenant Improvement Allowance:None. Landlord shall construct improvements in the Premises pursuant to the terms of **Exhibit B**, attached hereto.

6. Tenant's Share (Article 4): One hundred percent (100%).

7. Permitted Use (Article 5):The Premises shall be used only for general office, research and development, engineering, laboratory, storage and/or warehouse uses, including, but not limited to, administrative offices and other lawful uses reasonably related to or incidental to such specified uses, all (i) consistent with first class life sciences projects in the La Jolla area of San Diego, California ("**First Class Life Sciences Projects**"), and (ii) in compliance with, and subject to, Applicable Laws (as that term is defined in Article 24) and the terms of this Lease.

8.	Letter of Credit (Article 21):	**[* * *]**
9.	Parking (Article 28):	**[* * *]** unreserved parking spaces, provided that such unreserved parking spaces shall include the exclusive use of all of the parking spaces in the subterranean parking garage associated with the Building, for Tenant's guests, visitors and employees, subject to the terms of Article 28 of the Lease.
10.	Address of Tenant (Section 29.18):	Arcturus Therapeutics, Inc. 10628 Science Center Drive Suite 250 San Diego, California 92121 Attention: **[* * *]** with a copy to (which shall not constitute notice): Arcturus Therapeutics, Inc. 10628 Science Center Drive, Suite 250 San Diego, California 92121 Attention: Contracts Administration Email: ContractNotices@arcturusrx.com
11.	Address of Landlord (Section 29.18):	See Section 29.18 of the Lease.
12.	Broker(s) (Section 29.24):	Tenant: CBRE Landlord: CBRE

1. PREMISES, BUILDING, PROJECT, AND COMMON AREAS

1.1 **Premises, Building, Project and Common Areas**.

1.1.1 **The Premises; Tender of Possession**. Landlord hereby leases to Tenant and Tenant

hereby leases from Landlord the premises set forth in Section 2.2 of the Summary (the "**Premises**"). The outline of the Premises is set forth in **Exhibit A** attached hereto. The outline of the "Building" and the "Project," as those terms are defined in Section 1.1.2 below, are further depicted on the Site Plan attached hereto as **Exhibit A-1**. The parties hereto agree that the lease of the Premises is upon and subject to the terms, covenants and conditions herein set forth, and Tenant covenants as a material part of the consideration for this Lease to keep and perform each and all of such terms, covenants and conditions by it to be kept and performed and that this Lease is made upon the condition of such performance. The parties hereto hereby acknowledge that the purpose of **Exhibit A** 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 that term is defined in Section 1.1.3, below, or the elements thereof or of the accessways to the Premises or the "Project," as that term is defined in Section 1.1.2, below. Except as specifically set forth in this Lease and in the Tenant Work Letter attached hereto as **Exhibit B** (the "**Tenant Work Letter**"), Landlord shall tender possession of the Premises to Tenant in its then existing, "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. Landlord shall be deemed to have tendered possession of the Premises to Tenant upon the date the following have all occurred (i) Landlord has provided Tenant with at least thirty (30) days' notice that Substantial Completion of the Tenant Improvements will occur, (ii) Landlord delivers to Tenant the Substantial Completion Certificate to Tenant in connection with the Tenant Improvements, as those terms are defined in the Tenant Work Letter, and (iii) Landlord tenders possession of the Premises to Tenant broom clean and free of any prior occupants or tenants (the ""**Possession Date**"), and no action by Tenant shall be required therefor. Landlord will use its commercially reasonable, good faith efforts to cause the Possession Date to occur on or before March 1, 2022. Neither Landlord nor any agent of Landlord has made any representation or warranty regarding the condition of the Premises, the Building or the Project or with respect to the suitability of any of the foregoing for the conduct of Tenant's business, except as specifically set forth in this Lease and the Tenant Work Letter. Subject to Applicable Laws and the other provisions of this Lease, and except in the event of an emergency, Tenant shall have access to the Building, the Premises and the parking areas serving the Building twenty-four (24) hours per day, seven (7) days per week, every day of the year.

1.1.2 **The Building and The Project**. The Premises constitutes the space set forth in Section 2.1

of the Summary. The Building is part of an office/laboratory project currently known as "The Boardwalk." The term "**Project**," as used in this Lease, shall mean (i) the Building and the Common Areas, (ii) the land (which is improved with landscaping, parking facilities and other improvements) upon which the Building and the Common Areas are located, (iii) the other office/laboratory buildings located at 10265 and 10275 Science Center Drive (the "**10265-10275 Buildings**"), and the land upon which such adjacent office/laboratory buildings are located, and (iv) at Landlord's discretion, any additional real property, areas, land, buildings or other improvements added thereto outside of the Project (provided that the addition of such additional area does not materially increase Tenant's cost hereunder).

1.1.3 **Common Areas**. Tenant shall have the non-exclusive right to use in common with other tenants in the Project, and subject to the rules and regulations referred to in Article 5 of this Lease, 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 manner in which the Common Areas are maintained and operated shall be at the sole discretion of Landlord and the use thereof shall be subject to such rules, regulations and restrictions as Landlord may make from time to time. Landlord reserves the right to close temporarily, make alterations or additions to, or change the location of elements of the Project and the Common Areas, provided that, in connection therewith, Landlord shall perform such closures, alterations, additions or changes in a commercially reasonable manner and, in connection therewith, shall use commercially reasonable efforts to minimize any material interference with Tenant's use of and access to the Premises.

1.1.4 **Landlord's [* * *] Warranty**. Upon the Lease Commencement Date, the Building Systems (as that term is defined in Section 7.2, below) and the roof (including roof membrane) of the

Building (the "**Warrantied Improvements**") shall be in good working order, condition and repair (collectively, "**Good Working Order**") and Landlord hereby covenants that the Warrantied Improvements shall remain in Good Working Order for the period (the "**Warranty Period**") commencing on the Lease Commencement Date and continuing until the **[* * *]** anniversary of the Lease Commencement Date. Landlord shall, at Landlord's sole cost and expense (which shall not be deemed an Operating Expense, as that term is defined in Section 4.2.4 below), repair or replace any portion of such Warrantied Improvements which is not in Good Working Order during such Warranty Period ("**Landlord's [* * *] Warranty**"), provided that the need to repair or replace was not caused by (A) the misuse, misconduct, damage, destruction, omissions, and/or negligence of Tenant, its subtenants and/or assignees, if any (collectively, "**Tenant Damage**"), or (B) any modifications, Alterations or other improvements constructed by or on behalf of Tenant (collectively, "**Tenant Modification**"). Landlord's **[* * *]** Warranty shall neither (i) be deemed to require Landlord to replace any portion of any Warrantied Improvements, as opposed to repair such portion of such Warrantied Improvements, unless such portion of the Warrantied Improvements cannot be repaired, nor (ii) extend to the costs of normal and customary preventive maintenance relating to the Warrantied Improvements (the responsibility and cost for which will be handled in accordance with other provisions of this Lease). To the extent repairs which Landlord is required to make pursuant to this Section 1.1.4 are necessitated by Tenant Damage or Tenant Modification, then Tenant shall reimburse Landlord for the cost of such repair (provided that if such repairs are necessitated in part by Tenant Damage or Tenant Modification, then Tenant shall reimburse Landlord for an equitable portion of the cost of such repair). If it is determined that the Warrantied Improvements are not then in Good Working Order prior to the **[* * *]** anniversary of the Lease Commencement Date, then Landlord shall not be liable to Tenant for any damages, but, as Tenant's sole remedy, Landlord, at no cost to Tenant (subject to any repair or replacement necessitated by Tenant Damage or Tenant Modification), shall promptly commence such work or take such other action as may be necessary to place the same in Good Working Order, and shall thereafter diligently and continuously pursue the same to completion.

1.2 **Rentable Square Feet of Premises**. The rentable square footage of the Premises is hereby deemed

to be as set forth in Section 2.2 of the Summary, and shall not be subject to measurement or adjustment during the Lease Term.

2. LEASE TERM; OPTION TERM

2.1 **Lease Term**. The terms and provisions of this Lease shall be effective as of the date of this Lease.

The term of this Lease (the "**Lease Term**") shall be as set forth in Section 3.1 of the Summary, shall commence on the date set forth in Section 3.2 of the Summary (the "**Lease Commencement Date**"), and shall terminate on the date set forth in Section 3.3 of the Summary (the "**Lease Expiration Date**") unless this Lease is sooner terminated as hereinafter provided. For purposes of this Lease, the term "**Lease Year**" shall mean each consecutive twelve (12) month period during the Lease Term. If Landlord is unable for any reason to cause the Possession Date to occur on any specific date, then Landlord shall not be subject to any liability for its failure to do so, and such failure shall not affect the validity of this Lease or the obligations of Tenant hereunder (except as otherwise set forth in Section 2.3 below); provided that (a) if Landlord does not cause the Possession Date to occur on or before July 1, 2022 then Base Rent shall abate for one (1) day for every day that occurs after July 1, 2022 and before the earlier to occur of (i) the Possession Date, and (ii) March 1, 2023, and (b) if Landlord does not cause the Possession Date to occur on or before March 1, 2023, then the terms of Section 2.3, below, shall apply. If Base Rent is abated pursuant to the immediately preceding sentence, the such abatement shall commence immediately following the expiration of the Rent Abatement Period (as defined in Section 3.2, below). At any time during the Lease Term, Landlord may deliver to Tenant a notice in the form as set forth in **Exhibit C**, attached hereto, as a confirmation only of the information set forth therein, which Tenant shall execute and return to Landlord within ten (10) business days of receipt thereof.

2.2 **Option Term**.

2.2.1 **Option Right**. Landlord hereby grants to the originally named Tenant herein (the

"**Original Tenant**") and any "Permitted Transferee Assignee", as that term is defined in Section 14.8 below, one (1) option to extend the Lease Term for a period of **[* * *]** years (the "**Option Term**"). The option to extend shall be exercisable only by notice delivered by Tenant to Landlord as provided in Section 2.2.3, below, the following conditions **(**the "**Option Conditions**") are satisfied: (i) as of the date of delivery of such notice, Tenant is not in default beyond any applicable notice and cure period under this Lease; (ii) Tenant is not in default beyond any applicable notice and cure period under this Lease at the time Landlord and Tenant execute an amendment to this

Lease extending the Lease Term for the Option Term; and (iii) Tenant has not previously been in default with respect to any monetary obligation or material non-monetary obligation beyond any applicable notice and cure period under this Lease more than twice in the preceding twelve (12) month period. Landlord may, at Landlord's option, exercised in Landlord's sole and absolute discretion, waive any of the Option Conditions in which case the option, if otherwise properly exercised by Tenant, shall remain in full force and effect. Upon the proper exercise of an option to extend, the Lease Term shall be extended for a period of **[* * *]** years. The rights contained in this Section 2.2 shall be personal to the Original Tenant and any Permitted Transferee Assignee and may only be exercised by the Original Tenant or a Permitted Transferee Assignee (and not any other assignee or sublessee or "Transferee," as that term is defined in Section 14.1, below, of Tenant's interest in this Lease) if the Original Tenant or a Permitted Transferee Assignee, as applicable, occupies the entire Premises. In the event that Tenant fails to timely and appropriately exercise its option to extend the Lease Term in accordance with the terms of this Section 2.2, then such option shall automatically terminate and shall be of no further force or effect.

2.2.2 **Option Rent**. The Rent payable by Tenant during the Option Term (the "**Option Rent**") shall be equal to the "**Market Rent**," as that term is defined in **Exhibit F**, attached hereto, as such Market Rent is determined pursuant to **Exhibit F**, attached hereto. The calculation of the "**Market Rent**" shall be derived from a review of, and comparison to, the "Net Equivalent Lease Rates" of the "Comparable Transactions," as provided for in **Exhibit F**, and, thereafter, the Market Rent shall be stated as a "Net Equivalent Lease Rate" for the Option Term; provided the Option Rent shall increase by **[* * *]** percent (**[* * *]**%) on each anniversary of the commencement of the Option Term.

2.2.3 **Exercise of Option**. Such option to extend shall be exercisable only by written notice

delivered by Tenant to Landlord not more than **[* * *]** months nor less than **[* * *]** months prior to the expiration of the initial Lease Term, stating that Tenant is thereby irrevocably exercising its option to lease the Premises during the Option Term (the "**Option Exercise Notice**"). Landlord shall, within thirty (30) days following Landlord's receipt of the Option Exercise Notice, deliver notice (the "**Option Rent Notice**") to Tenant setting forth the Option Rent; and (iii) Tenant may, on or before the date occurring fifteen (15) business days after Tenant's receipt of the Option Rent Notice, deliver written notice to Landlord and accept or reject the Option Rent set forth in the Option Rent Notice. If Tenant exercises its option to extend the Lease but fails to accept or reject the Option Rent set forth in the Option Rent Notice, then Tenant shall be deemed to have accepted the Option Rent set forth in the Option Rent Notice.

2.2.4 **Determination of Option Rent**. In the event Tenant timely and appropriately exercises its option to extend the Lease but rejects the Option Rent set forth in the Option Rent Notice pursuant to Section 2.2.3, above, then Landlord and Tenant shall attempt to agree upon the Option Rent using their best good-faith efforts. If Landlord and Tenant fail to reach agreement upon the Option Rent applicable to the Option Term on or before the date that is ninety (90) days prior to the expiration of the initial Lease Term (the "**Outside Agreement Date**"), then the Option Rent shall be determined by arbitration pursuant to the terms of this Section 2.2.4. Each party shall make a separate determination of the Option Rent, within five (5) business days following the Outside Agreement Date, and such determinations shall be submitted to arbitration in accordance with Sections 2.2.4.1 through 2.2.4.4, below.

2.2.4.1 Landlord and Tenant shall each appoint one arbitrator who shall by profession be a MAI appraiser, real estate broker or real estate lawyer who shall have been active over the five (5) year period ending on the date of such appointment in the appraising and/or leasing of first class office and laboratory properties in the vicinity of the Building. The determination of the arbitrators shall be limited solely to the issue area of whether Landlord's or Tenant's submitted Option Rent is the closest to the actual Option Rent as determined by the arbitrators, taking into account the requirements of Section 2.2.2 of this Lease. Each such arbitrator shall be appointed within fifteen (15) days after the Outside Agreement Date. Landlord and Tenant may consult with their selected arbitrators prior to appointment and may select an arbitrator who is favorable to their respective positions (including an arbitrator who has previously represented Landlord and/or Tenant, as applicable). The arbitrators so selected by Landlord and Tenant shall be deemed "**Advocate Arbitrators**."

2.2.4.2 The two (2) Advocate Arbitrators so appointed shall be specifically required pursuant to an engagement letter within ten (10) days of the date of the appointment of the last appointed Advocate Arbitrator to agree upon and appoint a third arbitrator ("**Neutral Arbitrator**") who shall be qualified under the same criteria set forth hereinabove for qualification of the two Advocate Arbitrators except that (i) neither the Landlord or Tenant or either parties' Advocate Arbitrator may, directly or indirectly, consult with the Neutral Arbitrator prior or

subsequent to his or her appearance, and (ii) the Neutral Arbitrator cannot be someone who has represented Landlord and/or Tenant during the five (5) year period prior to such appointment. The Neutral Arbitrator shall be retained via an engagement letter jointly prepared by Landlord's counsel and Tenant's counsel.

2.2.4.3 Within ten (10) days following the appointment of the Arbitrator, Landlord and Tenant shall enter into an arbitration agreement (the "**Arbitration Agreement**") which shall set forth the following:

2.2.4.3.1 Each of Landlord's and Tenant's best and final and binding determination of the Option Rent exchanged by the parties pursuant to Section 2.2.4, above;

2.2.4.3.2 An agreement to be signed by the Neutral Arbitrator, the form of which agreement shall be attached as an exhibit to the Arbitration Agreement, whereby the Neutral Arbitrator shall agree to undertake the arbitration and render a decision in accordance with the terms of this Lease, as modified by the Arbitration Agreement, and shall require the Neutral Arbitrator to demonstrate to the reasonable satisfaction of the parties that the Neutral Arbitrator has no conflicts of interest with either Landlord or Tenant;

2.2.4.3.3 Instructions to be followed by the Neutral Arbitrator when conducting such arbitration;

2.2.4.3.4 That Landlord and Tenant shall each have the right to submit to the Neutral Arbitrator (with a copy to the other party), on or before the date that occurs fifteen (15) days following the appointment of the Neutral Arbitrator, an advocate statement (and any other information such party deems relevant) prepared by or on behalf of Landlord or Tenant, as the case may be, in support of Landlord's or Tenant's respective determination of Option Rent (the "**Briefs**");

2.2.4.3.5 That within five (5) business days following the exchange of Briefs, Landlord and Tenant shall each have the right to provide the Neutral Arbitrator (with a copy to the other party) with a written rebuttal to the other party's Brief (the "**First Rebuttals**"); provided, however, such First Rebuttals shall be limited to the facts and arguments raised in the other party's Brief and shall identify clearly which argument or fact of the other party's Brief is intended to be rebutted;

2.2.4.3.6 That within five (5) business days following the parties' receipt of each other's First Rebuttal, Landlord and Tenant, as applicable, shall each have the right to provide the Neutral Arbitrator (with a copy to the other party) with a written rebuttal to the other party's First Rebuttal (the "**Second Rebuttals**"); provided, however, such Second Rebuttals shall be limited to the facts and arguments raised in the other party's First Rebuttal and shall identify clearly which argument or fact of the other party's First Rebuttal is intended to be rebutted;

2.2.4.3.7 The date, time and location of the arbitration, which shall be mutually and reasonably agreed upon by Landlord and Tenant, taking into consideration the schedules of the Neutral Arbitrator, the Advocate Arbitrators, Landlord and Tenant, and each party's applicable consultants, which date shall in any event be within forty-five (45) days following the appointment of the Neutral Arbitrator;

2.2.4.3.8 That no discovery shall take place in connection with the arbitration, other than to verify the factual information that is presented by Landlord or Tenant;

2.2.4.3.9 That the Neutral Arbitrator shall not be allowed to undertake an independent investigation or consider any factual information other than presented by Landlord or Tenant, except that the Neutral Arbitrator shall be permitted to visit the Project and the buildings containing the Comparable Transactions;

2.2.4.3.10 The specific persons that shall be allowed to attend the arbitration;

2.2.4.3.11 Tenant shall have the right to present oral arguments to the Neutral Arbitrator at the arbitration for a period of time not to exceed three (3) hours ("**Tenant's Initial Statement**");

2.2.4.3.12 Following Tenant's Initial Statement, Landlord shall have the

right to present oral arguments to the Neutral Arbitrator at the arbitration for a period of time not to exceed three (3) hours ("**Landlord's Initial Statement**");

2.2.4.3.13 Following Landlord's Initial Statement, Tenant shall have up to two (2) additional hours to present additional arguments and/or to rebut the arguments of Landlord ("**Tenant's Rebuttal Statement**");

2.2.4.3.14 Following Tenant's Rebuttal Statement, Landlord shall have up to two (2) additional hours to present additional arguments and/or to rebut the arguments of Tenant ("**Landlord's Rebuttal Statement**");

2.2.4.3.15 That, not later than ten (10) days after the date of the arbitration, the Neutral Arbitrator shall render a decision (the "**Ruling**") indicating whether Landlord's or Tenant's submitted Option Rent is closer to the Option Rent;

2.2.4.3.16 That following notification of the Ruling, Landlord's or Tenant's submitted Option Rent determination, whichever is selected by the Neutral Arbitrator as being closer to the Option Rent shall become the Option Rent; and

2.2.4.3.17 That the decision of the Neutral Arbitrator shall be binding on Landlord and Tenant.

If a date by which an event described in Section 2.2.4.3, above, is to occur falls on a weekend or a holiday, the date shall be deemed to be the next business day.

2.2.4.4 In the event that the Option Rent shall not have been determined pursuant to the terms hereof prior to the commencement of the Option Term, Tenant shall be required to pay the Option Rent, initially provided by Landlord to Tenant, and upon the final determination of the Option Rent, the payments made by Tenant shall be reconciled with the actual amounts due, and the appropriate party shall make any corresponding payment to the other party.

2.3 **Occurrence of Possession Date.** Landlord shall use its commercially reasonable, good faith efforts to cause the Possession Date to occur on or before March 1, 2022.

2.3.1 **Outside Date of Possession Date.** If Landlord does not cause the Possession Date to occur by March 1, 2023 (the "**Outside Date**"), then the sole remedy of Tenant for such failure shall be the right to deliver a notice to Landlord (a "**Termination Notice**") electing to terminate this Lease effective upon the date occurring five (5) business days following receipt by Landlord of the Termination Notice (the "**Effective Date**"). The Termination Notice must be delivered by Tenant to Landlord, if at all, not earlier than the Outside Date (as the same may be extended pursuant to the terms of Section 2.3.3, below) nor later than five (5) business days after the Outside Date. The effectiveness of any such Termination Notice delivered by Tenant to Landlord shall be governed by the terms of this Section 2.3.

2.3.2 **Extension of Outside Date After Delivery of the Termination Notice.** If Tenant delivers a Termination Notice to Landlord, then Landlord shall have the right to suspend the occurrence of the Effective Date for a period ending **[* * *]** days after the Effective Date by delivering written notice to Tenant, prior to the Effective Date, that, in Landlord's reasonable, good faith judgment, the Possession Date will occur within **[* * *]** days after the Effective Date (the "**Termination Extension Notice**"). If the Possession Date occurs within such **[* * *]** day suspension period, then the Termination Notice shall be of no force or effect, but if the Possession Date does not occur within such **[* * *]** day suspension period, then this Lease shall terminate upon the expiration of such **[* * *]** day suspension period.

2.3.3 **Extension of Outside Date Prior to the Delivery of Termination Notice.** If, prior to the Outside Date, Landlord determines that the Possession Date will not occur by the Outside Date, then Landlord shall

have the right to deliver a written notice to Tenant stating Landlord's opinion as to the date by which the Possession Date will occur, and Tenant shall be required, within five (5) business days after receipt of such notice, to deliver a notice to Landlord pursuant to which Tenant shall elect either (i) to terminate this Lease, in which case this Lease shall terminate and be of no further force or effect upon Landlord's receipt of such notice, or (ii) to agree to extend the Outside Date to that date set forth in Landlord's notice to Tenant. Failure by Tenant to deliver such notice or to make such election shall be deemed to be Tenant's agreement to extend the Outside Date to that date set forth in Landlord's notice to Tenant. If Tenant agrees or is deemed to have agreed to extend the Outside Date, then Landlord shall have a continuing right to deliver a notice to Tenant which requests Tenant to elect either to terminate this Lease or to further extend the Outside Date as set forth in this Section 2.3.3, above, until the occurrence of the Possession Date or until this Lease is terminated. Upon the delivery of a Termination Notice by Tenant pursuant to Section 2.3.1 above in connection with an Outside Date extended pursuant to this Section 2.3.3, Landlord shall also have the same right to deliver the Termination Extension Notice as to the new Outside Date, as set forth in Section 2.3.2, above.

2.3.4 **Other Terms.** The Effective Date and the Outside Date shall be extended to the extent of any delays beyond the reasonable control of Landlord, including any delay or delays caused by "Force Majeure," as that term is defined in Section 29.16 of this Lease, delays caused by Tenant pursuant to Section 4.2 of the Tenant Work Letter, and any delay or delays encountered by Landlord affecting the construction of the Tenant Improvements 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 space in life science buildings in San Diego, California. Upon any termination as set forth in this Section 2.3, Landlord and Tenant shall be relieved from any and all liability to each other resulting hereunder except that Landlord shall return to Tenant any prepaid rent. Tenant's rights to terminate this Lease, as set forth in this Section 2.3, shall be Tenant's sole and exclusive remedy at law or in equity for the failure of the Possession Date to occur as set forth above.

