
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

FORM 10-Q

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

For the quarterly period ended September 30, 2017

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 1-10352

JUNIPER PHARMACEUTICALS, INC.

(Exact name of Registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

59-2758596
(I.R.S. Employer
Identification No.)

33 Arch Street
Boston, Massachusetts
(Address of principal executive offices)

02110
(Zip Code)

Registrant's telephone number, including area code: (617) 639-1500

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes No

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

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input checked="" type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/> (Do not check if a smaller reporting company)	Smaller reporting company	<input type="checkbox"/>
Emerging Growth Company	<input type="checkbox"/>		

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

The number of shares outstanding of the registrant's common stock as of October 31, 2017: 10,844,113.

EXPLANATORY NOTE

Unless the context indicates otherwise, references in this Quarterly Report to “Juniper Pharmaceuticals,” “Juniper,” “the Company,” “we” “our,” and “us” mean Juniper Pharmaceuticals, Inc. and its subsidiaries.

Juniper Pharmaceuticals, Inc.

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Item 1. Financial Statements

Juniper Pharmaceuticals, Inc.**Condensed Consolidated Balance Sheets**
(in thousands, except per share data)
(unaudited)

	September 30, 2017	December 31, 2016
Assets		
Current assets:		
Cash and cash equivalents	\$ 22,106	\$ 20,994
Accounts receivable, net	6,521	6,573
Inventories	5,897	5,621
Prepaid expenses and other current assets	2,152	1,539
Total current assets	36,676	34,727
Property and equipment, net	15,127	13,366
Intangible assets, net	817	969
Goodwill	9,056	8,342
Other assets	79	167
Total assets	\$ 61,755	\$ 57,571
Liabilities, contingently redeemable preferred stock, and stockholders' equity		
Current liabilities:		
Accounts payable	\$ 4,607	\$ 3,893
Accrued expenses and other	5,739	5,271