3. BASE RENT

3.1 **Base Rent**. Tenant shall pay, without prior notice or demand, to Landlord or Landlord's agent at

the management office of the Project, or, at Landlord's option, at such other place as Landlord may from time to time designate in writing, by a check for currency which, at the time of payment, is legal tender for private or public debts in the United States of America, base rent ("**Base Rent**") as set forth in Section 4 of the Summary, payable in equal monthly installments as set forth in Section 4 of the Summary in advance on or before the first day of each and every calendar month during the Lease Term, without any setoff or deduction whatsoever. The Base Rent and Tenant's Share of the estimated Direct Expenses (as those terms are defined in Sections 4.2.6 and 4.2.2 of this Lease) for the first full month of the Lease Term in an amount equal to **[* * *]** (i.e., **[* * *]** for the Base Rent and **[* * *]** for Tenant's Share of the estimated Direct Expenses for the first full month of the Lease Term) shall be paid at the time of Tenant's execution of this Lease. If any Rent payment date (including the Lease Commencement Date) falls on a day of the month other than the first day of such month or if any payment of Rent is for a period which is shorter than one month, the Rent for any fractional month shall accrue on a daily basis for the period from the date such payment is due to the end of such calendar month or to the end of the Lease Term at a rate per day which is equal to 1/365 of the applicable annual Rent. All other payments or adjustments required to be made under the terms of this Lease that require proration on a time basis shall be prorated on the same basis.

3.2 **Abated Base Rent**. Provided that Tenant is not then in default of this Lease beyond applicable

notice and cure periods, then during (i) the second (2nd) through fifth (5th) full calendar months following the Lease Commencement Date (the "**Rent Abatement Period**"), Tenant shall not be obligated to pay Base Rent otherwise attributable to the Premises during such Rent Abatement Period (the "**Rent Abatement**"), subject to Tenant's right to convert all or a portion of the Rent Abatement to pay for all or a portion (up to the Rent Abatement amount) of the Over-Allowance Amount set forth in Section 2 of the Tenant Work Letter, in which event the Rent Abatement Period shall be equitably reduced to reflect the amount of Rent Abatement converted to pay for all or a portion of the Over-Allowance Amount. Landlord and Tenant acknowledge that the aggregate amount of the Rent Abatement equals $**[* * *]**. Tenant acknowledges and agrees that the foregoing Rent Abatement has been granted to Tenant as additional consideration for entering into this Lease, and for agreeing to pay the rental and performing the terms and conditions otherwise required under this Lease. If Tenant shall be in default under this Lease, and shall fail to cure such default within the notice and cure period, if any, permitted for cure pursuant to terms and conditions of the Lease, or if this Lease is terminated for any reason other than Landlord's breach of this Lease or an event of casualty or condemnation, at any time prior to the expiration of the Rent Abatement Period, then the dollar amount of the

unapplied portion of the Rent Abatement as of the date of such default or termination, as the case may be, shall be converted to a credit to be applied to the Base Rent applicable at the end of the Lease Term and Tenant shall immediately be obligated to begin paying Base Rent for the Premises in full.

4. ADDITIONAL RENT

4.1 **General Terms**.

4.1.1 **Direct Expenses; Additional Rent**. In addition to paying the Base Rent specified in

Article 3 of this Lease, Tenant shall pay "**Tenant's Share**" of the annual "**Direct Expenses**," as those terms are defined in Sections 4.2.6 and 4.2.2 of this Lease, respectively. Such payments by Tenant, together with any and all other amounts payable by Tenant to Landlord pursuant to the terms of this Lease, are hereinafter collectively referred to as the "**Additional Rent**", and the Base Rent and the Additional Rent are herein collectively referred to as "**Rent**." All amounts due under this Article 4 as Additional Rent shall be payable for the same periods and in the same manner as the Base Rent. Without limitation on other obligations of Tenant which survive the expiration of the Lease Term, the obligations of Tenant to pay the Additional Rent provided for in this Article 4 shall survive the expiration of the Lease Term.

4.1.2 **Triple Net Lease**. Landlord and Tenant acknowledge that, except as otherwise provided to the contrary in this Lease, it is their intent and agreement that this Lease be a "**TRIPLE NET**" lease and that as such, the provisions contained in this Lease are intended to pass on to Tenant or reimburse Landlord for the costs and expenses reasonably associated with this Lease, the Building and the Project, and Tenant's operation therefrom. To the extent such costs and expenses payable by Tenant cannot be charged directly to, and paid by, Tenant, such costs and expenses shall be paid by Landlord but reimbursed by Tenant as Additional Rent.

4.2 **Definitions of Key Terms Relating to Additional Rent**. As used in this Article 4, the following terms shall have the meanings hereinafter set forth:

4.2.1 Intentionally Deleted.

4.2.2 "**Direct Expenses**" shall mean "**Operating Expenses**" and "**Tax Expenses**."

4.2.3 "**Expense Year**" shall mean each calendar year in which any portion of the Lease Term falls, through and including the calendar year in which the Lease Term expires, provided that Landlord, upon notice to Tenant, may change the Expense Year from time to time to any other twelve (12) consecutive month period, and, in the event of any such change, Tenant's Share of Direct Expenses shall be equitably adjusted for any Expense Year involved in any such change.

4.2.4 "**Operating Expenses**" shall mean all expenses, costs and amounts of every kind and nature which Landlord pays or accrues during any Expense Year because of or in connection with the ownership, management, maintenance, security, repair, replacement, restoration or operation of the Project, or any portion thereof. Without limiting the generality of the foregoing, Operating Expenses shall specifically include any and all of the following: (i) the cost of supplying all utilities, the cost of operating, repairing, maintaining, and renovating the utility, telephone, mechanical, sanitary, storm drainage, and elevator systems, and the cost of maintenance and service contracts in connection therewith; (ii) the cost of licenses, certificates, permits and inspections and the cost of contesting any governmental enactments which may affect Operating Expenses, and the costs incurred in connection with a governmentally mandated transportation system management program or similar program; (iii) the cost of all insurance carried by Landlord in connection with the Project and Premises as reasonably determined by Landlord; (iv) the cost of landscaping, relamping, and all supplies, tools, equipment and materials used in the operation, repair and maintenance of the Project, or any portion thereof; (v) the cost of parking area operation, repair, restoration, and maintenance; (vi) fees and other costs, including management and/or incentive fees, consulting fees, legal fees and accounting fees, of all contractors and consultants in connection with the management, operation, maintenance and repair of the Project; (vii) payments under any equipment rental agreements and the fair rental value of any management office space; (viii) subject to item (f), below, wages, salaries and other compensation and benefits, including taxes levied thereon, of all persons engaged in the operation, maintenance and security of the Project; (ix)

costs under any instrument pertaining to the sharing of costs by the Project; (x) operation, repair, maintenance and replacement of all systems and equipment and components thereof of the Project; (xi) the cost of janitorial, alarm, security and other services, replacement of wall and floor coverings, ceiling tiles and fixtures in common areas, maintenance and replacement of curbs and walkways, repair to roofs and re-roofing; (xii) amortization (including interest on the unamortized cost) over such period of time as Landlord shall reasonably determine, of the cost of acquiring or the rental expense of personal property used in the maintenance, operation and repair of the Project, or any portion thereof; (xiii) the cost of capital improvements or other costs incurred in connection with the Project (A) which are intended to effect economies in the operation or maintenance of the Project, or any portion thereof, or to reduce current or future Operating Expenses or to enhance the safety or security of the Project or its occupants, (B) that are required to comply with present or anticipated conservation programs, (C) which are replacements or modifications of nonstructural items located in the Common Areas required to keep the Common Areas in good order or condition, (D) that are required under any governmental law or regulation, or (E) which are repairs, replacements or modifications to the Building Systems (as defined in Section 7.1, below); provided, however, that any capital expenditure shall be amortized (including interest on the amortized cost) over such period of time as Landlord shall reasonably determine; and (xiv) costs, fees, charges or assessments imposed by, or resulting from any mandate imposed on Landlord by, any federal, state or local government for fire and police protection, trash removal, community services, or other services which do not constitute "Tax Expenses" as that term is defined in Section 4.2.5, below, (xv) cost of tenant relation programs reasonably established by Landlord, and (xvi) payments under any easement, license, operating agreement, declaration, restrictive covenant, or instrument pertaining to the sharing of costs by the Building, including, without limitation, any covenants, conditions and restrictions affecting the property, and reciprocal easement agreements affecting the property, any parking licenses, and any agreements with transit agencies affecting the Property (collectively, "**Underlying Documents**"). Notwithstanding the foregoing, for purposes of this Lease, Operating Expenses shall not, however, include:

(a) costs, including legal fees, space planners' fees, advertising and promotional expenses (except as otherwise set forth above), and brokerage fees incurred in connection with the original construction or development, or original or future leasing of the Project, and costs, including permit, license and inspection costs, incurred with respect to the installation of tenant improvements made for new tenants initially occupying space in the Project after the Lease Commencement Date or incurred in renovating or otherwise improving, decorating, painting or redecorating vacant space for tenants or other occupants of the Project (excluding, however, such costs relating to any common areas of the Project or parking facilities);

(b) except as set forth in items (xii), (xiii), and (xiv) above, depreciation, interest and principal payments on mortgages and other debt costs, if any, penalties and interest;

(c) costs for which the Landlord is reimbursed by any tenant or occupant of the Project or by insurance by its carrier or any tenant's carrier or by anyone else, and electric power costs for which any tenant directly contracts with the local public service company;

(d) any bad debt loss, rent loss, or reserves for bad debts or rent loss;

(e) costs associated with the operation of the business of the partnership or entity which constitutes the Landlord, as the same are distinguished from the costs of operation of the Project (which shall specifically include, but not be limited to, accounting costs associated with the operation of the Project). Costs associated with the operation of the business of the partnership or entity which constitutes the Landlord include costs of partnership accounting and legal matters, costs of defending any lawsuits with any mortgagee (except as the actions of the Tenant may be in issue), costs of selling, syndicating, financing, mortgaging or hypothecating any of the Landlord's interest in the Project, and costs incurred in connection with any disputes between Landlord and its employees, between Landlord and Project management, or between Landlord and other tenants or occupants;

(f) the wages and benefits of any employee who does not devote substantially all of his or her employed time to the Project unless such wages and benefits are prorated to reflect time spent on operating and managing the Project vis-a-vis time spent on matters unrelated to operating and managing the Project; provided, that in no event shall Operating Expenses for purposes of this Lease include wages and/or benefits attributable to personnel above the level of Project manager;

(g) amount paid as ground rental for the Project by the Landlord;

(h) except for a Project management fee to the extent allowed pursuant to item (l) below, overhead and profit increment paid to the Landlord or to subsidiaries or affiliates of the Landlord for services in the Project to the extent the same exceeds the costs of such services rendered by qualified, first-class unaffiliated third parties on a competitive basis;

(i) any compensation paid to clerks, attendants or other persons in commercial concessions operated by the Landlord, provided that any compensation paid to any concierge at the Project shall be includable as an Operating Expense;

(j) rentals and other related expenses incurred in leasing air conditioning systems, elevators or other equipment which if purchased the cost of which would be excluded from Operating Expenses as a capital cost, except equipment not affixed to the Project which is used in providing engineering, janitorial or similar services and, further excepting from this exclusion such equipment rented or leased to remedy or ameliorate an emergency condition in the Project;

(k) all items and services for which Tenant or any other tenant in the Project reimburses Landlord or which Landlord provides selectively to one or more tenants (other than Tenant) without reimbursement;

(l) any costs expressly excluded from Operating Expenses elsewhere in this Lease;

(m) rent for any office space occupied by Project management personnel to the extent the size or rental rate of such office space exceeds the size or fair market rental value of office space occupied by management personnel of the comparable buildings in the vicinity of the Building, with adjustment where appropriate for the size of the applicable project;

(n) costs arising from the gross negligence or willful misconduct of Landlord in connection with this Lease;

(o) costs incurred to comply with laws relating to the removal of hazardous material (as defined under Applicable Law) which was in existence in the Building or on the Project prior to the Lease Commencement Date, and was of such a nature that a federal, State or municipal governmental authority, if it had then had knowledge of the presence of such hazardous material, in the state, and under the conditions that it then existed in the Building or on the Project, would have then required the removal of such hazardous material or other remedial or containment action with respect thereto; and costs incurred to remove, remedy, contain, or treat hazardous material, which hazardous material is brought into the Building or onto the Project after the date hereof by Landlord or any other tenant of the Project and is of such a nature, at that time, that a federal, State or municipal governmental authority, if it had then had knowledge of the presence of such hazardous material, in the state, and under the conditions, that it then exists in the Building or on the Project, would have then required the removal of such hazardous material or other remedial or containment action with respect thereto;

(p) costs of items considered capital repairs, replacements, improvements and equipment under sound real estate management and accounting principles consistently applied, except as expressly included in Operating Expenses pursuant to the definition above, including, without limitation, as otherwise set forth in item (xiii) of Section 4.2.4 above;

(q) charitable or political contributions and membership fees or other payments to trade organizations;

(r) costs of Tenant Improvements which are to be borne by Landlord pursuant to this Lease;

(s) the costs of acquiring investment-grade art;

(t) legal fees incurred in negotiating and enforcing tenant leases;

(u) costs (i.e., interest and penalties) incurred due to Landlord's default of this Lease or any other lease, mortgage, or other agreement, in each case affecting the Project;

(v) interest, fines or penalties for late payment or violations of Applicable Laws by Landlord, except to the extent incurring such expense is caused by a corresponding late payment or violation of an Applicable Law by Tenant, in which event Tenant shall be responsible for the full amount of such expense; and

(w) any item of expense which, if included in Operating Expenses, would result in a double collection of such item by Landlord.

In addition to the foregoing Operating Expense exclusions, Tenant's Share of the fees for management of the Project included in Operating Expenses shall not exceed **[* * *]** percent (**[* * *]**%) of the aggregate Base Rent and Tenant's Share of Direct Expenses, adjusted and grossed up to reflect Tenant paying full Rent, as contrasted with free rent, half rent and the like (the "**Management Fee**").

4.2.5 **Taxes**.

4.2.5.1 "**Tax Expenses**" shall mean all federal, state, county, or local governmental or municipal taxes, fees, charges or other impositions of every kind and nature, whether general, special, ordinary or extraordinary (including, without limitation, real estate taxes, general and special assessments, transit taxes, leasehold taxes or taxes based upon the receipt of rent, including gross receipts or sales taxes applicable to the receipt of rent, unless required to be paid by Tenant, personal property taxes imposed upon the fixtures, machinery, equipment, apparatus, systems and equipment, appurtenances, furniture and other personal property used in connection with the Project, or any portion thereof), which shall be paid or accrued during any Expense Year (without regard to any different fiscal year used by such governmental or municipal authority) because of or in connection with the ownership, leasing and operation of the Project, or any portion thereof.

4.2.5.2 Tax Expenses shall include, without limitation: (i) any tax on the rent, right to rent or other income from the Project, or any portion thereof, or as against the business of leasing the Project, or any portion thereof; (ii) any assessment, tax, fee, levy or charge in addition to, or in substitution, partially or totally, of any assessment, tax, fee, levy or charge previously included within the definition of real property tax; (iii) any assessment, tax, fee, levy, or charge allocable to or measured by the area of the Premises or the Rent payable hereunder, including, without limitation, any business or gross income tax or excise tax with respect to the receipt of such rent, or upon or with respect to the possession, leasing, operating, management, maintenance, alteration, repair, use or occupancy by Tenant of the Premises, or any portion thereof; and (iv) any assessment, tax, fee, levy or charge, upon this transaction or any document to which Tenant is a party, creating or transferring an interest or an estate in the Premises or the improvements thereon.

4.2.5.3 Any costs and expenses (including, without limitation, reasonable attorneys' and consultants' fees) incurred in attempting to protest, reduce or minimize Tax Expenses shall be included in Tax Expenses in the Expense Year such expenses are incurred. Tax refunds shall be credited against Tax Expenses and refunded to Tenant regardless of when received, based on the Expense Year to which the refund is applicable, provided that in no event shall the amount to be refunded to Tenant for any such Expense Year exceed the total amount paid by Tenant as Additional Rent under this Article 4 for such Expense Year. If Tax Expenses for any period during the Lease Term or any extension thereof are increased after payment thereof for any reason, including, without limitation, error or reassessment by applicable governmental or municipal authorities, Tenant shall pay Landlord upon demand Tenant's Share of any such increased Tax Expenses. Notwithstanding anything to the contrary contained in this Section 4.2.5, there shall be excluded from Tax Expenses (i) all excess profits taxes, franchise taxes, gift taxes, capital stock taxes, inheritance and succession taxes, estate taxes, federal and state income taxes, and other taxes to the extent applicable to Landlord's net income (as opposed to rents, receipts or income attributable to operations at the Project), (ii) any items included as Operating Expenses, and (iii) any items paid by Tenant under Section 4.5 of this Lease.

4.2.6 "**Tenant's Share**" shall mean the percentage set forth in Section 6 of the Summary.

4.3 **Allocation of Direct Expenses**.

4.3.1 The parties acknowledge that the Building is a part of a multi-building project and that the

costs and expenses incurred in connection with the Project (i.e., the Direct Expenses) should be shared between the Building and the other buildings in the Project. Accordingly, as set forth in Section 4.2 above, Direct Expenses (which consist of Operating Expenses and Tax Expenses) are determined annually for the Project as a whole, and a portion of the Direct Expenses, which portion shall be determined by Landlord on an equitable basis, shall be allocated to the Building (as opposed to other buildings in the Project). Such portion of Direct Expenses allocated to the Building shall include all Direct Expenses attributable solely to the Building and an equitable portion of the Direct Expenses attributable to the Project as a whole, and shall not include Direct Expenses attributable solely to other buildings in the Project.

4.3.2 **Cost Pools**. Landlord shall have the right, from time to time, to equitably allocate some or

all of the Direct Expenses for the Project among different portions or occupants of the Project (the "**Cost Pools**"), in Landlord's reasonable discretion. Such Cost Pools may include, but shall not be limited to, the office space tenants of a building of the Project or of the Project, and the laboratory space tenants of a building of the Project or of the Project. The Direct Expenses within each such Cost Pool shall be allocated and charged to the tenants within such Cost Pool in an equitable manner.

4.4 **Calculation and Payment of Additional Rent**. Tenant shall pay to Landlord, in the manner set

forth in Section 4.4.1, below, and as Additional Rent, Tenant's Share of Direct Expenses for each Expense Year. Notwithstanding anything to the contrary contained in this Article 4, the aggregate "**Controllable Expenses**" (as defined in this Section 4.4, below) included in Direct Expenses in any Expense Year after the first (1st) Lease Year shall not increase by more than **[* * *]** percent (**[* * *]**%) on an annual, cumulative and compounded basis, over the actual aggregate Controllable Expenses included in Direct Expenses for the first (1st) Lease Year. For purposes of this Section 4.4, "**Controllable Expenses**" shall mean all Direct Expenses except: (i) Tax Expenses, and any and all assessments, including assessment districts and government-mandated charges with respect to the Building or Project, or any part thereof (ii) insurance carried by Landlord with respect to Project and/or the operation thereof; (iii) costs of utilities, including, without limitation, electricity, water, HVAC and sewer charges, utility surcharges and assessments, and refuse removal; (iv) Permitted Capital Expenses; (v) the cost of union labor (including janitorial staff and security personnel), including labor which is not union as of the date of this Lease but which unionizes after the date of this Lease, and increases in wages, salaries and other compensation and benefits paid to Landlord's contractors engaged in the operation, management, maintenance or security of the Building or Project, to the extent such increases are due to increases in the applicable minimum wage legally required to be paid to such personnel, (vi) costs to comply with applicable laws and other governmental requirements first enacted or made applicable to the Building after the Lease Commencement Date, and (vii) costs relating to Force Majeure.

4.4.1 **Statement of Actual Direct Expenses and Payment by Tenant**. Landlord shall give to

Tenant following the end of each Expense Year, a statement (the "**Statement**") which shall state the Direct Expenses incurred or accrued for such preceding Expense Year, and which shall indicate the amount of Tenant's Share of Direct Expenses. Upon receipt of the Statement for each Expense Year commencing or ending during the Lease Term, Tenant shall pay, with its next installment of Base Rent due, the full amount of Tenant's Share of Direct Expenses for such Expense Year, less the amounts, if any, paid during such Expense Year as "**Estimated Direct Expenses**," as that term is defined in Section 4.4.2, below, and if Tenant paid more as Estimated Direct Expenses than the actual Tenant's Share of Direct Expenses, Tenant shall receive a credit in the amount of Tenant's overpayment against Rent next due under this Lease. The failure of Landlord to timely furnish the Statement for any Expense Year shall not prejudice Landlord or Tenant from enforcing its rights under this Article 4. Even though the Lease Term has expired and Tenant has vacated the Premises, when the final determination is made of Tenant's Share of Direct Expenses for the Expense Year in which this Lease terminates, Tenant shall immediately pay to Landlord such amount, and if Tenant paid more as Estimated Direct Expenses than the actual Tenant's Share of Direct Expenses, Landlord shall, within thirty (30) days, deliver a check payable to Tenant in the amount of the overpayment or apply such overpayment against any unpaid Rent. The provisions of this Section 4.4.1 shall survive the expiration or earlier termination of the Lease Term.

4.4.2 **Statement of Estimated Direct Expenses**. In addition, Landlord shall endeavor to give

Tenant a yearly expense estimate statement (the "**Estimate Statement**") which shall set forth Landlord's reasonable estimate (the "**Estimate**") of what the total amount of Direct Expenses for the then-current Expense Year shall be and

the estimated Tenant's Share of Direct Expenses (the "**Estimated Direct Expenses**"). The failure of Landlord to timely furnish the Estimate Statement for any Expense Year shall not preclude Landlord from enforcing its rights to collect any Estimated Direct Expenses under this Article 4, nor shall Landlord be prohibited from revising any Estimate Statement or Estimated Direct Expenses theretofore delivered to the extent necessary. Thereafter, Tenant shall pay, with its next installment of Base Rent due, a fraction of the Estimated Direct Expenses for the then-current Expense Year (reduced by any amounts paid pursuant to the last sentence of this Section 4.4.2). Such fraction shall have as its numerator the number of months which have elapsed in such current Expense Year, including the month of such payment, and twelve (12) as its denominator. Until a new Estimate Statement is furnished (which Landlord shall have the right to deliver to Tenant at any time), Tenant shall pay monthly, with the monthly Base Rent installments, an amount equal to one-twelfth (1/12) of the total Estimated Direct Expenses set forth in the previous Estimate Statement delivered by Landlord to Tenant.

4.5 **Taxes and Other Charges for Which Tenant Is Directly Responsible**. Tenant shall be

liable for and shall pay before delinquency, taxes levied against Tenant's equipment, furniture, fixtures and any other personal property located in or about the Premises. If any such taxes on Tenant's equipment, furniture, fixtures and any other personal property are levied against Landlord or Landlord's property or if the assessed value of Landlord's property is increased by the inclusion therein of a value placed upon such equipment, furniture, fixtures or any other personal property and if Landlord pays the taxes based upon such increased assessment, which Landlord shall have the right to do regardless of the validity thereof but only under proper protest if requested by Tenant, Tenant shall , within ten (10) business days of Landlord's written demand, repay to Landlord the taxes so levied against Landlord or the proportion of such taxes resulting from such increase in the assessment, as the case may be.

4.6 **Landlord's Books and Records**. Upon Tenant's written request (an "**Audit Request**") given not

more than ninety (90) days after Tenant's receipt of a Statement for a particular Expense Year, and provided that Tenant is not then in default under this Lease, Landlord shall furnish Tenant with such reasonable supporting documentation in connection with said Direct Expenses. Landlord shall provide said information to Tenant within sixty (60) days after Tenant's written request therefor. Within sixty (60) days after receipt of such information by Tenant (the "**Review Period**"), if Tenant disputes the amount of Direct Expenses set forth in the Statement, an independent Certified Public Accountant (which accountant (A) is a Certified Public Accountant, (B) is a member of a nationally recognized accounting firm, and (C) is not working on a contingency fee basis), designated and paid for by Tenant, may, after reasonable notice to Landlord and at reasonable times, inspect Landlord's records with respect to the Statement at Landlord's offices, provided that Tenant is not then in default under this Lease and Tenant has paid all amounts required to be paid under the applicable Estimate Statement and Statement, as the case may be. In connection with such inspection, Tenant and Tenant's agents must agree in advance to follow Landlord's reasonable rules and procedures regarding inspections of Landlord's records, and shall execute a commercially reasonable confidentiality agreement regarding such inspection. Tenant's failure to dispute the amount of Direct Expenses set forth in any Statement within the Review Period shall be deemed to be Tenant's approval of such Statement and Tenant, thereafter, waives the right or ability to dispute the amounts set forth in such Statement. If after such inspection, Tenant still disputes such Additional Rent, a determination as to the proper amount shall be made, at Tenant's expense, by an independent Certified Public Accountant (the "**Accountant**") selected by Landlord and subject to Tenant's reasonable approval; provided that if such determination by the Accountant proves that Direct Expenses were overstated by more than **[* * *]** percent (**[* * *]**%), then the cost of the Accountant and the cost of such determination shall be paid for by Landlord. Tenant hereby acknowledges that Tenant's sole right to inspect Landlord's books and records and to contest the amount of Direct Expenses payable by Tenant shall be as set forth in this Section 4.6 and in no event shall Tenant have the right to inspect Landlord's books and records and/or contest the amount of Direct Expenses payable by Tenant more than one (1) time for any Expense Year, and Tenant hereby waives any and all other rights pursuant to applicable law to inspect such books and records and/or to contest the amount of Direct Expenses payable by Tenant.

5. USE OF PREMISES

5.1 **Permitted Use**. Tenant shall use the Premises solely for the Permitted Use set forth in Section 7 of

the Summary and Tenant shall not use or permit the Premises or the Project to be used for any other purpose or purposes whatsoever without the prior written consent of Landlord, which may be withheld in Landlord's sole discretion.

5.2 **Prohibited Uses**. Tenant further covenants and agrees that Tenant shall not use, or suffer or permit any person or persons to use, the Premises or any part thereof for any use or purpose in violation of the laws of the United States of America, the State of California, or the ordinances, regulations or requirements of the local municipal or county governing body or other lawful authorities having jurisdiction over the Project) including, without limitation, any such laws, ordinances, regulations or requirements relating to hazardous materials or substances, as those terms are defined by Applicable Laws now or hereafter in effect, or any Underlying Documents. Landlord shall have the right to impose reasonable and customary rule and regulations regarding the use of the Project, as reasonably deemed necessary by Landlord with respect to the orderly operation of the Project, and Tenant shall comply with such reasonable rules and regulations to the extent such rules and regulations are provided to Tenant in writing and apply on a non-discriminatory basis to all similar tenants of the Project. Tenant shall not do or permit anything to be done in or about the Premises which will in any way damage the reputation of the Project or obstruct or interfere with the rights of other tenants or occupants of the Building, or injure or annoy them or use or allow the Premises to be used for any improper, unlawful or objectionable purpose, nor shall Tenant cause, maintain or permit any nuisance in, on or about the Premises. Tenant shall comply with, and Tenant's rights and obligations under the Lease and Tenant's use of the Premises shall be subject and subordinate to, all recorded easements, covenants, conditions, and restrictions now or hereafter affecting the Project.

5.3 **Hazardous Materials**.

5.3.1 **Tenant's Obligations**.

5.3.1.1 **Prohibitions**. As a material inducement to Landlord to enter into this Lease with Tenant, Tenant has fully and accurately completed Landlord's Pre-Leasing Environmental Exposure Questionnaire (the "**Environmental Questionnaire**"), which is attached as **Exhibit E**. Tenant agrees that except for those chemicals or materials, and their respective quantities, specifically listed on the Environmental Questionnaire, neither Tenant nor Tenant's employees, contractors and subcontractors of any tier, entities with a contractual relationship with Tenant (other than Landlord), or any entity acting as an agent or sub-agent of Tenant (collectively, "**Tenant's Agents**") will produce, use, store or generate any "Hazardous Materials," as that term is defined below, on, under or about the Premises, nor cause or permit any Hazardous Material to be brought upon, placed, stored, manufactured, generated, blended, handled, recycled, used or "Released," as that term is defined below, on, in, under or about the Premises. If any information provided to Landlord by Tenant on the Environmental Questionnaire, or otherwise relating to information concerning Hazardous Materials is false, incomplete, or misleading in any material respect, the same shall be deemed an Event of Default by Tenant under this Lease. Landlord's prior written consent shall be required to any Hazardous Materials use for the Premises not described on the initial Environmental Questionnaire, such consent to be withheld in Landlord's sole discretion; provided that if the proposed Hazardous Materials are similar to the Hazardous Materials listed on the initial Environmental Questionnaire in terms of their hazardous character, handling profile, usage and quantity, and provided such Hazardous Materials and any residues are managed on accordance with Environmental laws, Landlord shall not unreasonably withhold, condition or delay its consent to Tenant's use of such Hazardous Materials. Tenant shall not install or permit any underground storage tank on the Premises. For purposes of this Lease, "**Hazardous Materials**" means all flammable explosives, petroleum and petroleum products, waste oil, radon, radioactive materials, toxic pollutants, asbestos, polychlorinated biphenyls ("**PCBs**"), medical waste, chemicals known to cause cancer or reproductive toxicity, pollutants, contaminants, hazardous wastes, toxic substances or related materials, including without limitation any chemical, element, compound, mixture, solution, substance, object, waste or any combination thereof, which is or may be hazardous to human health, safety or to the environment due to its radioactivity, ignitability, corrosiveness, reactivity, explosiveness, toxicity, carcinogenicity, infectiousness or other harmful or potentially harmful properties or effects, or defined as, regulated as or included in, the definition of "hazardous substances," "hazardous wastes," "hazardous materials," or "toxic substances" under any Environmental Laws. The term "Hazardous Materials" for purposes of this Lease shall also include any mold, fungus or spores, whether or not the same is defined, listed, or otherwise classified as a "hazardous material" under any Environmental Laws, if such mold, fungus or spores would pose a risk to human health or the environment or negatively impact the value of the Premises. For purposes of this Lease, "**Release**" or "**Released**" or "**Releases**" shall mean 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. Notwithstanding anything to the contrary set forth in this Lease, Tenant shall be permitted to use cleaning solvents, toner, and other items customarily used in an office setting without Landlord's prior consent. Landlord covenants to Tenant that, to Landlord's actual knowledge, there is no Hazardous Material on or about the Building or the Project in violation of

Applicable Law. The phrase "to Landlord's actual knowledge," shall mean to the actual knowledge of **[* * *]**, TPSC IX, LLC.

5.3.1.2 **Notices to Landlord**. Tenant shall notify Landlord in writing as soon as possible but in no event later than five (5) days after (i) Tenant becomes aware of the occurrence of any actual, alleged or threatened Release of any Hazardous Material in, on, under, from, about or in the vicinity of the Premises (whether past or present), regardless of the source or quantity of any such Release, or (ii) Tenant becomes aware of any regulatory actions, inquiries, inspections, investigations, directives, or any cleanup, compliance, enforcement or abatement proceedings (including any threatened or contemplated investigations or proceedings) relating to or potentially affecting the Premises with respect to any Release, or (iii) Tenant becomes aware of any claims by any person or entity relating to any Hazardous Materials in, on, under, from, about or in the vicinity of the Premises, whether relating to damage, contribution, cost recovery, compensation, loss or injury. Collectively, the matters set forth in clauses (i), (ii) and (iii) above are hereinafter referred to as "**Hazardous Materials Claims**". Tenant shall promptly forward to Landlord copies of all orders, notices, permits, applications and other communications and reports in connection with any Hazardous Materials Claims. Additionally, Tenant shall promptly advise Landlord in writing of Tenant's discovery of any occurrence or condition on, in, under or about the Premises that could subject Tenant or Landlord to any liability, or restrictions on ownership, occupancy, transferability or use of the Premises under any "Environmental Laws," as that term is defined below. Tenant shall not enter into any legal proceeding or other action, settlement, consent decree or other compromise with respect to any Hazardous Materials Claims without first notifying Landlord of Tenant's intention to do so and affording Landlord the opportunity to join and participate, as a party if Landlord so elects, in such proceedings and in no event shall Tenant enter into any agreements which are binding on Landlord or the Premises without Landlord's prior written consent. Landlord shall have the right to appear at and participate in, any and all legal or other administrative proceedings concerning any Hazardous Materials Claim. For purposes of this Lease, "**Environmental Laws**" means all applicable present and future laws relating to the protection of human health, safety, wildlife or the environment, including, without limitation, (i) all requirements pertaining to reporting, licensing, permitting, investigation and/or remediation of emissions, discharges, Releases, or threatened Releases of Hazardous Materials, whether solid, liquid, or gaseous in nature, into the air, surface water, groundwater, or land, or relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport, or handling of Hazardous Materials; and (ii) all requirements pertaining to the health and safety of employees or the public. Environmental Laws include, but are not limited to, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 USC § 9601, et seq., the Hazardous Materials Transportation Authorization Act of 1994, 49 USC § 5101, et seq., the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, and Hazardous and Solid Waste Amendments of 1984, 42 USC § 6901, et seq., the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977, 33 USC § 1251, et seq., the Clean Air Act of 1966, 42 USC § 7401, et seq., the Toxic Substances Control Act of 1976, 15 USC § 2601, et seq., the Safe Drinking Water Act of 1974, 42 USC §§ 300f through 300j, the Occupational Safety and Health Act of 1970, as amended, 29 USC § 651 et seq., the Oil Pollution Act of 1990, 33 USC § 2701 et seq., the Emergency Planning and Community Right-To-Know Act of 1986, 42 USC § 11001 et seq., the National Environmental Policy Act of 1969, 42 USC § 4321 et seq., the Federal Insecticide, Fungicide and Rodenticide Act of 1947, 7 USC § 136 et seq., California Carpenter-Presley-Tanner Hazardous Substance Account Act, California Health & Safety Code §§ 25300 et seq., Hazardous Materials Release Response Plans and Inventory Act, California Health & Safety Code, §§ 25500 et seq., Underground Storage of Hazardous Substances provisions, California Health & Safety Code, §§ 25280 et seq., California Hazardous Waste Control Law, California Health & Safety Code, §§ 25100 et seq., and any other state or local law counterparts, as amended, as such Applicable Laws, are in effect as of the Lease Commencement Date, or thereafter adopted, published, or promulgated.

5.3.1.3 **Releases of Hazardous Materials**. If any Release of any Hazardous Material in, on, under, from or about the Premises for which Tenant is responsible shall occur at any time during the Lease Term and/or if any other Hazardous Material condition exists at the Premises that requires response actions of any kind, in addition to notifying Landlord as specified above, Tenant, at its own sole cost and expense, shall promptly upon becoming aware of such condition (i) immediately comply with any and all reporting requirements imposed pursuant to any and all Environmental Laws, (ii) provide a written certification to Landlord indicating that Tenant has complied with all applicable reporting requirements, (iii) take any and all necessary investigation, corrective and remedial action in accordance with any and all applicable Environmental Laws, utilizing an environmental consultant approved by Landlord, all in accordance with the provisions and requirements of this Section 5.3, including, without limitation, Section 5.3.4, and (iv) take any such additional investigative, remedial and corrective actions as Landlord shall in its

reasonable discretion deem necessary such that the Premises are remediated to the condition existing prior to such Release.

5.3.1.4 **Indemnification**.

5.3.1.4.1 **In General**. Without limiting in any way Tenant's obligations under any other provision of this Lease, Tenant shall be solely responsible for and shall protect, defend, indemnify and hold the Landlord Parties harmless from and against any and all claims, judgments, losses, damages, costs, expenses, penalties, enforcement actions, taxes, fines, remedial actions, liabilities (including, without limitation, actual attorneys' fees, litigation, arbitration and administrative proceeding costs, expert and consultant fees and laboratory costs) including, without limitation, consequential damages and sums paid in settlement of claims, which arise during or after the Lease Term, whether foreseeable or unforeseeable, that arise during or after the Lease Term in whole or in part, foreseeable or unforeseeable, directly or indirectly arising out of or attributable to the presence, use, generation, manufacture, treatment, handling, refining, production, processing, storage, Release or presence of Hazardous Materials in, on, under or about the Premises by Tenant or Tenant's Agents.

5.3.1.4.2 **Limitations**. Notwithstanding anything in Section 5.3.1.4, above, to the contrary, Tenant's indemnity of Landlord as set forth in Section 5.3.1.4, above, shall not be applicable to claims based upon Hazardous Materials which may exist in, on or about the Premises as of the Lease Commencement Date ("**Existing Hazardous Materials**"), except to the extent that Tenant's construction activities and/or Tenant's other acts or omissions (including Tenant's failure to remove, remediate or otherwise treat or "Clean-up," as that term is defined in Section 5.3.4, below, the subject Existing Hazardous Materials during the tenancy of the Premises) caused or exacerbated the subject claim.

5.3.1.5 **Compliance with Environmental Laws**. Without limiting the generality of Tenant's obligation to comply with Applicable Laws as otherwise provided in this Lease, Tenant shall, at its sole cost and expense, comply with all Environmental Laws applicable to its use of the Premises; provided however that Tenant shall not be obligated to remove or remediate any Existing Hazardous Materials. Tenant shall obtain and maintain any and all necessary permits, licenses, certifications and approvals appropriate or required for the use, handling, storage, and disposal of any Hazardous Materials used, stored, generated, transported, handled, blended, or recycled by Tenant on the Premises. Landlord shall have a continuing right, without obligation, to require Tenant to obtain, and to review and inspect any and all such permits, licenses, certifications and approvals, together with copies of any and all Hazardous Materials management plans and programs, any and all Hazardous Materials risk management and pollution prevention programs, and any and all Hazardous Materials emergency response and employee training programs respecting Tenant's use of Hazardous Materials. Upon request of Landlord, Tenant shall deliver to Landlord a narrative description explaining the nature and scope of Tenant's activities involving Hazardous Materials and showing to Landlord's satisfaction compliance with all Environmental Laws and the terms of this Lease.

5.3.2 **Assurance of Performance**.

5.3.2.1 **Environmental Assessments In General**. Landlord may, but shall not be required to, engage from time to time such contractors as Landlord determines to be appropriate to perform environmental assessments of a scope reasonably determined by Landlord (an "**Environmental Assessment**") to ensure Tenant's compliance with the requirements of this Lease with respect to Hazardous Materials.

5.3.2.2 **Costs of Environmental Assessments**. All costs and expenses incurred by Landlord in connection with any such Environmental Assessment initially shall be paid by Landlord; provided that if any such Environmental Assessment shows that Tenant has failed to comply with the provisions of this Section 5.3, then all of the costs and expenses of such Environmental Assessment shall be reimbursed by Tenant as Additional Rent within ten (10) business days after receipt of written demand therefor.

5.3.3 **Tenant's Obligations upon Surrender**. At the expiration or earlier termination of the

Lease Term, Tenant, at Tenant's sole cost and expense, shall: (i) cause an Environmental Assessment of the Premises to be conducted in accordance with Section 15.3; (ii) cause all Hazardous Materials Released by Tenant to be removed from the Premises and disposed of in accordance with all Environmental Laws and as necessary to allow the Premises to be used for any purpose; and (iii) cause to be removed all containers installed or used by Tenant or Tenant's Agents

to store any Hazardous Materials on the Premises, and cause to be repaired any damage to the Premises caused by such removal.

5.3.4 **Clean-up**.

5.3.4.1 **Environmental Reports; Clean-Up**. If any written report, including any report containing results of any Environmental Assessment (an "**Environmental Report**") shall indicate (i) the presence of any Hazardous Materials as to which Tenant has a removal or remediation obligation under this Section 5.3, and (ii) that as a result of same, the investigation, characterization, monitoring, assessment, repair, closure, remediation, removal, or other clean-up (the "**Clean-up**") of any Hazardous Materials is required, Tenant shall immediately prepare and submit to Landlord within thirty (30) days after receipt of the Environmental Report a comprehensive plan, subject to Landlord's written approval, specifying the actions to be taken by Tenant to perform the Clean-up so that the Premises are restored to the conditions required by this Lease. Upon Landlord's approval of 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 such plan with a consultant reasonably acceptable to Landlord and proceed to Clean-Up Hazardous Materials in accordance with all Applicable Laws and as required by such plan and this Lease. If, within thirty (30) days after receiving a copy of such Environmental Report, Tenant fails either (a) to complete such Cleanup, or (b) with respect to any Clean-up that cannot be completed within such thirty-day period, fails to proceed with diligence to prepare the Clean-up plan and complete the Clean-up as promptly as practicable, then Landlord shall have the right, but not the obligation, and without waiving any other rights under this Lease, to carry out any Clean-up recommended by the Environmental Report or required by any governmental authority having jurisdiction over the Premises, and recover all of the costs and expenses thereof from Tenant as Additional Rent, payable within ten (10) business days after receipt of written demand therefor. If any remediation or Clean-up is necessitated by Landlord's act or omission (where there was a duty to act) or in connection with Existing Hazardous Materials, such remediation and/or clean up shall be completed by Landlord at Landlord's sole cost and expense, to the extent required by any governmental authority having jurisdiction over the Premises.

5.3.4.2 **No Rent Abatement**. Tenant shall continue to pay all Rent due or accruing under this Lease during any Clean-up, and shall not be entitled to any reduction, offset or deferral of any Base Rent or Additional Rent due or accruing under this Lease during any such Clean-up.

5.3.4.3 **Surrender of Premises**. Tenant shall complete any Clean-up prior to surrender of the Premises upon the expiration or earlier termination of this Lease. Tenant shall obtain and deliver to Landlord a letter or other written determination from the overseeing governmental authority confirming that the Clean-up has been completed in accordance with all requirements of such governmental authority and that no further response action of any kind is required for the unrestricted use of the Premises ("**Closure Letter**"). Upon the expiration or earlier termination of this Lease, Tenant shall also be obligated to close all permits obtained in connection with Hazardous Materials in accordance with Applicable Laws.

5.3.4.4 **Failure to Timely Clean-Up**. Should any Clean-up for which Tenant is responsible not be completed, or should Tenant not receive the Closure Letter and any governmental approvals required under Environmental Laws in conjunction with such Clean-up prior to the expiration or earlier termination of this Lease, and such failure prevents Landlord from being able to lease the Premises to a successor tenant, then Tenant shall be liable to Landlord as a holdover tenant (as more particularly provided in Article 16) until Tenant has fully complied with its obligations under this Section 5.3.

5.3.5 **Confidentiality**. Unless compelled to do so by Applicable Law, Tenant agrees that Tenant

shall not disclose, discuss, disseminate or copy any information, data, findings, communications, conclusions and reports regarding the environmental condition of the Premises to any Person (other than Tenant's consultants, attorneys, property managers and employees that have a need to know such information), including any governmental authority, without the prior written consent of Landlord. In the event Tenant reasonably believes that disclosure is compelled by Applicable Law, it shall provide Landlord ten (10) days' advance notice of disclosure of confidential information so that Landlord may attempt to obtain a protective order. Tenant may additionally release such information to bona fide prospective purchasers or lenders, subject to any such parties' written agreement to be bound by the terms of this Section 5.3.

5.3.6 **Copies of Environmental Reports**. Within thirty (30) days of receipt thereof, Tenant

shall provide Landlord with a copy of any and all environmental assessments, audits, studies and reports regarding Tenant's activities with respect to the Premises, or ground water beneath the Land, or the environmental condition or Clean-up thereof. Tenant shall be obligated to provide Landlord with a copy of such materials without regard to whether such materials are generated by Tenant or prepared for Tenant, or how Tenant comes into possession of such materials.

5.3.7 **Intentionally Omitted**.

5.3.8 **Signs, Response Plans, Etc**. Tenant shall be responsible for posting on the Premises any

signs required under applicable Environmental Laws. Tenant shall also complete and file any business response plans or inventories required by any Applicable Laws. Tenant shall concurrently file a copy of any such business response plan or inventory with Landlord.

5.3.9 **Survival**. Each covenant, agreement, representation, warranty and indemnification made

by Landlord and Tenant set forth in this Section 5.3 shall survive the expiration or earlier termination of this Lease and shall remain effective until all of such party's obligations under this Section 5.3 have been completely performed and satisfied.

5.4 **Outside Area**. Subject to the terms and conditions contained in this Section 5.4 and elsewhere in

this Lease, and subject to Tenant obtaining and maintaining all necessary and applicable governmental approvals, commencing as of the Lease Commencement Date, Tenant shall have a license during the Lease Term for the exclusive use of certain space in the Common Area (the "**Outside Area**"), in the location as depicted on **Exhibit H**, attached hereto, for the construction (as a Tenant Improvement or an Alteration) of a shed for the storage of Hazardous Materials used in Tenant's operations from the Premises for the Permitted Use and disclosed in the Environmental Questionnaire. The Outside Area shall not be included in the rentable square feet of the Premises for purposes of this Lease. The license to use the Outside Area granted to Tenant hereby is personal to the Original Tenant and any Permitted Transfer Assignee, and shall not be otherwise assigned, sublet or otherwise transferred in any way or manner. Tenant also acknowledges that neither Landlord nor any agent of Landlord has made any representation or warranty regarding the condition of the Outside Area or the compliance of the Outside Area with any Applicable Laws. Tenant shall have the right, at Tenant's sole cost and expense, to alter, change or make improvements to the Outside Area (as an Alteration), subject to Landlord's reasonable approval; provided, however, that Tenant shall be responsible, at its sole cost and expense, for the maintenance and repair of the Outside Area. Tenant acknowledges and agrees that although Tenant shall have the exclusive license to use the Outside Area during the Lease Term, Landlord shall have no obligation to enforce Tenant's exclusive use of the Outside Area, and neither Landlord nor the Landlord Parties shall in no event be liable for, and Landlord and the Landlord Parties are hereby released from any responsibility for, any personal injury or property damage sustained by Tenant in connection with or arising from any acts or omissions with regard to the admission or exclusion from the Outside Area of any person; provided, however, that Landlord hereby covenants and agrees that it shall not grant any third party the right to use the Outside Area during the Lease Term, as the same may be extended. Tenant shall keep the Outside Area clean of all trash and debris and shall also keep the surrounding areas clean of debris and trash arising from the use of the Outside Area. Tenant agrees, at its own expense, to pay for all utilities used by Tenant in the Outside Area (including, without limitation, all sales, use and other taxes (but excluding real property taxes) imposed thereon by any governmental authority). Tenant shall remove any personal property from the Outside Area upon the expiration or earlier termination of this Lease, or upon the termination of Tenant's license under this Section 5.4, and shall repair any damage to the Premises and Building caused by such removal. Except as otherwise set forth in this Lease or required by Applicable Laws, Tenant shall not be permitted to display any graphics, signs or insignias or the like in the Outside Area. Tenant's use of the Outside Area shall be subject to such reasonable additional rules, regulations and restrictions as Landlord may make from time to time concerning the Outside Area. Except as expressly set forth in this Section 5.4, all of the terms, conditions, limitations and restrictions contained in this Lease pertaining to the Premises and Tenant's use thereof (excluding Tenant's obligation to pay Base Rent) shall apply equally to the Outside Area and Tenant's use thereof, including, without limitation, Tenant's repair and maintenance obligations set forth in Section 7.1, Tenant's responsibilities and obligations with respect to Hazardous Materials set forth in Section 5.3, Tenant's indemnity of Landlord set forth in Section 10.1, and Tenant's insurance obligations set forth in Article 10. The license to use the Outside Area granted to Tenant hereby shall be revocable by Landlord for cause upon written notice to Tenant, and Landlord thereafter shall have the right to prevent Tenant's access thereto. As used in this Section 5.4, "cause" shall

include, without limitation, any of the following: (i) Landlord's good faith determination that the license granted hereby and/or the use of the Outside Area threatens the safety and/or security of persons or property or endangers or otherwise interferes with the use and occupancy of the Building or Project by Landlord, its employees, agents or contractors or other tenants or occupants of the Building or the Project; (ii) the license granted hereby constitutes a violation of or otherwise conflicts with any law, statute, ordinance or other governmental rule, regulation or requirement now in force or which may hereafter be enacted or promulgated (unless Tenant changes its use of the Outside Area in order to comply with such law, statute, ordinance or other governmental rule, regulation or requirement), or results in increased rates of insurance for the Building or Project (unless Tenant pays the cost of such increased rates to Landlord); (iii) this Lease is terminated for any reason; or (iv) Tenant fails, after any applicable notice and cure period expressly set forth in this Lease, to comply with any of the terms, conditions, limitations or restrictions contained in this Section 5.4 or elsewhere in this Lease which apply to the Outside Area or Tenant's use thereof.

6. SERVICES AND UTILITIES

6.1 **In General**. Landlord shall provide the following services on all days (unless otherwise stated below) during the Lease Term.

6.1.1 Subject to limitations imposed by all governmental rules, regulations and guidelines applicable thereto, Landlord shall provide heating, ventilation and air conditioning to the office portions of the Premises ("**HVAC**") when necessary for normal comfort for normal office use in the Premises, except for the date of observation of New Year's Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and, at Landlord's discretion, other locally or nationally recognized holidays (collectively, the "**Holidays**"), 24 hours per day, 7 days per week. Tenant shall cooperate fully with Landlord at all times and abide by all non-discriminatory regulations and requirements that Landlord may reasonably prescribe for the proper functioning and protection of the HVAC, electrical, mechanical and plumbing systems. HVAC to the lab portions of the Premises will be provided 24 hours per day, seven (7) days per week.

6.1.2 Notwithstanding anything set forth in this Lease to the contrary, electricity is separately metered (or sub-metered) at the Premises and shall be paid directly by Tenant to the applicable utility provider. If electricity is separately sub-metered (as opposed to separately metered), then Tenant shall pay to Landlord the cost of such utilities based on such sub-meter, including reimbursement for any penalties for usage or other surcharges imposed by any utility company. Within thirty (30) days after receipt of Landlord's statement of apportionment or statement setting forth the charges payable by Tenant, Tenant shall pay to Landlord, as Additional Rent, the cost of such electrical services so apportioned or so provided by Landlord. Notwithstanding anything to the contrary set forth herein, to the extent the Premises generates electricity demand on a shared resource (e.g. electricity for the central plant), the cost of such electricity shall be allocated to Tenant on a pro rata basis or other reasonable basis consistent with commercial reasonable property management practices.

6.1.3 Landlord shall provide city water from the regular Building outlets for drinking, kitchen, lavatory and toilet purposes in the Building Common Areas and the Premises.

6.1.4 Landlord shall not provide janitorial services for the Premises. Tenant shall be solely responsible for performing all janitorial services and other cleaning of the Premises, all in compliance with Applicable Laws. The janitorial and cleaning of the Premises shall be adequate to maintain the Premises in a manner consistent with First Class Life Sciences Projects.

6.1.5 Landlord shall provide janitorial services for the Common Areas in a manner consistent with First Class Life Sciences Projects.

6.1.6 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 with Landlord to assure that Tenant's Security System is compatible with Landlord's security system and the Building systems and equipment, and to the extent that Tenant's Security System is not compatible with Landlord's security system and the Building systems and equipment, Tenant shall not be entitled to install or operate the Tenant's Security System. Tenant shall be solely responsible, at Tenant's sole cost and expense, for the

installation, monitoring, operation and removal of Tenant's Security System. Tenant's Security System shall be installed by Tenant in accordance with terms of Article 8 of this Lease. Landlord hereby acknowledges that Tenant may, at its election and at is sole cost, hire security personnel ("**Security Personnel**"), and such Security Personnel must remain within the Premises, provided that (i) such Security Personnel may perform services for the Tenant in the Project Common Areas after such time as Landlord and Tenant shall mutually and reasonably agree upon the uniforms to be worn by Tenant's Security Personnel so as to ensure that Tenant's Security Personnel are not mistaken for Landlord's uniformed security personnel, if any, by other tenants or any contractors, servants, employees, visitors, invitees, guests or licensees of other tenants of the Project, (ii) Tenant's Security Personal must not carry a firearm or other weapon, and (iii) Tenant's Security Personal must reasonably cooperate with Landlord and other Landlord Parties. In addition, (a) all Security Personnel shall be licensed (including without limitation holding a valid California Guard Card) and bonded and shall at all times maintain any and all required licenses or other governmental permits required in connection with the performance of their duties under this Lease and shall at all times conduct themselves in a manner consistent with First Class Life Sciences Projects, (b) a commercially reasonable background check shall be performed on all Security Personnel by Tenant and shall be provided to Landlord by Tenant upon request by Landlord, (c) Tenant shall provide Landlord written notice of the names of its Security Personnel prior to any such Security Personnel performing security services hereunder; and (d) the security contractor providing the Security Personnel to Tenant hereunder shall comply with Landlord's reasonable insurance requirements. Tenant shall indemnify, defend, protect, and hold harmless the Landlord Parties from any and all claims, loss, cost, damage, injury, expense and liability relating to or resulting from any Security Personnel retained by or for Tenant (including any acts, omissions or negligence of any Security Personnel).

Tenant shall cooperate fully with Landlord at all times and abide by all regulations and requirements that Landlord may reasonably prescribe for the proper functioning and protection of the HVAC, electrical, mechanical and plumbing systems; provided such regulations and requirements are provided to Tenant and apply in a nondiscriminatory manner to similar tenants in the Project.

6.2 **Interruption of Use**. Tenant agrees that Landlord shall not be liable for damages, by abatement of

Rent (except as set forth in Section 6.5 below) or otherwise, for failure to furnish or delay in furnishing any service (including telephone and telecommunication services), or for any diminution in the quality or quantity thereof, when such failure or delay or diminution is occasioned, in whole or in part, by breakage, repairs, replacements, or improvements, by any strike, lockout or other labor trouble, by inability to secure electricity, gas, water, or other fuel at the Building or Project after reasonable effort to do so, by any riot or other dangerous condition, emergency, accident or Casualty (as that term is defined in Section 11.1 below) whatsoever, by act or default of Tenant or other parties, or by any other cause; and such failures or delays or diminution shall never be deemed to constitute an eviction or disturbance of Tenant's use and possession of the Premises or relieve Tenant from paying Rent (except as set forth in Section 6.5 below) or performing any of its obligations under this Lease. Furthermore, Landlord shall not be liable under any circumstances for a loss of, or injury to, property or for injury to, or interference with, Tenant's business, including, without limitation, loss of profits, however occurring, through or in connection with or incidental to a failure to furnish any of the services or utilities as set forth in this Article 6.

6.3 **Generator**. Tenant shall have the exclusive right to use and control the 250kW emergency electrical

generator and related equipment serving the Building (all such equipment defined collectively as the "**Emergency Generator**"), to be installed by Landlord prior to the Lease Commencement Date. Except to the extent arising from the gross negligence or willful misconduct of Landlord, Landlord shall not be liable for any damages whatsoever resulting from any failure in operation of the Emergency Generator, or the failure of the Emergency Generator to provide suitable or adequate back-up power, including but not limited to, loss of profits, loss of rents or other revenues, loss of business opportunity, loss of goodwill or loss of use, in each case, however occurring, or loss to inventory, scientific research, scientific experiments, laboratory animals, products, specimens, samples, 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. Tenant shall not be charged any additional rental or other costs for the use of the location in which the Emergency Generator is located. Tenant shall maintain and repair the Emergency Generator in good condition and repair, and in compliance with all Applicable Laws (including the maintenance of all applicable permits), at Tenant's sole cost and expense during the Lease Term. Tenant's obligations with respect to the Premises, including the insurance and indemnification obligations contained in Article 10, below, shall apply to Tenant's use of the Emergency Generator and Tenant shall carry industry standard Boiler and Machinery insurance covering the Emergency Generator. Tenant shall surrender the Emergency Generator (and shall transfer to Landlord all permits

maintained by Tenant in connection with the Emergency Generator during the Lease Term) concurrent with the surrender of the Premises to Landlord as required hereunder in the same condition as the Emergency Generator were in as of the date hereof, reasonable wear and tear excepted, with all permits current.

6.4 **Energy Performance Disclosure Information**. Tenant hereby acknowledges that Landlord may

be required to disclose certain information concerning the energy performance of the Building pursuant to California Public Resources Code Section 25402.10 and the regulations adopted pursuant thereto (collectively the "**Energy Disclosure Requirements**"). Tenant hereby acknowledges prior receipt of the Data Verification Checklist, as defined in the Energy Disclosure Requirements (the "**Energy Disclosure Information**"), and agrees that Landlord has timely complied in full with Landlord's obligations under the Energy Disclosure Requirements. Tenant acknowledges and agrees that (i) Landlord makes no representation or warranty regarding the energy performance of the Building or the accuracy or completeness of the Energy Disclosure Information, (ii) the Energy Disclosure Information is for the current occupancy and use of the Building and that the energy performance of the Building may vary depending on future occupancy and/or use of the Building, and (iii) Landlord shall have no liability to Tenant for any errors or omissions in the Energy Disclosure Information. Further, Tenant hereby releases Landlord from any and all losses, costs, damages, expenses and/or liabilities relating to, arising out of and/or resulting from the Energy Disclosure Requirements, including, without limitation, any liabilities arising as a result of Landlord's failure to disclose the Energy Disclosure Information to Tenant prior to the execution of this Lease; provided that the foregoing release shall not be applicable to losses arising as a result of Landlord's gross negligence or willful misconduct. Tenant's acknowledgment of the AS-IS condition of the Premises pursuant to the terms of this Lease shall be deemed to include the energy performance of the Building. Tenant further acknowledges that pursuant to the Energy Disclosure Requirements, Landlord may be required in the future to disclose information concerning Tenant's energy usage to certain third parties, including, without limitation, prospective purchasers, lenders and tenants of the Building (the "**Tenant Energy Use Disclosure**"). Tenant hereby (A) consents to all such Tenant Energy Use Disclosures, and (B) acknowledges that Landlord shall not be required to notify Tenant of any Tenant Energy Use Disclosure unless Landlord has been informed by Tenant that such information is of a confidential nature. Further, Tenant hereby releases Landlord from any and all losses, costs, damages, expenses and liabilities relating to, arising out of and/or resulting from any Tenant Energy Use Disclosure. The terms of this Section 6.4 shall survive the expiration or earlier termination of this Lease.

6.5 **Abatement of Rent**. In the event that Tenant is prevented from using, and does not use, the Premises

or any portion thereof, as a result of (i) any repair, maintenance or alteration performed by Landlord, or which Landlord failed to perform, after the Lease Commencement Date and required by this Lease, which substantially interferes with Tenant's use of the Premises, or (ii) any failure by Landlord to provide services, utilities or access to the Premises required by this Lease to be provided by Landlord as a result of circumstances within Landlord's control (either such set of circumstances as set forth in items (i) or (ii), above, to be known as an "**Abatement Event**"), then Tenant shall give Landlord notice of such Abatement Event, and if such Abatement Event continues for five (5) consecutive business days after Landlord's receipt of any such notice (the "**Eligibility Period**") and Landlord does not diligently commence and pursue to completion the remedy of such Abatement Event, then the Base Rent and Tenant's Share of Direct Expenses shall be abated or reduced, as the case may be, after expiration of the Eligibility Period for such time that Tenant continues to be so prevented from using, and does not use for the normal conduct of Tenant's business, the Premises or a portion thereof, in the proportion that the rentable area of the portion of the Premises that Tenant is prevented from using, and does not use, bears to the total rentable area of the Premises; provided, however, in the event that Tenant is prevented from using, and does not use, a portion of the Premises for a period of time in excess of the Eligibility Period and the remaining portion of the Premises is not sufficient to allow Tenant to effectively conduct its business therein, and if Tenant does not conduct its business from such remaining portion, then for such time after expiration of the Eligibility Period during which Tenant is so prevented from effectively conducting its business therein, the Base Rent and Tenant's Share of Direct Expenses for the entire Premises shall be abated for such time as Tenant continues to be so prevented from using, and does not use, the Premises. If, however, Tenant reoccupies any portion of the Premises during such period, the Rent allocable to such reoccupied portion, based on the proportion that the rentable area of such reoccupied portion of the Premises bears to the total rentable area of the Premises, shall be payable by Tenant from the date Tenant reoccupies such portion of the Premises. To the extent an Abatement Event is caused by an event covered by Articles 11 or 13 of this Lease, then Tenant's right to abate rent shall be governed by the terms of such Article 11 or 13, as applicable, and the Eligibility Period shall not be applicable thereto. Such right to abate Base Rent and Tenant's Share of Direct Expenses shall be Tenant's sole and exclusive remedy for

rent abatement at law or in equity for an Abatement Event. Except as provided in this Section 6.5, nothing contained herein shall be interpreted to mean that Tenant is excused from paying Rent due hereunder.

7. REPAIRS

7.1 **Tenant Repair Obligations**. Tenant shall, at Tenant's own expense, keep the Premises, including

all improvements, fixtures and furnishings therein, and the floor or floors of the Building on which the Premises are located, but excluding the Building Systems (as that term is defined in Section 7.2, below, but including the distribution of the Building Systems on the floors of the Premises), in good order, repair and condition at all times during the Lease Term, except for damage caused by ordinary wear and tear or beyond the reasonable control of Tenant or from casualty events. Landlord may, but shall not be required to, enter the Premises pursuant to the terms of Article 27, below, to make such repairs, alterations, improvements or additions to the Premises or to the Project or to any equipment located in the Project as Landlord shall desire or deem necessary or as Landlord may be required to do by governmental or quasi-governmental authority or court order or decree. Tenant hereby waives any and all rights under and benefits of subsection 1 of Section 1932 and Sections 1941 and 1942 of the California Civil Code or under any similar law, statute, or ordinance now or hereafter in effect.

7.2 **Landlord Repair Obligations**. Landlord shall be responsible, as a part of Operating Expenses, for

repairs to and routine maintenance of the Project including without limitation: (1) exterior windows, window frames, window casements (including the repairing, resealing, cleaning and replacing of exterior windows); (2) exterior doors, door frames and door closers; (3) the Building (as opposed to the Premises) and Project plumbing, sewer, drainage, electrical, fire protection, life safety and security systems and equipment, existing heating, ventilation and air-conditioning systems, and all other mechanical and HVAC systems and equipment serving the Building as a whole and not exclusive to a particular floor of the Premises (collectively, the "**Building Systems**"), (4) the exterior glass, exterior walls, foundation and roof (including roof membrane) of the Building, the structural portions of the floors of the Building (the "**Building Structure**"), including, without limitation, any painting, sealing, patching and waterproofing of exterior walls, and (5) repairs to the elevator in the Building and underground utilities, except to the extent that any such repairs are required due to the negligence or willful misconduct of Tenant (the "**Landlord Repair Obligations**"); provided, however, that if such repairs are due to the negligence or willful misconduct of Tenant, Landlord shall nevertheless make such repairs at Tenant's expense, or, if covered by Landlord's insurance, Tenant shall only be obligated to pay any deductible in connection therewith. Costs expended by Landlord in connection with the Landlord Repair Obligations shall be included in Operating Expenses to the extent allowed pursuant to the terms of Article 4, above. Landlord shall reasonably cooperate with Tenant to enforce any warranties that Landlord holds that could reduce Tenant's maintenance obligations under this Lease.

8. ADDITIONS AND ALTERATIONS

8.1 **Landlord's Consent to Alterations**. Tenant may not make any improvements, alterations,

additions or changes to the Premises or any mechanical, plumbing or HVAC facilities or systems pertaining to the Premises (collectively, the "**Alterations**") without first procuring the prior written consent of Landlord to such Alterations, which consent shall be requested by Tenant not less than thirty (30) days prior to the commencement thereof, and which consent shall not be unreasonably withheld, conditioned or delayed by Landlord, provided it shall be deemed reasonable for Landlord to withhold its consent to any Alteration which adversely affects the structural portions or the systems or equipment of the Building or is visible from the exterior of the Building. Notwithstanding the foregoing, Tenant shall be permitted to make Alterations following ten (10) business days' notice to Landlord, but without Landlord's prior consent, to the extent that such Alterations (i) do not affect the building systems or equipment, (ii) are not visible from the exterior of the Building, and (iii) cost less than **$[* * *]** for a particular job of work. The construction of the initial improvements to the Premises shall be governed by the terms of the Tenant Work Letter and not the terms of this Article 8.

8.2 **Manner of Construction**. Landlord may impose, as a condition of its consent to any and all

Alterations or repairs of the Premises or about the Premises, such requirements as Landlord in its reasonable discretion may deem desirable, including, but not limited to, the requirement that upon Landlord's request, Tenant shall, at Tenant's expense, remove such Alterations upon the expiration or any early termination of the Lease Term. Tenant shall construct such Alterations and perform such repairs in a good and workmanlike manner, in conformance with any and all applicable federal, state, county or municipal laws, rules and regulations and pursuant to a valid building

permit, issued by the city in which the Building is located (or other applicable governmental authority). Tenant shall not use (and upon notice from Landlord shall cease using) contractors, services, workmen, labor, materials or equipment that, in Landlord's reasonable judgment, would disturb labor harmony with the workforce or trades engaged in performing other work, labor or services in or about the Building or the Common Areas. Upon completion of any Alterations (or repairs), Tenant shall deliver to Landlord final lien waivers from all contractors, subcontractors and materialmen who performed such work. In addition to Tenant's obligations under Article 9 of this Lease, upon completion of any Alterations, Tenant agrees to cause a Notice of Completion to be recorded in the office of the Recorder of the County of San Diego in accordance with Section 3093 of the Civil Code of the State of California or any successor statute, and Tenant shall deliver to the Project construction manager a reproducible copy of the "**as built**" drawings of the Alterations as well as all permits, approvals and other documents issued by any governmental agency in connection with the Alterations.

8.3 **Payment for Improvements**. Tenant shall reimburse Landlord for Landlord's reasonable, actual,

out-of-pocket costs and expenses actually incurred in connection with Landlord's review of such work.

8.4 **Construction Insurance**. In addition to the requirements of Article 10 of this Lease, in the event

that Tenant makes any Alterations, prior to the commencement of such Alterations, Tenant shall provide Landlord with evidence that Tenant carries "**Builder's All Risk**" insurance in an amount approved by Landlord covering the construction of such Alterations, and such other insurance as Landlord may reasonably require, it being understood and agreed that all of such Alterations shall be insured by Tenant pursuant to Article 10 of this Lease immediately upon completion thereof. In addition, Tenant's contractors and subcontractors shall be required to carry (i) Commercial General Liability Insurance in an amount approved by Landlord, with Landlord, and, at Landlord's option, Landlord's property manager and project manager, as additional insureds in an amount approved by Landlord, and otherwise in accordance with the requirements of Article 10 of this Lease, and (ii) workers compensation insurance with a waiver of subrogation in favor of Landlord. Landlord may, in its discretion, require Tenant to obtain a lien and completion bond or some alternate form of security satisfactory to Landlord in an amount sufficient to ensure the lien-free completion of such Alterations and naming Landlord as a co-obligee.

8.5 **Landlord's Property**. All Alterations, improvements, fixtures, equipment and/or appurtenances

which may be installed or placed in or about the Premises, from time to time, shall be at the sole cost of Tenant and shall be and become the property of Landlord and remain in place at the Premises following the expiration or earlier termination of this Lease; provided that the foregoing shall not apply to Tenant's trade fixtures. Notwithstanding the foregoing, Landlord may, by written notice to Tenant prior to the end of the Lease Term, or given following any earlier termination of this Lease, require Tenant, at Tenant's expense, to remove any Alterations and/or improvements (but not the Tenant Improvements) and/or systems and equipment within the Premises and to repair any damage to the Premises and Building caused by such removal, provided further, however, notwithstanding the foregoing, upon request by Tenant at the time of Tenant's request for Landlord's consent to any Alteration or improvement, or at the time of Tenant's notice for any Alteration that does not require Landlord's consent, Landlord shall notify Tenant whether the applicable Alteration or improvement will be required to be removed pursuant to the terms of this Section 8.5. If Tenant fails to complete such removal and/or to repair any damage caused by the removal of any Alterations and/or improvements and/or systems and equipment in the Premises, Landlord may do so and may charge the cost thereof to Tenant. Tenant hereby protects, defends, indemnifies and holds Landlord harmless from any liability, cost, obligation, expense or claim of lien in any manner relating to the installation, placement, removal or financing of any such Alterations, improvements, fixtures and/or equipment in, on or about the Premises, which obligations of Tenant shall survive the expiration or earlier termination of this Lease.

9. COVENANT AGAINST LIENS Tenant shall keep the Project and Premises free from any liens or

encumbrances arising out of the work performed, materials furnished or obligations incurred by or on behalf of Tenant, and shall protect, defend, indemnify and hold Landlord harmless from and against any claims, liabilities, judgments or costs (including, without limitation, reasonable attorneys' fees and costs) arising out of same or in connection therewith. Tenant shall give Landlord notice at least twenty (20) days prior to the commencement of any such work on the Premises (or such additional time as may be necessary under Applicable Laws) to afford Landlord the opportunity of posting and recording appropriate notices of non-responsibility (to the extent applicable pursuant to then Applicable Laws). Tenant shall remove any such lien or encumbrance by bond or otherwise within ten (10) business days after notice by Landlord, and if Tenant shall fail to do so, Landlord may pay the amount necessary to remove such lien or encumbrance, without being responsible for investigating the validity thereof.

10. INSURANCE

10.1 **Indemnification and Waiver**. Except to the extent arising from the gross negligence or willful

misconduct of Landlord or the Landlord Parties (as defined below), Tenant hereby assumes all risk of damage to property or injury to persons in, upon or about the Premises from any cause whatsoever and agrees that Landlord, its partners, subpartners and their respective officers, agents, servants, employees, lenders, any property manager and independent contractors (collectively, "**Landlord Parties**") shall not be liable for, and are hereby released from any responsibility for, any damage either to person or property or resulting from the loss of use thereof, which damage is sustained by Tenant or by other persons claiming through Tenant. Except to the extent arising from the gross negligence or willful misconduct of Landlord or the Landlord Parties, Tenant shall indemnify, defend, protect, and hold harmless the Landlord Parties from any and all claims, loss, cost, damage, injury, expense and liability (including without limitation court costs and reasonable attorneys' fees) incurred in connection with or arising from any cause in, on or about the Premises, any acts, omissions or negligence of Tenant or of any person claiming by, through or under Tenant, or of the contractors, agents, servants, employees, invitees, guests or licensees of Tenant or any such person, in, on or about the Project or any breach of the terms of this Lease, either prior to, during, or after the expiration of the Lease Term, provided that the terms of the foregoing indemnity shall not apply if and from the time that a final adjudication has resulted in a finding of willful misconduct of Landlord or other Landlord Party. Landlord shall indemnify, defend, protect, and hold harmless Tenant from any and all loss, cost, damage, expense and liability (including without limitation reasonable attorneys' fees) arising from the gross negligence or willful misconduct of Landlord in, on or about the Project, except to the extent caused by the negligence or willful misconduct of the Tenant Parties. Should either party be named as a defendant in any suit brought against the other party in connection with or arising out of this Lease, the indemnifying party shall pay to indemnified party its reasonable costs and expenses incurred in such suit, including without limitation, its actual professional fees such as reasonable appraisers', accountants' and attorneys' fees. The provisions of this Section 10.1 shall survive the expiration or sooner termination of this Lease with respect to any claims or liability arising in connection with any event occurring prior to such expiration or termination.

10.2 **Tenant's Compliance With Landlord's Property Insurance**. Landlord shall insure the Building

during the Lease Term against loss or damage under an "all risk" property insurance policy. Such coverage shall be in such amounts, from such companies, and on such other terms and conditions, as Landlord may from time to time reasonably determine. Additionally, at the option of Landlord, such insurance coverage may include the risks of earthquakes and/or flood damage and additional hazards, a rental loss endorsement and one or more loss payee endorsements in favor of the holders of any mortgages or deeds of trust encumbering the interest of Landlord in the Building or the ground or underlying lessors of the Building, or any portion thereof. Tenant shall, at Tenant's expense, comply with all insurance company requirements pertaining to the use of the Premises. If Tenant's conduct or use of the Premises causes any increase in the premium for such insurance policies then Tenant shall reimburse Landlord for any such increase. Tenant, at Tenant's expense, shall comply with all rules, orders, regulations or requirements of the American Insurance Association (formerly the National Board of Fire Underwriters) and with any similar body. Tenant shall also provide Landlord and Landlord's insurer(s) with such information regarding the use of the Premises and any damage to the Premises as they may require in connection with the placement of insurance for the Premises or the adjusting of any losses to the Premises.

10.3 **Tenant's Insurance**. Tenant shall maintain the following coverages in the following amounts.

10.3.1 Commercial General Liability Insurance on an occurrence form covering the insured against claims of bodily injury, personal injury and property damage (including loss of use thereof) arising out of Tenant's operations, and contractual liabilities including a contractual coverage, and including products and completed operations coverage, for limits of liability on a per location basis of not less than:

Bodily Injury and	**$[* * *]** each occurrence
Property Damage Liability	**$[* * *]** annual aggregate
Personal Injury Liability	**$[* * *]** each occurrence
	$[* * *] annual aggregate

These amounts may be satisfied by a combination of primary and excess or umbrella liability insurance providing additional limits of coverage.

10.3.2 Property Insurance covering (i) all office furniture, business and trade fixtures, office equipment, free-standing cabinet work, movable partitions, merchandise and all other items of Tenant's property on the Premises installed by, for, or at the expense of Tenant, (ii) the "**Tenant Improvements**," as that term is defined in the Tenant Work Letter, and any other improvements which exist in the Premises as of the Lease Commencement Date (excluding the Base Building) (the "**Original Improvements**"), and (iii) all other improvements, alterations and additions to the Premises. Such insurance shall be written on an "**all risks**" of physical loss or damage basis, for the full replacement cost value (subject to reasonable deductible amounts) new without deduction for depreciation of the covered items and in amounts that meet any co-insurance clauses of the policies of insurance and shall include coverage for damage or other loss caused by fire or other peril including, but not limited to, vandalism and malicious mischief, theft, water damage of any type, including sprinkler leakage, bursting or stoppage of pipes, and explosion.

10.3.3 Business Income Interruption for one (1) year plus Extra Expense insurance in such amounts as will reimburse Tenant for actual direct or indirect loss of earnings attributable to the risks outlined in Section 10.3.2 above.

10.3.4 Worker's Compensation and Employer's Liability or other similar insurance pursuant to all applicable state and local statutes and regulations. The policy shall include a waiver of subrogation in favor of Landlord, its employees, Lenders and any property manager or partners.

10.4 **Form of Policies**. The minimum limits of policies of insurance required of Tenant under this Lease

shall in no event limit the liability of Tenant under this Lease. Such insurance shall (i) name Landlord, its subsidiaries and affiliates, its property manager (if any) and any other party the Landlord so specifies, as an additional insured or loss payee, as applicable, including Landlord's managing agent, if any; (ii) be issued by an insurance company having a rating of not less than A:IX in Best's Insurance Guide or which is otherwise acceptable to Landlord and licensed to do business in the State of California; (iv) be primary insurance as to all claims thereunder and provide that any insurance carried by Landlord is excess and is non-contributing with any insurance required of Tenant; and (v) be in form and content reasonably acceptable to Landlord. Tenant shall provide Landlord and any mortgagee of Landlord with written notice if said insurance is expected to be canceled or coverage changed at least thirty (30) days' prior to such cancelation or modification. Tenant shall deliver said policy or policies or certificates thereof to Landlord on or before the Lease Commencement Date and at least ten (10) days before the expiration dates thereof. In the event Tenant shall fail to procure such insurance, or to deliver such policies or certificate, Landlord may, at its option, procure such policies for the account of Tenant, and the cost thereof shall be paid to Landlord within five (5) business days after delivery to Tenant of bills therefor.

10.5 **Subrogation**. Landlord and Tenant hereby agree to look solely to, and seek recovery only from,

their respective insurance carriers in the event of a property or business interruption loss to the extent that such coverage is agreed to be provided hereunder. The parties each hereby waive all rights and claims against each other for such losses, and waive all rights of subrogation of their respective insurers, provided such waiver of subrogation shall not affect the right to the insured to recover thereunder. The parties agree that their respective insurance policies do now, or shall, contain the waiver of subrogation.

10.6 **Additional Insurance Obligations**. Tenant shall carry and maintain during the entire Lease Term,

at Tenant's sole cost and expense, increased amounts of the insurance required to be carried by Tenant pursuant to this Article 10 and such other reasonable types of insurance coverage and in such reasonable amounts covering the Premises and Tenant's operations therein, as may be reasonably requested by Landlord or Landlord's lender, but in no event 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.

11. DAMAGE AND DESTRUCTION

11.1 **Repair of Damage**. Tenant shall promptly notify Landlord of any damage to the Premises resulting

from fire or any other casualty to the extent Tenant is actually aware of such damage ("**Casualty**"). If the Premises or any Common Areas serving or providing access to the Premises shall be damaged by Casualty, Landlord shall

promptly and diligently, subject to reasonable delays for insurance adjustment or other matters beyond Landlord's reasonable control, and subject to all other terms of this Article 11, restore the Base Building and such Common Areas. Such restoration shall be to substantially the same condition of the Base Building and the Common Areas prior to the Casualty, except for modifications required by zoning and building codes and other laws or by the holder of a mortgage on the Building or Project or any other modifications to the Common Areas deemed desirable by Landlord, which are consistent with the character of the Project, provided that access to the Premises shall not be materially impaired. Subject to the terms of Section 11.2, below, Tenant shall, at its sole cost and expense, repair any injury or damage to the Tenant Improvements and the Original Improvements installed in the Premises and shall return such Tenant Improvements and Original Improvements to their original condition except for modifications required by zoning and building codes and other Applicable Laws. Whether or not Landlord delivers a "Landlord Repair Notice," as that term is defined in Section 11.2 below, prior to the commencement of construction, Tenant shall submit to Landlord, for Landlord's review and approval, all plans, specifications and working drawings relating thereto, and Landlord shall select the contractors to perform such improvement work. Tenant shall in addition cooperate with requests for information regarding any repairs from Landlord's insurer(s) by providing the requested information within ten (10) business days after Tenant receives the request. Landlord shall not be liable for any inconvenience or annoyance to Tenant or its visitors, or injury to Tenant's business resulting in any way from such damage or the repair thereof; provided however, that if such Casualty shall have damaged the Premises or Common Areas necessary to Tenant's occupancy, and the Premises are not occupied by Tenant as a result thereof, then during the time and to the extent the Premises are unfit for occupancy, the Rent shall be abated in proportion to the ratio that the amount of rentable square feet of the Premises which is unfit for occupancy for the purposes permitted under this Lease bears to the total rentable square feet of the Premises. In the event that Landlord shall not deliver the Landlord Repair Notice, Tenant's right to rent abatement pursuant to the preceding sentence shall terminate as of the date which is reasonably determined by Landlord to be the date Tenant should have completed repairs to the Premises assuming Tenant used reasonable due diligence in connection therewith. Notwithstanding any contrary provision of this Article 11, the parties hereby agree as follows: (i) the closure of the Project, the Building, the Common Areas, or any part thereof to protect public health shall not constitute a Casualty for purposes of this Lease, (ii) Casualty covered by this Article 11 shall require that the physical or structural integrity of the Premises, the Project, the Building, or the Common Areas is degraded as a direct result of such occurrence, and (iii) a Casualty under this Article 11 shall not be deemed to occur merely because Tenant is unable to productively use the Premises in the event that the physical and structural integrity of the Premises is undamaged.

11.2 **Landlord's Option to Repair**. Upon the occurrence of any damage to the Premises, Landlord may,

at Landlord's option, deliver a notice (the "**Landlord Repair Notice**") to Tenant, and upon receipt of a Landlord Repair Notice Tenant shall assign to Landlord (or to any party designated by Landlord) all insurance proceeds payable to Tenant under Tenant's insurance required under Section 10.3 of this Lease, and Landlord shall repair any injury or damage to the Tenant Improvements and the Original Improvements installed in the Premises and shall return such Tenant Improvements and Original Improvements to their original condition; provided that if the cost of such repair by Landlord exceeds the amount of insurance proceeds received by Landlord from Tenant's insurance carrier (including by taking into account any deductible or self-insured retention), as assigned by Tenant, the cost of such repairs shall be paid by Tenant to Landlord prior to Landlord's commencement of repair of the damage. Notwithstanding the terms of Section 11.1 of this Lease, Landlord may elect not to rebuild and/or restore the Premises, Building and/or Project, and instead terminate this Lease, by notifying Tenant in writing of such termination within sixty (60) days after the date of discovery of the damage, such notice to include a termination date giving Tenant sixty (60) days to vacate the Premises, but Landlord may so elect only if the Building or Project shall be damaged by Casualty, whether or not the Premises are affected, and one or more of the following conditions is present: (i) in Landlord's reasonable judgment, repairs cannot reasonably be completed within one hundred eighty (180) days after the date of discovery of the damage (when such repairs are made without the payment of overtime or other premiums); (ii) the holder of any mortgage on the Building or Project or ground lessor with respect to the Building or Project shall require that the insurance proceeds or any portion thereof be used to retire the mortgage debt, or shall terminate the ground lease, as the case may be; (iii) the damage is not fully covered by Landlord's insurance policies; (iv) Landlord decides to rebuild the Building or Common Areas so that they will be substantially different structurally or architecturally; (v) the damage occurs during the last twelve (12) months of the Lease Term; or (vi) any owner of any other portion of the Project, other than Landlord, does not intend to repair the damage to such portion of the Project; provided, however, that if Landlord does not elect to terminate this Lease pursuant to Landlord's termination right as provided above, and the repairs cannot, in the reasonable opinion of Landlord, be completed within one hundred eighty (180) days after being commenced, Tenant may elect, no earlier than sixty (60) days after the date of the damage and

not later than ninety (90) days after the date of such damage, to terminate this Lease by written notice to Landlord effective as of the date specified in the notice, which date shall not be less than thirty (30) days nor more than sixty (60) days after the date such notice is given by Tenant. Notwithstanding the provisions of this Section 11.2, Tenant shall have the right to terminate this Lease under this Section 11.2 only if each of the following conditions is satisfied: (a) the damage to the Project by Casualty was not caused by the gross negligence or intentional act of Tenant or its partners or subpartners and their respective officers, agents, servants, employees, and independent contractors; (b) Tenant is not then in default under this Lease; (c) as a result of the damage, Tenant cannot reasonably conduct business from the Premises following such Casualty; and, (d) as a result of the damage to the Project, Tenant does not occupy or use the Premises at all for the conduct of Tenant's business following such Casualty; provided that storage or removal of personal property and/or routine maintenance of the Premises shall not be considered use of the Premises by Tenant for purposes of this Section 11.2.

11.3 **Waiver of Statutory Provisions**. The provisions of this Lease, including this Article 11, constitute

an express agreement between Landlord and Tenant with respect to any and all damage to, or destruction of, all or any part of the Premises, the Building or the Project, and any statute or regulation of the State of California, including, without limitation, Sections 1932(2) and 1933(4) of the California Civil Code, with respect to any rights or obligations concerning damage or destruction in the absence of an express agreement between the parties, and any other statute or regulation, now or hereafter in effect, shall have no application to this Lease or any damage or destruction to all or any part of the Premises, the Building or the Project.

12. NONWAIVER No provision of this Lease shall be deemed waived by either party hereto unless expressly waived in a writing signed thereby. The waiver by either party hereto of any breach of any term, covenant or condition herein contained shall not be deemed to be a waiver of any subsequent breach of same or any other term, covenant or condition herein contained. The subsequent acceptance of Rent hereunder by Landlord shall not be deemed to be a waiver of any preceding breach by Tenant of any term, covenant or condition of this Lease, other than the failure of Tenant to pay the particular Rent so accepted, regardless of Landlord's knowledge of such preceding breach at the time of acceptance of such Rent. No acceptance of a lesser amount than the Rent herein stipulated shall be deemed a waiver of Landlord's right to receive the full amount 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 check or payment without prejudice to Landlord's right to recover the full amount due. No receipt of monies by Landlord from Tenant after the termination of this Lease shall in any way alter the length of the Lease Term or of Tenant's right of possession hereunder, or after the giving of any notice shall reinstate, continue or extend the Lease Term or affect any notice given Tenant prior to the receipt of such monies, it being agreed that after the service of notice or the commencement of a suit, or after final judgment for possession of the Premises, Landlord may receive and collect any Rent due, and the payment of said Rent shall not waive or affect said notice, suit or judgment.

13. CONDEMNATION If the whole or any part of the Premises, Building or Project shall be taken by
power of eminent domain or condemned by any competent authority for any public or quasi-public use or purpose, or if any adjacent property or street shall be so taken or condemned, or reconfigured or vacated by such authority in such manner as to require the use, reconstruction or remodeling of any part of the Premises, Building or Project, or if Landlord shall grant a deed or other instrument in lieu of such taking by eminent domain or condemnation, Landlord shall have the option to terminate this Lease effective as of the date possession is required to be surrendered to the authority. Tenant shall not because of such taking assert any claim against Landlord or the authority for any compensation because of such taking and Landlord shall be entitled to the entire award or payment in connection therewith, except that Tenant shall have the right to file any separate claim available to Tenant for any taking of Tenant's personal property and fixtures belonging to Tenant and removable by Tenant upon expiration of the Lease Term pursuant to the terms of this Lease, and for moving expenses, so long as such claims do not diminish the award available to Landlord, its ground lessor with respect to the Building or Project or its mortgagee, and such claim is payable separately to Tenant. All Rent shall be apportioned as of the date of such termination. If any part of the Premises shall be taken, and this Lease shall not be so terminated, the Rent shall be proportionately abated. Tenant hereby waives any and all rights it might otherwise have pursuant to Section 1265.130 of The California Code of Civil Procedure. Notwithstanding anything to the contrary contained in this Article 13, in the event of a temporary taking of all or any portion of the Premises for a period of one hundred and eighty (180) days or less, then this Lease shall not terminate but the Base Rent and the Additional Rent shall be abated for the period of such taking in proportion to the ratio that the amount of rentable square feet of the Premises taken bears to the total rentable square feet of the Premises. Landlord shall be entitled to receive the entire award made in connection with any such temporary taking.

Notwithstanding any contrary provision of this Lease, the following governmental actions shall not constitute a taking or condemnation, either permanent or temporary: (i) an action that requires Tenant's business or the Building or Project to close during the Lease Term, and (ii) an action taken for the purpose of protecting public safety (e.g., to protect against acts of war, the spread of communicable diseases, or an infestation), and no such governmental actions shall entitle Tenant to any compensation from Landlord or any authority, or Rent abatement or any other remedy under this Lease.

14. ASSIGNMENT AND SUBLETTING

14.1 **Transfers**. Tenant shall not, without the prior written consent of Landlord, assign, mortgage,

pledge, hypothecate, encumber, or permit any lien to attach to, or otherwise transfer, this Lease or any interest hereunder, permit any assignment, or other transfer of this Lease or any interest hereunder by operation of law, sublet the Premises or any part thereof, or enter into any license or concession agreements or otherwise permit the occupancy or use of the Premises or any part thereof by any persons other than Tenant and its employees and contractors (all of the foregoing are hereinafter sometimes referred to collectively as "**Transfers**" and any person to whom any Transfer is made or sought to be made is hereinafter sometimes referred to as a "**Transferee**"). If Tenant desires Landlord's consent to any Transfer, Tenant shall notify Landlord in writing, which notice (the "**Transfer Notice**") shall include (i) the proposed effective date of the Transfer, which shall not be less than thirty (30) days nor more than one hundred eighty (180) days after the date of delivery of the Transfer Notice, (ii) a description of the portion of the Premises to be transferred (the "**Subject Space**"), (iii) all of the terms of the proposed Transfer and the consideration therefor, including calculation of the "**Transfer Premium**", as that term is defined in Section 14.3 below, in connection with such Transfer, the name and address of the proposed Transferee, and a copy of all existing executed and/or proposed documentation pertaining to the proposed Transfer, and (iv) current financial statements of the proposed Transferee certified by an officer, partner or owner thereof, business credit and personal references and history of the proposed Transferee and any other information reasonably required by Landlord which will enable Landlord to determine the financial responsibility, character, and reputation of the proposed Transferee, nature of such Transferee's business and proposed use of the Subject Space. Any Transfer made without Landlord's prior written consent shall, at Landlord's option, be null, void and of no effect, and shall, at Landlord's option, constitute an Event of Default by Tenant under this Lease. Whether or not Landlord consents to any proposed Transfer, Tenant shall pay Landlord's reasonable review and processing fees, as well as any reasonable professional fees (including, without limitation, attorneys', accountants', architects', engineers' and consultants' fees) incurred by Landlord, not to exceed **$[* * *]** for a Transfer in the ordinary course of business, within thirty (30) days after written request by Landlord.

14.2 **Landlord's Consent**. Landlord shall not unreasonably withhold, condition or delay its consent to

any proposed Transfer of the Subject Space to the Transferee on the terms specified in the Transfer Notice. Without limitation as to other reasonable grounds for withholding consent, the parties hereby agree that it shall be reasonable under this Lease and under any Applicable Law for Landlord to withhold consent to any proposed Transfer where one or more of the following apply:

14.2.1 The Transferee is of a character or reputation or engaged in a business which is not consistent with the quality of the Building or the Project;

14.2.2 The Transferee is either a governmental agency or instrumentality thereof;

14.2.3 The Transferee is not a party of reasonable financial worth and/or financial stability in light of the responsibilities to be undertaken in connection with the Transfer on the date consent is requested; or

14.2.4 The proposed Transfer would cause a violation of another lease for space in the Project, or would give an occupant of the Project a right to cancel its lease.

If Landlord consents to any Transfer pursuant to the terms of this Section 14.2 (and does not exercise any recapture rights Landlord may have under Section 14.4 of this Lease), Tenant may within six (6) months after Landlord's consent, but not later than the expiration of said six-month period, enter into such Transfer of the Premises or portion thereof, upon substantially the same terms and conditions as are set forth in the Transfer Notice furnished by Tenant to Landlord pursuant to Section 14.1 of this Lease, provided that if there are any changes in the terms and conditions from those specified in the Transfer Notice such that Landlord would initially have been entitled to refuse

its consent to such Transfer under this Section 14.2, Tenant shall again submit the Transfer to Landlord for its approval and other action under this Article 14 (including Landlord's right of recapture, if any, under Section 14.4 of this Lease). Notwithstanding anything to the contrary in this Lease, if Tenant or any proposed Transferee claims that Landlord has unreasonably withheld or delayed its consent under Section 14.2 or otherwise has breached or acted unreasonably under this Article 14, their sole remedies shall be a suit for contract damages (other than damages for injury to, or interference with, Tenant's business including, without limitation, loss of profits, however occurring) or declaratory judgment and an injunction for the relief sought, and Tenant hereby waives all other remedies, including, without limitation, any right at law or equity to terminate this Lease, on its own behalf and, to the extent permitted under all Applicable Laws, on behalf of the proposed Transferee.

14.3 **Transfer Premium**. If Landlord consents to a Transfer, as a condition thereto which the parties

hereby agree is reasonable, Tenant shall pay to Landlord **[* * *]** percent (**[* * *]**%) of any "**Transfer Premium**," as that term is defined in this Section 14.3, received by Tenant from such Transferee. "**Transfer Premium**" shall mean all rent, additional rent or other consideration attributable to rent and payable by such Transferee in connection with the Transfer in excess of the Rent and Additional Rent payable by Tenant under this Lease during the term of the Transfer on a per rentable square foot basis if less than all of the Premises is transferred, and after deduction of (i) any costs of improvements made to the Subject Space in connection with such Transfer, (ii) brokerage commissions paid in connection with such Transfer, and (iii) reasonable legal fees incurred in connection with such Transfer. "**Transfer Premium**" shall also include, but not be limited to, key money, bonus money or other cash consideration paid by Transferee to Tenant solely in connection with such Transfer which consideration is made in connection with this Lease (as opposed to other portions of Tenant's business such as consideration paid to acquire Tenant's business assets including personal property, goodwill, intellectual property, general intangibles, etc. so long as such allocation is not intended as a subterfuge to Tenant's obligation to pay the Transfer Premium related to Tenant's interest in this Lease), and any payment in excess of fair market value for services rendered by Tenant to Transferee or for assets, fixtures, inventory, equipment, or furniture transferred by Tenant to Transferee in connection with such Transfer. The determination of the amount of Landlord's applicable share of the Transfer Premium shall be made on a monthly basis as rent or other consideration is received by Tenant under the Transfer.

14.4 **Landlord's Option as to Subject Space**. Notwithstanding anything to the contrary contained in

this Article 14, in the event Tenant contemplates a Transfer which, together with all prior Transfers then remaining in effect, would cause **[* * *]** percent (**[* * *]**%) or more of the Premises to be Transferred for the then remaining Lease Term (taking into account any extension of the Lease Term which has been irrevocably exercised by Tenant) (for purposes hereof, a sublease shall be deemed to be for the then remaining Lease Term if, assuming all sublease renewal or extension rights are exercised, such sublease shall expire during the final twelve (12) months of the Lease Term), Tenant shall give Landlord notice (the "**Intention to Transfer Notice**") of such contemplated Transfer (whether or not the contemplated Transferee or the terms of such contemplated Transfer have been determined). The Intention to Transfer Notice shall specify the portion of and amount of rentable square feet of the Premises which Tenant intends to Transfer (the "**Contemplated Transfer Space**"), the contemplated date of commencement of the Contemplated Transfer (the "**Contemplated Effective Date**"), and the contemplated length of the term of such contemplated Transfer, and shall specify that such Intention to Transfer Notice is delivered to Landlord pursuant to this Section 14.4 in order to allow Landlord to elect to recapture the Contemplated Transfer Space. Thereafter, Landlord shall have the option, by giving written notice to Tenant within thirty (30) days after receipt of any Intention to Transfer Notice, to recapture the Contemplated Transfer Space. Such recapture shall cancel and terminate this Lease with respect to such Contemplated Transfer Space as of the Contemplated Effective Date; provided, however, if Landlord elects to recapture the Contemplated Transfer Space, and such Contemplated Transfer Space is less than one hundred percent (100%) of the Premises, Tenant may, within five (5) business days, rescind its Intention to Transfer Notice, in which case the Intention to Transfer Notice shall be of no force or effect and this Lease shall remain full force and effect. In the event of a recapture by Landlord, if this Lease shall be canceled with respect to less than the entire Premises, the Rent reserved herein shall be prorated on the basis of the number of rentable square feet retained by Tenant in proportion to the number of rentable square feet contained in the Premises, and this Lease as so amended shall continue thereafter in full force and effect, and upon request of either party, the parties shall execute written confirmation of the same. If Landlord declines, or fails to elect in a timely manner, to recapture such Contemplated Transfer Space under this Section 14.4, then, subject to the other terms of this Article 14, for a period of nine (9) months (the "**Nine Month Period**") commencing on the last day of such thirty (30) day period, Landlord shall not have any right to recapture the Contemplated Transfer Space with respect to any Transfer made during the Nine Month Period, provided that any such Transfer is substantially on the terms set forth in the Intention to Transfer Notice, and provided further

that any such Transfer shall be subject to the remaining terms of this Article 14. If such a Transfer is not so consummated within the Nine Month Period (or if a Transfer is so consummated, then upon the expiration of the term of any Transfer of such Contemplated Transfer Space consummated within such Nine Month Period), Tenant shall again be required to submit a new Intention to Transfer Notice to Landlord with respect any contemplated Transfer, as provided above in this Section 14.4.

14.5 **Effect of Transfer**. If Landlord consents to a Transfer, (i) the terms and conditions of this Lease

shall in no way be deemed to have been waived or modified, (ii) such consent shall not be deemed consent to any further Transfer by either Tenant or a Transferee, (iii) Tenant shall deliver to Landlord, promptly after execution, an original executed copy of all documentation pertaining to the Transfer in form reasonably acceptable to Landlord, (iv) Tenant shall furnish upon Landlord's request a complete statement, certified by an independent certified public accountant, or Tenant's chief financial officer, setting forth in detail the computation of any Transfer Premium Tenant has derived and shall derive from such Transfer, and (v) no Transfer relating to this Lease or agreement entered into with respect thereto, whether with or without Landlord's consent, shall relieve Tenant or any guarantor of the Lease from any liability under this Lease, including, without limitation, in connection with the Subject Space. Landlord or its authorized representatives shall have the right at all reasonable times to audit the books, records and papers of Tenant relating to any Transfer, and shall have the right to make copies thereof. If the Transfer Premium respecting any Transfer shall be found understated, Tenant shall, within thirty (30) days after demand, pay the deficiency, and if understated by more than **[* * *]** percent (**[* * *]**%), Tenant shall pay Landlord's costs of such audit.

14.6 **Additional Transfers**. For purposes of this Lease, the term "**Transfer**" shall also include (i) if

Tenant is a partnership, the withdrawal or change, voluntary, involuntary or by operation of law, of fifty percent (50%) or more of the partners, or transfer of fifty percent (50%) or more of partnership interests, within a twelve (12)-month period, or the dissolution of the partnership without immediate reconstitution thereof, and (ii) if Tenant is a closely held corporation (*i.e.*, whose stock is not publicly held and not traded through an exchange or over the counter), (A) the dissolution, merger, consolidation or other reorganization of Tenant or (B) the sale or other transfer of an aggregate of fifty percent (50%) or more of the voting shares of Tenant (other than to immediate family members by reason of gift or death), within a twelve (12)-month period, or (C) the sale, mortgage, hypothecation or pledge of an aggregate of fifty percent (50%) or more of the value of the unencumbered assets of Tenant within a twelve (12)-month period.

14.7 **Occurrence of Default**. Any Transfer hereunder shall be subordinate and subject to the provisions

of this Lease, and if this Lease shall be terminated during the term of any Transfer, Landlord shall have the right to: (i) treat such Transfer as cancelled and repossess the Subject Space by any lawful means, or (ii) require that such Transferee attorn to and recognize Landlord as its landlord under any such Transfer. If Tenant shall be in default under this Lease, Landlord is hereby irrevocably authorized, as Tenant's agent and attorney-in-fact, to direct any Transferee to make all payments under or in connection with the Transfer directly to Landlord (which Landlord shall apply towards Tenant's obligations under this Lease) until such default is cured. Such Transferee shall rely on any representation by Landlord that Tenant is in default hereunder, without any need for confirmation thereof by Tenant. Upon any assignment, the assignee shall assume in writing all obligations and covenants of Tenant thereafter to be performed or observed under this Lease. No collection or acceptance of rent by Landlord from any Transferee shall be deemed a waiver of any provision of this Article 14 or the approval of any Transferee or a release of Tenant from any obligation under this Lease, whether theretofore or thereafter accruing. In no event shall Landlord's enforcement of any provision of this Lease against any Transferee be deemed a waiver of Landlord's right to enforce any term of this Lease against Tenant or any other person. If Tenant's obligations hereunder have been guaranteed, Landlord's consent to any Transfer shall not be effective unless the guarantor also consents to such Transfer.

14.8 **Non-Transfers**. Notwithstanding anything to the contrary contained in this Lease, (A) an

assignment or subletting of all or a portion of the Premises to an affiliate of Tenant (an entity which is controlled by, controls, or is under common control with, Tenant as of the date of this Lease), (B) a sale of corporate shares of capital stock in Tenant in connection with an initial public offering of Tenant's stock on a nationally-recognized stock exchange, (C) a an assignment of this Lease to an entity which acquires all or substantially all of the stock or assets of Tenant, or (D) an assignment of this Lease to an entity which is the resulting entity of a merger or consolidation of Tenant during the Lease Term, shall not be deemed a Transfer requiring Landlord's consent under this Article 14 and shall not be subject to the provisions of Sections 14.3 and 14.5 above (any such assignee or sublessee described in items (A) through (D) of this Section 14.8 hereinafter referred to as a "**Permitted Transferee**"), provided that (i) Tenant notifies Landlord promptly upon the effective date of any such assignment or sublease and promptly

supplies Landlord with any documents or information reasonably requested by Landlord regarding such transfer or transferee as set forth above, (ii) Tenant is not in default, beyond any applicable notice and cure period, and such assignment or sublease is not a subterfuge by Tenant to avoid its obligations under this Lease, (iii) such Permitted Transferee (or the Tenant entity immediately preceding the Permitted Transfer (the "**Prior Tenant**"), if such Prior Tenant remains the Tenant under this Lease) shall have a tangible net worth (not including goodwill as an asset) computed in accordance with generally accepted accounting principles ("**Net Worth**") at least equal to the Net Worth of Tenant on the day immediately preceding the effective date of such assignment or sublease; provided that if the Prior Tenant is a surviving entity of such Permitted Transfer but is no longer the Tenant under this Lease, and such Prior Tenant remains liable under this Lease, then Tenant may combine the Net Worth of the Prior Tenant and the Permitted Transferee to satisfy the foregoing Net Worth requirement; provided further that, in the event of a subletting of all or a portion of the Premises to an affiliate of Tenant pursuant to item (A) above, Tenant may combine the Net Worth of Tenant and such affiliate of Tenant to satisfy the foregoing Net Worth requirement, and (iv) no assignment relating to this Lease, whether with or without Landlord's consent, shall relieve Tenant from any liability under this Lease, and, in the event of an assignment of Tenant's entire interest in this Lease, the liability of Tenant and such transferee (other than a transferee pursuant to a stock or member interest transfer whereby this Lease is not actually assigned to a new entity) shall be joint and several. An assignee of Tenant's entire interest in this Lease who qualifies as a Permitted Transferee may also be referred to herein as a "**Permitted Transferee Assignee**." "**Control**," as used in this Section 14.8, shall mean the ownership, directly or indirectly, of at least fifty-one percent (51%) of the voting securities of, or possession of the right to vote, in the ordinary direction of its affairs, of at least fifty-one percent (51%) of the voting interest in, any person or entity.

15. SURRENDER OF PREMISES; OWNERSHIP AND REMOVAL OF TRADE FIXTURES

15.1 **Surrender of Premises**. No act or thing done by Landlord or any agent or employee of Landlord

during the Lease Term shall be deemed to constitute an acceptance by Landlord of a surrender of the Premises unless such intent is specifically acknowledged in writing by Landlord. The delivery of keys to the Premises to Landlord or any agent or employee of Landlord shall not constitute a surrender of the Premises or effect a termination of this Lease, whether or not the keys are thereafter retained by Landlord, and notwithstanding such delivery Tenant shall be entitled to the return of such keys at any reasonable time upon request until this Lease shall have been properly terminated. The voluntary or other surrender of this Lease by Tenant, whether accepted by Landlord or not, or a mutual termination hereof, shall not work a merger, and at the option of Landlord shall operate as an assignment to Landlord of all subleases or subtenancies affecting the Premises or terminate any or all such sublessees or subtenancies.

15.2 **Removal of Tenant Property by Tenant**. Upon the expiration of the Lease Term, or upon any

earlier termination of this Lease, Tenant shall, subject to the provisions of this Article 15, quit and surrender possession of the Premises to Landlord in as good order and condition as when Tenant took possession and as thereafter improved by Landlord and/or Tenant, reasonable wear and tear and repairs which are specifically made the responsibility of Landlord hereunder excepted. Upon such expiration or termination, Tenant shall, without expense to Landlord, remove or cause to be removed from the Premises all debris and rubbish, and such items of furniture, equipment, freestanding cabinet work, trade fixtures, movable partitions and other articles of personal property owned by Tenant or installed or placed by Tenant at its expense in the Premises, and such similar articles of any other persons claiming under Tenant, as Landlord may, in its sole discretion, require to be removed, and Tenant shall repair at its own expense all damage to the Premises and Building resulting from such removal.

15.3 **Environmental Assessment**. In connection with its surrender of the Premises, Tenant shall submit

to Landlord, at least thirty (30) days prior to the expiration date of this Lease (or in the event of an earlier termination of this Lease, as soon as reasonably possible following such termination), an Environmental Assessment of the Premises by a competent and experienced environmental engineer or engineering firm reasonably satisfactory to Landlord (pursuant to a contract reasonably approved by Landlord and providing that Landlord can rely on the Environmental Assessment), which (i) evidences that the Premises are in a clean and safe condition and free and clear of any Hazardous Materials in violation of Environmental Laws; and (ii) includes a review of the Premises by an environmental consultant for asbestos, mold, fungus, spores, and other moisture conditions, on-site chemical use, and lead-based paint. If such Environmental Assessment reveals that remediation or Clean-up for which Tenant is responsible hereunder is required under any Environmental Laws, Tenant shall submit a remediation plan prepared by

a recognized environmental consultant and shall be responsible for all costs of remediation and Clean-up, as more particularly provided in Section 5.3, above.

15.4 **Condition of the Building and Premises Upon Surrender**. In addition to the above requirements

of this Article 15, upon the expiration of the Lease Term, or upon any earlier termination of this Lease, Tenant shall, surrender the Premises and Building such that the same are in compliance with all Applicable Laws (to the extent of Tenant's obligations hereunder) and with Tenant having complied with all of Tenant's obligations under this Lease, including those relating to improvement, repair, maintenance, compliance with law, testing and other related obligations of Tenant set forth in Article 7 of this Lease. In the event that the Building and Premises shall be surrendered in a condition which does not comply with the terms of this Section 15.4, because Tenant failed to comply with its obligations set forth in Lease, then following thirty (30) days' notice to Tenant, during which thirty (30) day period Tenant shall have the right to cure such noncompliance, Landlord shall be entitled to expend all reasonable costs in order to cause the same to comply with the required condition upon surrender and Tenant shall immediately reimburse Landlord for all such costs upon notice and Tenant shall be deemed during the period that Tenant or Landlord, as the case may be, perform obligations relating to the Surrender Improvements to be in holdover under Article 16 of this Lease.

16. HOLDING OVER If Tenant holds over after the expiration of the Lease Term or earlier termination thereof, with the express or implied consent of Landlord, such tenancy shall be from month-to-month only, and shall not constitute a renewal hereof or an extension for any further term. If Tenant holds over after the expiration of the Lease Term of earlier termination thereof, without the express or implied consent of Landlord, such tenancy shall be deemed to be a tenancy by sufferance only, and shall not constitute a renewal hereof or an extension for any further term. In either case, Base Rent shall be payable at a monthly rate equal to (i) **[* * *]** percent (**[* * *]**%) of the Base Rent applicable during the last rental period of the Lease Term under this Lease for the first (1st) month of such holdover, and (ii) **[* * *]** percent (**[* * *]**%) of the Base Rent applicable during the last rental period of the Lease Term under this Lease thereafter. Such month-to-month tenancy or tenancy by sufferance, as the case may be, shall be subject to every other applicable term, covenant and agreement contained herein. Nothing contained in this Article 16 shall be construed as consent by Landlord to any holding over by Tenant, and Landlord expressly reserves the right to require Tenant to surrender possession of the Premises to Landlord as provided in this Lease upon the expiration or other termination of this Lease. The provisions of this Article 16 shall not be deemed to limit or constitute a waiver of any other rights or remedies of Landlord provided herein or at law. If Tenant fails to surrender the Premises upon the termination or expiration of this Lease, in addition to any other liabilities to Landlord accruing therefrom, Tenant shall protect, defend, indemnify and hold Landlord harmless from all loss, costs (including reasonable attorneys' fees) and liability resulting from such failure, 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.

17. ESTOPPEL CERTIFICATES Within ten (10) business days following a request in writing by Landlord, Tenant shall execute, acknowledge and deliver to Landlord an estoppel certificate, which, as submitted by Landlord, shall be substantially in the form of **Exhibit D**, attached hereto (or such other form as may be required by any prospective mortgagee or purchaser of the Project, or any portion thereof), indicating therein any exceptions thereto that may exist at that time, and shall also contain any other information reasonably requested by Landlord or Landlord's mortgagee or prospective mortgagee. Any such certificate may be relied upon by any prospective mortgagee or purchaser of all or any portion of the Project. Tenant shall execute and deliver whatever other instruments may be reasonably required for such purposes. At any time during the Lease Term (but not more than once in any twelve (12) month period, except in connection with a sale or refinance of the Project, if Tenant is in monetary or material non-monetary default under this Lease, or if Tenant has identified a proposed Transferee under Article 14 above or if Tenant request Landlord consent to an Alteration), Landlord may require Tenant to provide Landlord with a current financial statement and the financial statement of the year immediately preceding the current financial statement year. Such statements shall be prepared in accordance with generally accepted accounting principles and, if such is the normal practice of Tenant, shall be audited by an independent certified public accountant. Failure of Tenant to timely execute, acknowledge and deliver such estoppel certificate or other instruments shall constitute an acceptance of the Premises and an acknowledgment by Tenant that statements included in the estoppel certificate are true and correct, without exception.

18. SUBORDINATION This Lease shall be subject and subordinate to all present and future ground or underlying leases of the Building or Project and to the lien of any mortgage, trust deed or other encumbrances now or hereafter in force against the Building or Project or any part thereof, if any, and to all renewals, extensions, modifications, consolidations and replacements thereof, and to all advances made or hereafter to be made upon the security of such mortgages or trust deeds, unless the holders of such mortgages, trust deeds or other encumbrances, or the lessors under such ground lease or underlying leases, require in writing that this Lease be superior thereto (collectively, the "**Superior Holders**"); provided, however, at Tenant's sole cost and expense, Landlord shall use commercially reasonable efforts to provide Tenant a subordination non-disturbance and attornment agreement in commercially reasonable form provided by any future Superior Holder, which requires such Superior Holder to accept this lease, and not to disturb tenant's possession, so long as a default has not occurred and is not then continuing (a "**SNDAA**") executed by Landlord and the appropriate Superior Holder. Tenant covenants and agrees in the event any proceedings are brought for the foreclosure of any such mortgage or deed in lieu thereof (or if any ground lease is terminated), to attorn, without any deductions or set-offs whatsoever, to the lienholder or purchaser or any successors thereto upon any such foreclosure sale or deed in lieu thereof (or to the ground lessor), if so requested to do so by such purchaser or lienholder or ground lessor, and to recognize such purchaser or lienholder or ground lessor as the lessor under this Lease, provided such lienholder or purchaser or ground lessor shall agree to accept this Lease and not disturb Tenant's occupancy, so long as Tenant timely pays the rent and observes and performs the terms, covenants and conditions of this Lease to be observed and performed by Tenant. Landlord's interest herein may be assigned as security at any time to any lienholder. Tenant shall, within ten (10) business days of request by Landlord, execute such further instruments or assurances as Landlord may reasonably deem necessary to evidence or confirm the subordination or superiority of this Lease to any such mortgages, trust deeds, ground leases or underlying leases provided that in no event shall Tenant be required to execute any document or instrument that reduces Tenant's rights under this Lease and/or increases Tenant's liabilities under this Lease except as customarily related to commercially reasonable subordination agreements. Tenant waives the provisions of any current or future statute, rule or law which may give or purport to give Tenant any right or election to terminate or otherwise adversely affect this Lease and the obligations of the Tenant hereunder in the event of any foreclosure proceeding or sale.

19. DEFAULTS; REMEDIES

19.1 **Events of Default**. In addition to any other Events of Default specified in this Lease, the occurrence of any of the following shall constitute a default of this Lease by Tenant (each, an "**Event of Default**"):

19.1.1 Any failure by Tenant to pay any Rent or any other charge required to be paid under this Lease, or any part thereof, within **[* * *]** days following the date due with respect to Base Rent and Tenant's Share of Direct Expenses, and within **[* * *]** days following written notice of such failure with respect to any other charge required to be paid under this Lease; or

19.1.2 Except where a specific time period is otherwise set forth for Tenant's performance in this Lease, in which event the failure to perform by Tenant within such time period shall be a default by Tenant under this Section 19.1.2, any failure by Tenant to observe or perform any other provision, covenant or condition of this Lease to be observed or performed by Tenant where such failure continues for **[* * *]** days after written notice thereof from Landlord to Tenant; provided that if the nature of such default is such that the same cannot reasonably be cured within a **[* * *]** day period, Tenant shall not be deemed to be in default if it diligently commences such cure within such period and thereafter diligently proceeds to rectify and cure such default; or

19.1.3 Abandonment (as defined by Applicable Laws) of the Premises by Tenant; or

19.1.4 The failure by Tenant to observe or perform according to the provisions of Articles 5, 14, 17 or 18 of this Lease or any provision of the Tenant Work Letter, where, in each instance, such failure continues for more than three (3) business days after notice from Landlord; or

Any notices to be provided by Landlord under this Section 19.1 shall be in lieu of, and not in addition to, any notice required under Section 1161 et seq. of the Code of Civil Procedure, and may be served on Tenant in the manner allowed for service of notices under this Lease.

19.2 **Remedies Upon Event of Default**. Upon the occurrence of any Event of Default by Tenant,

Landlord shall have, in addition to any other remedies available to Landlord at law or in equity (all of which remedies shall be distinct, separate and cumulative), the option to pursue any one or more of the following remedies (including, without limitation, during any eviction moratorium, to the extent allowed by Applicable Law), each and all of which shall be cumulative and nonexclusive, without any notice or demand whatsoever.

19.2.1 Terminate this Lease, in which event Tenant shall immediately surrender the Premises to Landlord, and if Tenant fails to do so, Landlord may, without prejudice to any other remedy which it may have for possession or arrearages in rent, 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 part thereof, without being liable for prosecution or any claim or damages therefor; and Landlord may recover from Tenant the following:

(i) The worth at the time of award of the 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 Lease 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, 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; and

(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 19.2 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. As used in Sections 19.2.1(i) and (ii), above, the "worth at the time of award" shall be computed by allowing interest at the rate set forth in Article 25 of this Lease, but in no case greater than the maximum amount of such interest permitted by law. As used in Section 19.2.1(iii) above, 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%).

19.2.2 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 on account of any Event of Default by Tenant, Landlord may, from time to time, without terminating this Lease, enforce all of its rights and remedies under this Lease, including the right to recover all rent as it becomes due.

19.2.3 Landlord shall at all times have the rights and remedies (which shall be cumulative with each other and cumulative and in addition to those rights and remedies available under Sections 19.2.1 and 19.2.2, above, or any law or other provision of this Lease), without prior demand or notice except as required by Applicable Law, to seek any declaratory, injunctive or other equitable relief, and specifically enforce this Lease, or restrain or enjoin a violation or breach of any provision hereof.

19.3 **Subleases of Tenant**. Whether or not Landlord elects to terminate this Lease on account of any

Event of Default by Tenant, as set forth in this Article 19, Landlord shall have the right to terminate any and all

subleases, licenses, concessions or other consensual arrangements for possession entered into by Tenant and affecting the Premises or may, in Landlord's sole discretion, succeed to Tenant's interest in such subleases, licenses, concessions or arrangements. In the event of Landlord's election to succeed to Tenant's interest in any such subleases, licenses, concessions or arrangements, Tenant shall, as of the date of notice by Landlord of such election, have no further right to or interest in the rent or other consideration receivable thereunder.

19.4 **Efforts to Relet**. No re-entry or repossession, repairs, maintenance, changes, alterations and

additions, reletting, appointment of a receiver to protect Landlord's interests hereunder, or any other action or omission by Landlord shall be construed as an election by Landlord to terminate this Lease or Tenant's right to possession, or to accept a surrender of the Premises, nor shall same operate to release Tenant in whole or in part from any of Tenant's obligations hereunder, unless express written notice of such intention is sent by Landlord to Tenant. Tenant hereby irrevocably waives any right otherwise available under any law to redeem or reinstate this Lease.

19.5 **Landlord Default**. Landlord shall be in default under this Lease if Landlord fails to perform any

of its obligations hereunder following the Lease Commencement Date and such failure continues for thirty (30) days after Tenant delivers to Landlord written notice specifying such failure; however, if such failure cannot reasonably be cured within such 30-day period, but Landlord commences to cure such failure within such 30-day period and thereafter diligently pursues the curing thereof to completion, then Landlord shall not be in default hereunder or liable for damages therefor. Except where the provisions of this Lease grant Tenant an express, exclusive remedy, or expressly deny Tenant a remedy, Tenant's exclusive remedy for Landlord's failure to perform its obligations under this Lease shall be limited to damages, injunctive relief, or specific performance; in each case, Landlord's liability or obligations with respect to any such remedy shall be limited as provided in Section 29.13.

20. COVENANT OF QUIET ENJOYMENT Landlord covenants that Tenant, on paying the Rent, charges for services and other payments herein reserved and on keeping, observing and performing all the other terms, covenants, conditions, provisions and agreements herein contained on the part of Tenant to be kept, observed and performed, shall, during the Lease Term, peaceably and quietly have, hold and enjoy the Premises subject to the terms, covenants, conditions, provisions and agreements hereof without interference by any persons lawfully claiming by or through Landlord. The foregoing covenant is in lieu of any other covenant express or implied.

21. LETTER OF CREDIT

21.1 **Delivery of Letter of Credit**. Concurrent with Tenant's execution and delivery of this Lease,

Tenant shall deliver to Landlord concurrent with Tenant's execution of this Lease, as protection for the full and faithful performance by Tenant of all of its obligations under this Lease and for all losses and damages Landlord may suffer (or which Landlord reasonably estimates that it may suffer) as a result of any breach or default by Tenant under this Lease, an unconditional, clean, irrevocable negotiable standby letter of credit (the "**L-C**") in the amount set forth in Section 8 of the Summary (the "**L-C Amount**"), in the form attached hereto as **Exhibit G**, payable in the City of San Diego, California, running in favor of Landlord, drawn on a bank (the "**Bank**") reasonably approved by Landlord and which bank must have a rating from Standard and Poors Corporation of A- or better (or any equivalent rating thereto from any successor or substitute rating service selected by Lessor) and a letter of credit issuer rating from Moody's Investor Service of A3 or better (or any equivalent rating thereto from any successor rating agency thereto) (the "**Credit Rating Threshold**"), and otherwise conforming in all respects to the requirements of this Article 21, including, without limitation, all of the requirements of Section 21.2, below, all as set forth more particularly hereinbelow. As of the date of this Lease, Landlord approves Western Alliance Bancorp as the Bank; provided, however, for purposes of this Article 21, the Credit Rating Threshold shall be a rating from Moody's Investor Service of Baa2 or better (or any equivalent rating thereto from any successor rating agency thereto); provided further, however, that Landlord hereby reserves the right to reject any other bank even if such bank is rated Baa2 or higher if such bank does not satisfy the normal (i.e., not Western Alliance Bancorp) Credit Rating Threshold. Tenant shall pay all expenses, points and/or fees incurred by Tenant in obtaining and maintaining the L-C. In the event of an assignment by Tenant of its interest in the Lease (and irrespective of whether Landlord's consent is required for such assignment), the acceptance of any replacement or substitute letter of credit by Landlord from the assignee shall be subject to Landlord's prior written approval, in Landlord's reasonable discretion, and the actual out-of-pocket attorney's fees incurred by Landlord in connection with such determination shall be payable by Tenant to Landlord within ten (10) business days of billing. Tenant shall have no right to voluntarily replace the L-C without Landlord's prior written approval, in Landlord's reasonable discretion provided such replacement L-C complies in all respects with the

requirements of this Article 21. Tenant shall be responsible for the payment of any and all costs incurred by Landlord relating to the review of any replacement L-C (including, without limitation, Landlord's reasonable attorneys' fees), which replacement is required pursuant to this Section or is otherwise requested by Tenant, and such attorneys' fees shall be payable by Tenant to Landlord within ten (10) business days of billing. If Landlord approves any replacement or substitute letter of credit, Landlord shall return the L-C then held by Landlord within one hundred (100) days following Landlord receipt of the replacement or substitute L-C tendered by Tenant; provided, however, if Tenant provides evidence reasonably satisfactory to Landlord that Tenant has the ability to satisfy its monetary obligations under this Lease when and as due, then Landlord shall return the L-C then held by Landlord within ten (10) business days following Landlord receipt of the replacement or substitute L-C tendered by Tenant.

21.2 **In General**. The L-C shall be "callable" at sight, permit partial draws and multiple presentations

and drawings, and be otherwise subject to the Uniform Customs and Practices for Documentary Credits (1993-Rev), International Chamber of Commerce Publication #500, or the International Standby Practices-ISP 98, International Chamber of Commerce Publication #590. The L-C must provide that presentation of a drawing under the L-C may be made by hand delivery, courier service, overnight mail, or facsimile. Tenant further covenants and warrants as follows:

21.2.1 **Landlord Right to Transfer**. The L-C shall provide that Landlord, its successors and assigns, may, at any time and without notice to Tenant and without first obtaining Tenant's consent thereto, transfer (one or more times) its interest in and to the L-C to Landlord's lender or in connection with the assignment by Landlord of its rights and interests in and to this Lease. In the event of a transfer of Landlord's interest in the Building, Landlord shall transfer the L-C to the transferee and thereupon Landlord shall, without any further agreement between the parties, be released by Tenant from all liability therefor, and it is agreed that the provisions hereof shall apply to every transfer or assignment of the whole or any portion of said L-C to a new landlord. In connection with any such transfer of the L-C by Landlord, Tenant shall, to the extent required, at Tenant's sole cost and expense, execute and submit to the Bank such applications, documents and instruments as may be necessary to effectuate such transfer, if any, and Tenant shall be responsible for paying the Bank's transfer and processing fees in connection therewith.

21.2.2 **No Assignment by Tenant**. Tenant shall neither assign nor encumber the L-C or any part thereof. Neither Landlord nor its successors or assigns will be bound by any assignment, encumbrance, attempted assignment or attempted encumbrance by Tenant in violation of this Section.

21.2.3 **Replenishment**. If, as a result of any drawing by Landlord on the L-C pursuant to its rights set forth in Section 21.3 below, the amount of the L-C shall be less than the L-C Amount, Tenant shall, within ten (10) business days thereafter, provide Landlord with (i) an amendment to the L-C restoring such L-C to the L-C Amount or (ii) additional L-Cs in an amount equal to the deficiency, which additional L-Cs shall comply with all of the provisions of this Article 21, and if Tenant fails to comply with the foregoing, notwithstanding anything to the contrary contained in Section 19.1 above, the same shall constitute an incurable default by Tenant under this Lease (without the need for any additional notice and/or cure period).

21.2.4 **Renewal; Replacement**. If the L-C expires earlier than the date (the "**LC Expiration Date**") that is one hundred (100) days after the expiration of the Lease Term, Tenant shall deliver a new L-C or certificate of renewal or extension to Landlord at least thirty (30) days prior to the expiration of the L-C then held by Landlord, without any action whatsoever on the part of Landlord, which new L-C shall be irrevocable and automatically renewable through the LC Expiration Date upon the same terms as the expiring L-C or such other terms as may be acceptable to Landlord in its sole discretion. In furtherance of the foregoing, Landlord and Tenant agree that the L-C shall contain a so-called "evergreen provision," whereby the L-C will automatically be renewed unless at least thirty (30) days' prior written notice of non-renewal is provided by the issuer to Landlord; provided, however, that the final expiration date identified in the L-C, beyond which the L-C shall not automatically renew, shall not be earlier than the LC Expiration Date.

21.2.5 **Bank's Financial Condition**. If, at any time during the Lease Term, the Bank's long term credit rating is reduced below the Credit Rating Threshold, or if the financial condition of the Bank changes in any other materially adverse way (either, a "**Bank Credit Threat**"), then Landlord shall have the right to require that Tenant obtain from a different issuer a substitute L-C that complies in all respects with the requirements of this Article 21, and Tenant's failure to obtain such substitute L-C within ten (10) business days following Landlord's

written demand therefor (with no other notice or cure or grace period being applicable thereto, notwithstanding anything in this Lease to the contrary) shall entitle Landlord, or Landlord's then managing agent, to immediately draw upon the then existing L- C in whole or in part, without notice to Tenant, as more specifically described in Section 21.3, below. Tenant shall be responsible for the payment of any and all costs incurred with the review of any replacement L-C (including without limitation Landlord's reasonable attorneys' fees), which replacement is required pursuant to this Section or is otherwise requested by Tenant.

21.3 **Application of Letter of Credit**. Tenant hereby acknowledges and agrees that Landlord is

entering into this Lease in material reliance upon the ability of Landlord to draw upon the L-C as protection for the full and faithful performance by Tenant of all of its obligations under this Lease and for all losses and damages Landlord may suffer (or which Landlord reasonably estimates that it may suffer) as a result of any breach or default by Tenant under this Lease. Subject to the last sentence of this Section 21.3, Landlord, or its then managing agent, shall have the right to draw down an amount up to the face amount of the L-C if any of the following shall have occurred or be applicable: (A) such amount is due to Landlord under the terms and conditions of this Lease, or (B) Tenant has filed a voluntary petition under the U. S. Bankruptcy Code or any state bankruptcy code (collectively, "**Bankruptcy Code**"), or (C) an involuntary petition has been filed against Tenant under the Bankruptcy Code, or

(D) the Bank has notified Landlord that the L-C will not be renewed or extended through the LC Expiration Date, or

(E) a Bank Credit Threat or Receivership (as such term is defined in Section 21.6.1, below) has occurred and Tenant has failed to comply with the requirements of either Section 21.2.5, above, or Section 21.6, below, as applicable. If Tenant shall breach any provision of this Lease or otherwise be in default hereunder or if any of the foregoing events identified in Sections 21.3(B) through (E) shall have occurred, Landlord may, but without obligation to do so, and without notice to Tenant, draw upon the L-C, in part or in whole, and the proceeds may be applied by Landlord (i) to cure any breach or default of Tenant and/or to compensate Landlord for any and all damages of any kind or nature sustained or which Landlord reasonably estimates that it will sustain resulting from Tenant's breach or default, (ii) against any Rent payable by Tenant under this Lease that is not paid when due and/or (iii) to pay for all losses and damages that Landlord has suffered or that Landlord reasonably estimates that it will suffer as a result of any breach or default by Tenant under this Lease. The use, application or retention of the L-C, or any portion thereof, by Landlord shall not prevent Landlord from exercising any other right or remedy provided by this Lease or by any applicable law, it being intended that Landlord shall not first be required to proceed against the L-C, and shall not operate as a limitation on any recovery to which Landlord may otherwise be entitled. Tenant agrees not to interfere in any way with payment to Landlord of the proceeds of the L-C, either prior to or following a "draw" by Landlord of any portion of the L-C, regardless of whether any dispute exists between Tenant and Landlord as to Landlord's right to draw upon the L-C. No condition or term of this Lease shall be deemed to render the L-C conditional to justify the issuer of the L-C in failing to honor a drawing upon such L-C in a timely manner. Tenant agrees and acknowledges that (a) the LC constitutes a separate and independent contract between Landlord and the Bank, (b) Tenant is not a third party beneficiary of such contract, (c) Tenant has no property interest whatsoever in the L-C or the proceeds thereof, and (d) in the event Tenant becomes a debtor under any chapter of the Bankruptcy Code, neither Tenant, any trustee, nor Tenant's bankruptcy estate shall have any right to restrict or limit Landlord's claim and/or rights to the L-C and/or the proceeds thereof by application of Section 502(b)(6) of the U. S. Bankruptcy Code or otherwise. Notwithstanding anything in this Lease to the contrary, Landlord shall, to the extent the delivery of such notices are then permitted under Applicable Law, deliver to Tenant all applicable notices required under this Lease, and provide Tenant with all applicable cure periods required under this Lease, prior to any draw upon the L-C following a breach or default by Tenant under this Lease.

21.4 **Letter of Credit not a Security Deposit**. Landlord and Tenant acknowledge and agree that in

no event or circumstance shall the L-C or any renewal thereof or any 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 L-C 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.

21.5 **Proceeds of Draw**. In the event Landlord draws down on the L-C pursuant to Sections 21.3(D)

or (E), above, the proceeds of the L-C may be held by Landlord and applied by Landlord against any Rent payable by Tenant under this Lease that is not paid when due and/or to pay for all losses and damages that Landlord has suffered

or that Landlord reasonably estimates that it will suffer as a result of any breach or default by Tenant under this Lease. Any unused proceeds shall constitute the property of Landlord and need not be segregated from Landlord's other assets. Tenant hereby (i) agrees that (A) Tenant has no property interest whatsoever in the proceeds from any such draw, and (B) such proceeds shall not be deemed to be or treated as a "security deposit" under the Security Deposit Law, and (ii) waives all rights, duties and obligations either party may now or, in the future, will have relating to or arising from the Security Deposit Laws. Landlord agrees that the amount of any proceeds of the L-C received by Landlord, and not (a) applied against any Rent payable by Tenant under this Lease that was not paid when due, or (b) used to pay for any losses and/or damages suffered by Landlord (or reasonably estimated by Landlord that it will suffer) as a result of any breach or default by Tenant under this Lease (the "**Unused L-C Proceeds**"), shall be paid by Landlord to Tenant (x) upon receipt by Landlord of a replacement L-C in the full L-C Amount, which replacement L-C shall comply in all respects with the requirements of this Article 21, or (y) within thirty (30) days after the LC Expiration Date; provided, however, that if prior to the LC Expiration Date a voluntary petition is filed by Tenant, or an involuntary petition is filed against Tenant by any of Tenant's creditors, under the Bankruptcy Code, then Landlord shall not be obligated to make such payment in the amount of the Unused L-C Proceeds until either all preference issues relating to payments under this Lease have been resolved in such bankruptcy or reorganization case or such bankruptcy or reorganization case has been dismissed.

21.6 **Bank Placed Into Receivership**.

21.6.1 **Bank Placed Into Receivership**. In the event the Bank is placed into receivership or conservatorship (any such event, a "**Receivership**") by the Federal Deposit Insurance Corporation or any successor or similar entity (the "**FDIC**"), then, effective as of the date such Receivership occurs, the L-C shall be deemed to not meet the requirements of this Article 21, and, within ten (10) business days following Landlord's notice to Tenant of such Receivership (the "LC Replacement Notice"), Tenant shall (a) replace the L-C with a substitute L-C from a different issuer reasonably acceptable to Landlord and that complies in all respects with the requirements of this Article 21, or (b) in the event Tenant demonstrates to Landlord that Tenant is reasonably unable to obtain a substitute L-C from a different issuer reasonably acceptable to Landlord and that complies in all respects with the requirements of this Article 21 within the foregoing ten (10) business day period, deposit with Landlord cash in the L-C Amount (the "**Interim Cash Deposit**"); provided, however, that, in the case of the foregoing sub-clause (ii), Tenant shall, within sixty (60) days after the LC Replacement Notice, replace the L-C with a substitute L-C from a different issuer reasonably acceptable to Landlord and that complies in all respects with the requirements of this Article 21, and upon Landlord's receipt and acceptance of such replacement L-C, Landlord shall return to Tenant the Interim Cash Deposit, with no obligation on the part of Landlord to pay any interest thereon. If Tenant fails to replace such L-C with a substitute L-C from a different issuer pursuant to the terms and conditions of this Section 21.6.1, then, notwithstanding anything in this Lease to the contrary, Landlord shall have the right, at Landlord's option, to either (i) if Tenant fails to deliver the Interim Cash Deposit, declare Tenant in default of this Lease for which there shall be no notice or grace or cure periods being applicable thereto other than the aforesaid ten (10) business day and sixty (60) day periods), in which event, Landlord shall have the right to pursue any and all remedies available to it under this Lease and at law, including, without limitation, treating any Receivership as a Bank Credit Threat and exercising Landlord's remedies under Section 21.2.5 above, to the extent possible pursuant to then existing FDIC policy; (ii) if Tenant delivers the Interim Cash Deposit, retain such Interim Cash Deposit until such time as such default is cured by Tenant, which Interim Cash Deposit will be held by Landlord in accordance with Section 21.6.2 below and Tenant will not be deemed to be in default hereunder so long as such Interim Cash Deposit is provided to Landlord. Tenant shall be responsible for the payment of any and all costs incurred with the review of any replacement L-C (including without limitation Landlord's reasonable attorneys' fees), which replacement is required pursuant to this Section or is otherwise requested by Tenant.

21.6.2 **Interim Cash Deposit**. During any period that Landlord remains in possession of the Interim Cash Deposit (any such period, a "**Deposit Period**"), it is understood by the parties that such Interim Cash Deposit shall be held by Landlord as security for the full and faithful performance of Tenant's covenants and obligations under this Lease. The Interim Cash Deposit shall not constitute an advance of any Rent, an advance payment of any other kind, nor a measure of Landlord's damages in case of Tenant's default. If, during any such Deposit Period, Tenant defaults with respect to any provisions of this Lease, including, but not limited to, the provisions relating to the payment of Rent, the removal of property and the repair of resultant damage, then Landlord may but shall not be required to, from time to time, without notice to Tenant and without waiving any other remedy available to Landlord, use the Interim Cash Deposit, or any portion of it, to the extent necessary to cure or remedy

such default or failure or to compensate Landlord for all damages sustained by Landlord or which Landlord reasonably estimates that it will sustain resulting from Tenant's default or failure to comply fully and timely with its obligations pursuant to this Lease. Tenant shall immediately pay to Landlord on demand any amount so applied in order to restore the Interim Cash Deposit to its original amount, and Tenant's failure to immediately do so shall constitute a default under this Lease. In the event Landlord is in possession of the Interim Cash Deposit at the expiration or earlier termination of this Lease, and Tenant is in compliance with the covenants and obligations set forth in this Lease at the time of such expiration or termination, then Landlord shall return to Tenant the Interim Cash Deposit, less any amounts deducted by Landlord to reimburse Landlord for any sums to which Landlord is entitled under the terms of this Lease, within sixty (60) days following both such expiration or termination and Tenant's vacation and surrender of the Premises. Landlord's obligations with respect to the Interim Cash Deposit are those of a debtor and not a trustee. Landlord shall not be required to maintain the Interim Cash Deposit separate and apart from Landlord's general or other funds, and Landlord may commingle the Interim Cash Deposit with any of Landlord's general or other funds. Tenant shall not at any time be entitled to interest on the Interim Cash Deposit. In the event of a transfer of Landlord's interest in the Building, Landlord shall transfer the Interim Cash Deposit to the transferee and thereupon Landlord shall, without any further agreement between the parties, be released by Tenant from all liability therefor, and it is agreed that the provisions hereof shall apply to every transfer or assignment of the whole or any portion of said Interim Cash Deposit to a new landlord. Tenant hereby waives the provisions of Section 1950.7 of the California Civil Code, or any successor statute.

22. **ROOFTOP RIGHTS**. Tenant may, in accordance with, and subject to (A) reasonable construction rules

and regulations promulgated by Landlord and provided to Tenant, (B) the Building standards therefor, and (C) the terms and conditions set forth in this Lease (including, without limitation, Article 8 and this Article 22), Tenant may install, repair, maintain and use, at Tenant's sole cost and expense, without the payment of Rent (other than costs allowed to be included in Direct Expenses pursuant to Article 4 of this Lease), one (1) or more antenna or other telecommunications equipment on the roofs of the Building for the receiving and transmitting of signals or broadcasts servicing the business conducted by Tenant from within the Premises or otherwise serving the Premises (the "**Rooftop Equipment**"). Tenant shall be solely responsible for any and all costs incurred or arising in connection with the Rooftop Equipment, including but not limited to costs of electricity and insurance related to the Rooftop Equipment. Landlord makes no representations or warranties whatsoever with respect to the fitness or suitability of the roof of the Building for the installation, maintenance and operation of the Rooftop Equipment, including, without limitation, with respect to the quality and clarity of any receptions and transmissions to or from the Rooftop Equipment and the presence of any interference with such signals whether emanating from the Building or otherwise. The physical appearance, size and location of the Rooftop Equipment shall be subject to Landlord's approval, which approval shall not be unreasonably withheld, conditioned, or delayed, and Landlord may require Tenant to install screening around such Rooftop Equipment, at Tenant's sole cost and expense. Tenant shall service, maintain and repair such Rooftop Equipment, at Tenant's sole cost and expense. In the event Tenant elects to exercise its right to install the Rooftop Equipment, then Tenant shall give Landlord no less than ten (10) days' prior notice thereof. Tenant shall reimburse to Landlord the actual costs reasonably incurred by Landlord in approving such Rooftop Equipment, including any third-party consultant fees. Tenant's rights under this Article 22 shall terminate and shall be of no further force or effect upon the expiration or earlier termination of this Lease. Prior to the expiration or earlier termination of this Lease, Tenant shall remove and restore the affected portion of the rooftop, the Building and the Premises to good condition and repair, free of leaks (reasonable wear and tear and damage from casualty that is Landlord's obligation to repair pursuant to Article 11 excepted). Such Rooftop Equipment shall be installed pursuant to plans and specifications approved by Landlord (specifically including, without limitation, all mounting and waterproofing details), which approval shall not be unreasonably withheld, conditioned or delayed. Notwithstanding any such review or approval by Landlord, Tenant shall remain solely liable for any damage arising in connection with Tenant's installation, use, maintenance and/or repair of such Rooftop Equipment, including, without limitation, any damage to any portion of the roof or roof membrane and any penetrations to the roof. Except to the extent caused by the negligence or willful misconduct of Landlord or any Landlord Party, Landlord and Tenant hereby acknowledge and agree that Landlord shall have no liability in connection with Tenant's use, maintenance and/or repair of such Rooftop Equipment. The Rooftop Equipment shall, in all instances, comply with all applicable laws. Tenant shall not be entitled to license its Rooftop Equipment to any third party other than a Permitted Transferee, nor shall Tenant be permitted to receive any revenues, fees or any other consideration for the use of the Rooftop Area and/or such Rooftop Equipment by any third party, in excess of the sublease rents otherwise payable in accordance with any subletting of all or a portion of the Premises. Tenant's right to install such Rooftop Equipment shall be exclusive (other than

equipment placed on the roof by Landlord which serves the Premises), and Tenant hereby expressly acknowledges Landlord's continued right to itself utilize any portion of the rooftop of a Building.

23. SIGNS

23.1 **Exterior Signage**. Subject to Landlord's prior written approval, which shall not be unreasonably

withheld, conditioned or delayed, and provided all signs are in keeping with the quality, design and style of the Building and Project, Tenant, at its sole cost and expense, may install (i) one (1) exclusive Building top identification sign on the Building, and (ii) identification signage on the Project's monument sign for the Building (collectively, "**Tenant Signage**"); provided, however, in no event shall Tenant's Signage include an "Objectionable Name," as that term is defined in Section 23.3, of this Lease. All such signage shall be subject to Tenant's obtaining all required governmental approvals. All permitted signs shall be maintained by Tenant at its expense in a first-class and safe condition and appearance. Upon the expiration or earlier termination of this Lease, Tenant shall remove all of its signs at Tenant's sole cost and expense, and Tenant shall repair at its own expense all damage to the Premises and Building resulting from such removal. The graphics, materials, color, design, lettering, lighting, size, illumination, specifications and exact location of Tenant's Signage (collectively, the "**Sign Specifications**") shall be subject to the prior written approval of Landlord, which approval shall not be unreasonably withheld, conditioned or delayed, and shall be consistent and compatible with the quality and nature of the Project. Tenant hereby acknowledges that, notwithstanding Landlord's approval of Tenant's Signage, Landlord has made no representation or warranty to Tenant with respect to the probability of obtaining all necessary governmental approvals and permits for Tenant's Signage. In the event Tenant does not receive the necessary governmental approvals and permits for Tenant's Signage, Tenant's and Landlord's rights and obligations under the remaining TCCs of this Lease shall be unaffected.

23.2 **Objectionable Name**. Tenant's Signage shall not include a name or logo which relates to an entity

which is of a character or reputation, or is associated with a political faction or orientation, which is inconsistent with the quality of the Project, or which would otherwise reasonably offend a landlord of the Comparable Buildings (an "**Objectionable Name**"). The parties hereby agree that the following name, or any reasonable derivation thereof, shall be deemed not to constitute an Objectionable Name: "Arcturus Therapeutics, Inc."

23.3 **Prohibited Signage and Other Items**. Any signs, notices, logos, pictures, names or advertisements

which are installed and that have not been separately approved by Landlord may be removed without notice by Landlord at the sole expense of Tenant. Any signs, window coverings, or blinds (even if the same are located behind the Landlord-approved window coverings for the Building), or other items visible from the exterior of the Premises or Building, shall be subject to the prior approval of Landlord, in its sole discretion.

23.4 **Termination of Right to Tenant's Signage**. The rights contained in this Article 23 shall be

personal to Original Tenant and its Permitted Transferee Assignee, and may only be exercised and maintained by such parties (and not any other assignee, sublessee or other transferee of the Original Tenant's interest in this Lease) to the extent (*x*) they are not in default under this Lease (beyond any applicable notice and cure period) ***and*** (y) if they occupy the entire Premises.

24. COMPLIANCE WITH LAW Tenant shall not do anything or suffer anything to be done in or about the Premises or the Project which will in any way conflict with any law, statute, ordinance or other rule, directive, order, regulation, guideline or requirement of any governmental entity or governmental agency (the "**Applicable Laws**") now in force or which may hereafter be enacted or promulgated. At its sole cost and expense, Tenant shall promptly comply with all any Applicable Laws which relate to (i) Tenant's use of the Premises, (ii) any Alterations made by Tenant to the Premises, and any Tenant Improvements in the Premises, or (iii) the Base Building, but as to the Base Building, only to the extent such obligations are triggered by Alterations made by Tenant to the Premises or triggered by Tenant's use of the Premises for non-general office or non-general laboratory use ("**Tenant's Compliance With Laws Obligations**"), provided that Tenant's failure to comply therewith would prohibit Landlord from obtaining or maintaining a certificate of occupancy for the Building or any portion thereof or would prohibit any other tenant or occupant of the Project from obtaining or maintaining a certificate of occupancy for its premises, or would affect the safety of Landlord's or any other tenant's or occupant's employees or create a health hazard for Landlord's or any other tenant's or occupant's employees, or cause material interference with Landlord or other tenants of the Project or would otherwise materially and adversely affect Landlord's ability to operate and maintain the Building in a first class manner consistent with the Comparable Buildings. Should any standard or regulation now or hereafter be imposed on

Landlord or Tenant by a state, federal or local governmental body charged with the establishment, regulation and enforcement of occupational, health or safety standards for employers, employees, landlords or tenants, then Tenant agrees, at its sole cost and expense, to comply promptly with such standards or regulations. Tenant shall be responsible, at its sole cost and expense, to make all alterations to the Building and Premises as are required to comply with Tenant's Compliance With Laws Obligations. The judgment of any court of competent jurisdiction or the admission of Tenant in any judicial action, regardless of whether Landlord is a party thereto, that Tenant has violated any of said governmental measures, shall be conclusive of that fact as between Landlord and Tenant. Landlord shall comply with all Applicable Laws relating to the Base Building, provided that compliance with such Applicable Laws is not the responsibility of Tenant under this Lease, and provided further that Landlord's failure to comply therewith would prohibit Tenant from obtaining or maintaining a certificate of occupancy for the Premises, or would unreasonably and materially affect the safety of Tenant's employees or create a significant health hazard for Tenant's employees, or would otherwise materially and adversely affect Tenant's use of or access to the Premises. Landlord shall be permitted to include in Operating Expenses any costs or expenses incurred by Landlord under this Article 24 to the extent not prohibited by the terms of Article 4 of this Lease, above. For purposes of Section 1938 of the California Civil Code, Landlord hereby discloses to Tenant, and Tenant hereby acknowledges, that the Project, Building and Premises have not undergone inspection by a Certified Access Specialist (CASp). As required by Section 1938(e) of the California Civil Code, Landlord hereby states 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 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 the foregoing, Landlord and Tenant hereby agree as follows: (a) any CASp inspection requested by Tenant shall be conducted, at Tenant's sole cost and expense, by a CASp approved in advance by Landlord; and (b) pursuant to Article 24 below, Tenant, at its cost, is responsible for making any repairs within the Premises to correct violations of construction-related accessibility standards; and, if anything done by or for Tenant in its use or occupancy of the Premises shall require repairs to the Building (outside the Premises) to correct violations of construction-related accessibility standards, then Tenant shall, at Landlord's option, either perform such repairs at Tenant's sole cost and expense or reimburse Landlord upon demand, as Additional Rent, for the cost to Landlord of performing such repairs.

25. LATE CHARGES If any installment of Rent or any other sum due from Tenant shall not be received by Landlord or Landlord's designee within five (5) business days after Tenant's receipt of written notice from Landlord that said amount is due (the "**Late Payment Notice**"), then Tenant shall pay to Landlord a late charge equal to **[* * *]** percent (**[* * *]**%) of the overdue amount plus any reasonable attorneys' fees incurred by Landlord by reason of Tenant's failure to pay Rent and/or other charges when due hereunder; provided that such late charge shall not be incurred with respect to the first delinquent payment in any twelve (12) month period if such payment is made within ten (10) business days after Tenant's receipt of a Late Payment Notice. The late charge shall be deemed Additional Rent and the right to require it shall be in addition to all of Landlord's other rights and remedies hereunder or at law and shall not be construed as liquidated damages or as limiting Landlord's remedies in any manner. In addition to the late charge described above, any Rent or other amounts owing hereunder which are not paid within ten (10) days after the date they are due shall bear interest from the date when due until paid at a rate per annum equal to the lesser of (i) the annual "Bank Prime Loan" rate cited in the Federal Reserve Statistical Release Publication G.13(415), published on the first Tuesday of each calendar month (or such other comparable index as Landlord and Tenant shall reasonably agree upon if such rate ceases to be published) plus four (4) percentage points, and (ii) the highest rate permitted by Applicable Law.

26. LANDLORD'S RIGHT TO CURE DEFAULT; PAYMENTS BY TENANT

26.1 **Landlord's Cure**. All covenants and agreements to be kept or performed by Tenant under this Lease shall be performed by Tenant at Tenant's sole cost and expense and without any reduction of Rent, except to the extent, if any, otherwise expressly provided herein. If Tenant shall fail to perform any obligation under this Lease, and such failure shall continue in excess of the time allowed under Section 19.1.2, above, unless a specific time period is otherwise stated in this Lease, Landlord may, but shall not be obligated to, make any such payment or perform any

such act on Tenant's part without waiving its rights based upon any default of Tenant and without releasing Tenant from any obligations hereunder.

26.2 **Tenant's Reimbursement**. Except as may be specifically provided to the contrary in this Lease,

Tenant shall pay to Landlord, upon delivery by Landlord to Tenant of statements therefor: (i) sums equal to expenditures reasonably made and obligations incurred by Landlord in connection with the remedying by Landlord of Tenant's defaults pursuant to the provisions of Section 26.1; (ii) sums equal to all losses, costs, liabilities, damages and expenses referred to in Article 10 of this Lease; and (iii) sums equal to all expenditures made and obligations incurred by Landlord in collecting or attempting to collect the Rent or in enforcing or attempting to enforce any rights of Landlord under this Lease or pursuant to law, including, without limitation, all reasonable legal fees and other amounts so expended. Tenant's obligations under this Section 26.2 shall survive the expiration or sooner termination of the Lease Term.

27. ENTRY BY LANDLORD Landlord reserves the right on at least twenty four (24) hours' notice to Tenant and during normal business hours (except in the case of an emergency) to enter the Premises to (i) inspect them; (ii) show the Premises to prospective purchasers, or to current or prospective mortgagees, ground or underlying lessors or insurers or, during the last twelve (12) months of the Lease Term, to prospective tenants; (iii) post notices of nonresponsibility (to the extent applicable pursuant to then Applicable Law); or (iv) alter, improve or repair the Premises or the Building, or for structural alterations, repairs or improvements to the Building or the Building's systems and equipment. Landlord may make any such entries without the abatement of Rent, except as otherwise provided in this Lease, and may take such reasonable steps as required to accomplish the stated purposes. In an emergency, Landlord shall have the right to use any means that Landlord may deem proper to open the doors in and to the Premises. Any entry into the Premises by Landlord in the manner hereinbefore described shall not be deemed to be a forcible or unlawful entry into, or a detainer of, the Premises, or an actual or constructive eviction of Tenant from any portion of the Premises. During any such access to the Premises, Landlord shall use commercially reasonable efforts to minimize interference with Tenant's business.

28. TENANT PARKING Throughout the Lease Term and any extensions thereof, Landlord shall provide, and Tenant shall have the right to use, without any additional charge (except to the extent of costs included in Direct Expenses), the amount of parking set forth in Section 9 of the Summary, in the Building's subterranean parking garage and the Project's surface parking lot. Tenant shall abide by all reasonable rules and regulations which are prescribed from time to time for the orderly operation and use of the parking facility where the parking passes are located (including any sticker or other identification system established by Landlord and the prohibition of vehicle repair and maintenance activities in the parking facilities), and shall cooperate in seeing that Tenant's employees and visitors also comply with such rules and regulations. Tenant's use of the Project parking facility shall be at Tenant's sole risk and Tenant acknowledges and agrees that Landlord shall have no liability whatsoever for damage to the vehicles of Tenant, its employees and/or visitors, or for other personal injury or property damage or theft relating to or connected with the parking rights granted herein or any of Tenant's, its employees' and/or visitors' use of the parking facilities.

29. MISCELLANEOUS PROVISIONS

29.1 **Terms; Captions**. The words "**Landlord**" and "**Tenant**" as used herein shall include the plural as well as the singular. The necessary grammatical changes required to make the provisions hereof apply either to corporations or partnerships or individuals, men or women, as the case may require, shall in all cases be assumed as though in each case fully expressed. The captions of Articles and Sections are for convenience only and shall not be deemed to limit, construe, affect or alter the meaning of such Articles and Sections.

29.2 **Binding Effect**. Subject to all other provisions of this Lease, each of the covenants, conditions and provisions of this Lease shall extend to and shall, as the case may require, bind or inure to the benefit not only of Landlord and of Tenant, but also of their respective heirs, personal representatives, successors or assigns, provided this clause shall not permit any assignment by Tenant contrary to the provisions of Article 14 of this Lease.

29.3 **No Air Rights**. No rights to any view or to light or air over any property, whether belonging to Landlord or any other person, are granted to Tenant by this Lease. If at any time any windows of the Premises are temporarily darkened or the light or view therefrom is obstructed by reason of any repairs, improvements, maintenance or cleaning in or about the Project, the same shall be without liability to Landlord and without any reduction or diminution of Tenant's obligations under this Lease.

29.4 **Modification of Lease**. Should any current or prospective mortgagee or ground lessor for the

Building or Project require a modification of this Lease, which modification will not cause an increased cost or expense to Tenant or in any other way materially and adversely change the rights and obligations of Tenant hereunder or modify the Premises, then and in such event, Tenant agrees that this Lease may be so modified and agrees to execute such documents as are reasonably required therefor and to deliver the same to Landlord within ten (10) business days following a request therefor. At the request of Landlord or any mortgagee or ground lessor, Tenant agrees to execute a short form of Lease and deliver the same to Landlord within ten (10) business days following the request therefor.

29.5 **Transfer of Landlord's Interest**. Tenant acknowledges that Landlord has the right to transfer all

or any portion of its interest in the Project or Building and in this Lease, and Tenant agrees that in the event of any such transfer, Landlord shall automatically be released from all liability under this Lease to the extent assumed by such transferee and Tenant agrees to look solely to such transferee for the performance of Landlord's obligations hereunder after the date of transfer and such transferee shall be deemed to have fully assumed and be liable for all obligations of this Lease to be performed by Landlord, including the return of any Security Deposit, and Tenant shall attorn to such transferee.

29.6 **Prohibition Against Recording**. Except as provided in Section 29.4 of this Lease, neither this

Lease, nor any memorandum, affidavit or other writing with respect thereto, shall be recorded by Tenant or by anyone acting through, under or on behalf of Tenant.

29.7 **Landlord's Title**. Landlord's title is and always shall be paramount to the title of Tenant. Nothing

herein contained shall empower Tenant to do any act which can, shall or may encumber the title of Landlord.

29.8 **Relationship of Parties**. Nothing contained in this Lease shall be deemed or construed by the

parties hereto or by any third party to create the relationship of principal and agent, partnership, joint venturer or any association between Landlord and Tenant.

29.9 **Application of Payments**. Landlord shall have the right to apply payments received from Tenant

pursuant to this Lease, regardless of Tenant's designation of such payments, to satisfy any obligations of Tenant hereunder, in such order and amounts as Landlord, in its sole discretion, may elect.

29.10 **Time of Essence**. Time is of the essence with respect to the performance of every provision of this Lease in which time of performance is a factor.

29.11 **Partial Invalidity**. If any term, provision or condition contained in this Lease shall, to any extent, be invalid or unenforceable, the remainder of this Lease, or the application of such term, provision or condition to persons or circumstances other than those with respect to which it is invalid or unenforceable, shall not be affected thereby, and each and every other term, provision and condition of this Lease shall be valid and enforceable to the fullest extent possible permitted by law.

29.12 **No Warranty**. In executing and delivering this Lease, Tenant has not relied on any representations, including, but not limited to, any representation as to the amount of any item comprising Additional Rent or the amount of the Additional Rent in the aggregate or that Landlord is furnishing the same services to other tenants, at all, on the same level or on the same basis, or any warranty or any statement of Landlord which is not set forth herein or in one or more of the exhibits attached hereto.

29.13 **Landlord Exculpation**. The liability of Landlord or the Landlord Parties to Tenant for any default by Landlord under this Lease or arising in connection herewith or with Landlord's operation, management, leasing, repair, renovation, alteration or any other matter relating to the Project or the Premises shall be limited solely and exclusively to an amount which is equal to the interest of Landlord in the Building, provided that in no event shall such liability extend to any sales or insurance proceeds received by Landlord or the Landlord Parties in connection with the Project, Building or Premises. Neither Landlord, nor any of the Landlord Parties shall have any personal

liability therefor, and Tenant hereby expressly waives and releases such personal liability on behalf of itself and all persons claiming by, through or under Tenant. The limitations of liability contained in this Section 29.13 shall inure to the benefit of Landlord's and the Landlord Parties' present and future partners, beneficiaries, officers, directors, trustees, shareholders, agents and employees, and their respective partners, heirs, successors and assigns. Under no circumstances shall any present or future partner of Landlord (if Landlord is a partnership), or trustee or beneficiary (if Landlord or any partner of Landlord is a trust), have any liability for the performance of Landlord's obligations under this Lease. Notwithstanding any contrary provision herein, neither Landlord nor the Landlord Parties shall be liable under any circumstances for injury or damage to, or interference with, Tenant's business, including but not limited to, loss of profits, loss of rents or other revenues, loss of business opportunity, loss of goodwill or loss of use, in each case, however occurring, or loss to inventory, scientific research, scientific experiments, laboratory animals, products, specimens, samples, 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.

29.14 **Entire Agreement**. It is understood and acknowledged that there are no oral agreements between the parties hereto affecting this Lease and this Lease constitutes the parties' entire agreement with respect to the leasing of the Premises and supersedes and cancels any and all previous negotiations, arrangements, brochures, agreements and understandings, if any, between the parties hereto or displayed by Landlord to Tenant with respect to the subject matter thereof, and none thereof shall be used to interpret or construe this Lease. None of the terms, covenants, conditions or provisions of this Lease can be modified, deleted or added to except in writing signed by the parties hereto.

29.15 **Right to Lease**. Landlord reserves the absolute right to effect such other tenancies in the Project as Landlord in the exercise of its sole business judgment shall determine to best promote the interests of the Building or Project. Tenant does not rely on the fact, nor does Landlord represent, that any specific tenant or type or number of tenants shall, during the Lease Term, occupy any space in the Building or Project.

29.16 **Force Majeure**. Notwithstanding anything to the contrary contained in this Lease, any prevention, delay or stoppage due to strikes, lockouts, labor disputes, acts of God, acts of war, terrorist acts, inability to obtain services, labor, or materials or reasonable substitutes therefor, 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), 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 Premises, 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. If this Lease 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. Notwithstanding anything to the contrary in this Lease, no event of Force Majeure shall (i) excuse Tenant's obligations to pay Rent and other charges due pursuant to this Lease, (ii) be grounds for Tenant to abate any portion of Rent due pursuant to this Lease, or entitle either party to terminate this Lease, except as allowed pursuant to Articles 11 and 13 of this Lease, or (iii) excuse Tenant's obligations under Articles 5 and 24 of this Lease.

29.17 **Waiver of Redemption by Tenant**. Tenant hereby waives, for Tenant and for all those claiming under Tenant, any and all rights now or hereafter existing to redeem by order or judgment of any court or by any legal process or writ, Tenant's right of occupancy of the Premises after any termination of this Lease.

29.18 **Notices**. All notices, demands, statements, designations, approvals or other communications (collectively, "**Notices**") given or required to be given by either party to the other hereunder or by law shall be in writing, shall be (A) sent by United States certified or registered mail, postage prepaid, return receipt requested ("**Mail**"), (B) transmitted by telecopy, if such telecopy is promptly followed by a Notice sent by Mail, (C) delivered by a nationally recognized overnight courier, or (D) delivered personally. Any Notice shall be sent, transmitted, or delivered, as the case may be, to Tenant at the appropriate address set forth in Section 10 of the Summary, or to such other place as Tenant may from time to time designate in a Notice to Landlord, or to Landlord at the addresses set forth below, or to such other places as Landlord may from time to time designate in a Notice to Tenant. Any Notice

will be deemed given (i) three (3) days after the date it is posted if sent by Mail, (ii) the date the telecopy is transmitted, (iii) the date the overnight courier delivery is made, or (iv) the date personal delivery is made. As of the date of this Lease, any Notices to Landlord must be sent, transmitted, or delivered, as the case may be, to the following addresses:

TPSC IX, LLC
c/o Healthpeak Properties, Inc.
1920 Main Street, Suite 1200
Irvine, CA 92614
Attn: Legal Department

and

Allen Matkins Leck Gamble Mallory & Natsis LLP
1901 Avenue of the Stars, Suite 1800
Los Angeles, California 90067
Attention: Anton N. Natsis, Esq.

29.19 **Joint and Several**. If there is more than one tenant, the obligations imposed upon Tenant under this Lease shall be joint and several.

29.20 **Authority**. If Tenant is a corporation, trust or partnership, Tenant represents that each individual executing this Lease on behalf of Tenant has full right and authority to execute and deliver this Lease and that each person signing on behalf of Tenant is authorized to do so and that Tenant is a duly formed and existing entity qualified to do business in the State of California.

29.21 **Attorneys' Fees**. In the event that either Landlord or Tenant should bring suit for the possession of the Premises, for the recovery of any sum due under this Lease, or because of the breach of any provision of this Lease or for any other relief against the other, then all costs and expenses, including reasonable attorneys' fees, incurred by the prevailing party therein shall be paid by the other party, which obligation on the part of the other party shall be deemed to have accrued on the date of the commencement of such action and shall be enforceable whether or not the action is prosecuted to judgment.

29.22 **Governing Law; JUDICIAL REFERENCE**. This Lease shall be construed and enforced in accordance with the laws of the State of California. THE PARTIES HEREBY WAIVE, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, THE RIGHT TO TRIAL BY JURY IN ANY LITIGATION ARISING OUT OF OR RELATING TO THIS LEASE. IF THE JURY WAIVER PROVISIONS OF THIS SECTION 29.22 ARE NOT ENFORCEABLE UNDER CALIFORNIA LAW, THEN THE FOLLOWING PROVISIONS SHALL APPLY. IT IS THE DESIRE AND INTENTION OF THE PARTIES TO AGREE UPON A MECHANISM AND PROCEDURE UNDER WHICH CONTROVERSIES AND DISPUTES ARISING OUT OF THIS LEASE OR RELATED TO THE PREMISES WILL BE RESOLVED IN A PROMPT AND EXPEDITIOUS MANNER. ACCORDINGLY, EXCEPT WITH RESPECT TO ACTIONS FOR UNLAWFUL OR FORCIBLE DETAINER OR WITH RESPECT TO THE PREJUDGMENT REMEDY OF ATTACHMENT, 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 LEASE, TENANT'S USE OR OCCUPANCY OF THE PREMISES AND/OR 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 SECTION 29.21 ABOVE. THE VENUE OF THE PROCEEDINGS

SHALL BE IN THE COUNTY IN WHICH THE PREMISES ARE LOCATED. WITHIN TEN (10) DAYS OF RECEIPT BY ANY PARTY OF A WRITTEN REQUEST TO RESOLVE ANY DISPUTE OR CONTROVERSY PURSUANT TO THIS SECTION 29.22, 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 PREMISES ARE 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 LEASE. 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 THIS LEASE, 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 29.22. 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 29.22 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.

29.23 **Submission of Lease**. Submission of this instrument for examination or signature by Tenant does not constitute a reservation of, option for or option to lease, and it is not effective as a lease or otherwise until execution and delivery by both Landlord and Tenant.

29.24 **Brokers**. Landlord and Tenant hereby warrant to each other that they have had no dealings with any real estate broker or agent in connection with the negotiation of this Lease, excepting only the real estate brokers

or agents specified in Section 12 of the Summary (the "**Brokers**"), and that they know of no other real estate broker or agent who is entitled to a commission in connection with this Lease. Each party agrees to indemnify and defend the other party against and hold the other party harmless from any and all claims, demands, losses, liabilities, lawsuits, judgments, costs and expenses (including without limitation reasonable attorneys' fees) with respect to any leasing commission or equivalent compensation alleged to be owing on account of any dealings with any real estate broker or agent, other than the Brokers, occurring by, through, or under the indemnifying party. The terms of this Section 29.24 shall survive the expiration or earlier termination of the Lease Term. Landlord will pay any commission owed to the Brokers on account of this Lease pursuant to a separate agreement with the Brokers.

29.25 **Independent Covenants**. This Lease shall be construed as though the covenants herein between Landlord and Tenant are independent and not dependent and Tenant hereby expressly waives the benefit of any statute to the contrary and agrees that if Landlord fails to perform its obligations set forth herein, Tenant shall not be entitled to make any repairs or perform any acts hereunder at Landlord's expense or to any setoff of the Rent or other amounts owing hereunder against Landlord.

29.26 **Project or Building Name, Address and Signage**. Landlord shall have the right at any time to change the name and/or address of the Project or Building and to install, affix and maintain any and all signs on the exterior and on the interior of the Project or Building as Landlord may, in Landlord's sole discretion, desire. Tenant shall not use the name of the Project or Building or use pictures or illustrations of the Project or Building in advertising or other publicity or for any purpose other than as the address of the business to be conducted by Tenant in the Premises, without the prior written consent of Landlord.

29.27 **Counterparts**. This Lease may be executed in counterparts with the same effect as if both parties hereto had executed the same document. Both counterparts shall be construed together and shall constitute a single lease.

29.28 **Intentionally Omitted**.

29.29 **Development of the Project**.

29.29.1 **Subdivision**. Landlord reserves the right to subdivide all or a portion of the buildings and Common Areas. Tenant agrees to execute and deliver, upon demand by Landlord and in the form requested by Landlord, any additional documents needed to conform this Lease to the circumstances resulting from a subdivision and any all maps in connection therewith. Notwithstanding anything to the contrary set forth in this Lease, the separate ownership of any buildings and/or Common Areas by an entity other than Landlord shall not affect the calculation of Direct Expenses or Tenant's payment of Tenant's Share of Direct Expenses.

29.29.2 **Construction of Property and Other Improvements**. Tenant acknowledges that portions of the Project may be under construction following Tenant's occupancy of the Premises, and that such construction may result in levels of noise, dust, obstruction of access, etc. which are in excess of that present in a fully constructed project. Tenant hereby waives any and all rent offsets or claims of constructive eviction which may arise in connection with such construction; provided, however, in undertaking any such construction, Landlord shall use commercially reasonable efforts to minimize interference with Tenant's use and enjoyment of the Premises, Tenant's access to the Premises, or any other rights Tenant has under this Lease.

29.30 **No Violation**. Tenant hereby warrants and represents that neither its execution of nor performance under this Lease shall cause Tenant to be in violation of any agreement, instrument, contract, law, rule or regulation by which Tenant is bound, and Tenant shall protect, defend, indemnify and hold Landlord harmless against any claims, demands, losses, damages, liabilities, costs and expenses, including, without limitation, reasonable attorneys' fees and costs, arising from Tenant's breach of this warranty and representation.

29.31 **Transportation Management**. Tenant shall fully comply with all legally mandated present or future programs reasonably implemented by Landlord to manage parking, transportation or traffic in and around the Project and/or the Building, and in connection therewith, Tenant shall take responsible action for the transportation planning and management of all employees located at the Premises by working directly with Landlord, any

governmental transportation management organization or any other transportation-related committees or entities. Such programs may include, without limitation: (i) restrictions on the number of peak-hour vehicle trips generated by Tenant; (ii) increased vehicle occupancy; (iii) implementation of an in-house ridesharing program and an employee transportation

coordinator; (iv) working with employees and any Project, Building or area-wide ridesharing program manager; (v) instituting employer-sponsored incentives (financial or in-kind) to encourage employees to rideshare; and (vi) utilizing flexible work shifts for employees.

29.32 **Signatures**. The parties hereto consent and agree that this Lease may be signed and/or transmitted by facsimile, e-mail of a .pdf document or using electronic signature technology (e.g., via DocuSign or similar electronic signature technology), and that such signed electronic record shall be valid and as effective to bind the party so signing as a paper copy bearing such party's handwritten signature. The parties further consent and agree that (1) to the extent a party signs this Lease using electronic signature technology, by clicking "SIGN", such party is signing this Lease electronically, and (2) the electronic signatures appearing on this Lease shall be treated, for purposes of validity, enforceability and admissibility, the same as handwritten signatures.

29.33 **Waiver of Claims**. As a material inducement to Landlord to enter into this Lease, Tenant hereby releases Landlord from, and hereby waives, any and all losses, costs, damages, expenses, liabilities, claims and causes of action (collectively, the "**Released Claims**") arising from or related to Tenant's inability or limitation to conduct operations from the Premises as a result of any "shelter in place" orders or similar governmental directives, including, without limitation, any claims for, and/or rights of, termination of this Lease and/or abatement, offset and/or deferral of Rent under this Lease, at law and/or in equity related to the inability of Tenant to conduct operations from the Premises as a result of any "shelter in place" orders or similar governmental directives related thereto. With respect to the Released Claims, Tenant acknowledges that Tenant has either been advised by legal counsel or has made itself familiar with the provisions of California Civil Code section 1542, which provides as follows: **A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS THAT THE CREDITOR OR RELEASING PARTY DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE AND THAT, IF KNOWN BY HIM OR HER, WOULD HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR OR RELEASED PARTY.** Tenant, being aware of the foregoing code section, hereby expressly waives any rights Tenant may have thereunder, as well as under any other statutes or common-law principles of similar effect, pertaining to the Released Claims.

29.34 **Communications and Computer Line**. Tenant may install, maintain, replace, remove or use any communications or computer wires and cables serving the Premises (collectively, the "**Lines**"), provided that Tenant shall obtain Landlord's reasonable prior written consent, use an experienced and qualified contractor approved in writing by Landlord, and comply with all of the other provisions of Articles 7 and 8 of this Lease. Tenant shall pay all costs in connection therewith. Landlord reserves the right, upon notice to Tenant prior to the expiration or earlier termination of this Lease, to require that Tenant, at Tenant's sole cost and expense, remove any Lines installed by Tenant located in or serving the Premises prior to the expiration or earlier termination of this Lease.

IN WITNESS WHEREOF, Landlord and Tenant have caused this Lease to be executed the day and date first above written.

LANDLORD: TENANT:

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER

I, Joseph E. Payne, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Arcturus Therapeutics Holdings Inc.;

2. Based on my knowledge, this 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 report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) 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(s) 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 the 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.

Date: November 8, 2021

By: /s/ Joseph E. Payne

Joseph E. Payne
President and Chief Executive Officer

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER

I, Andy Sassine, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Arcturus Therapeutics Holdings Inc.;

2. Based on my knowledge, this 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 report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) 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(s) 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 the 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.

Date: November 8, 2021

By: /s/ Andy Sassine

Andy Sassine

Chief Financial Officer

Exhibit 32.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

The undersigned, the President and Chief Executive Officer of Arcturus Therapeutics Holdings Inc. (the "Company"), hereby certifies on the date hereof, pursuant to 18 U.S.C. 1350(a), as adopted pursuant to Section 906 of The Sarbanes-Oxley Act of 2002, that the Quarterly Report on Form 10-Q for the period ended September 30, 2021 (the "Form 10-Q"), filed concurrently herewith by the Company, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and that the information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 8, 2021

By: /s/ Joseph E. Payne
Joseph E. Payne
President and Chief Executive Officer

Exhibit 32.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

The undersigned, the Chief Financial Officer of Arcturus Therapeutics Holdings Inc. (the "Company"), hereby certifies on the date hereof, pursuant to 18 U.S.C. 1350(a), as adopted pursuant to Section 906 of The Sarbanes-Oxley Act of 2002, that the Quarterly Report on Form 10-Q for the period ended September 30, 2021 (the "Form 10-Q"), filed concurrently herewith by the Company, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, and that the information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 8, 2021

By: /s/ Andy Sassine
Andy Sassine
Chief Financial Officer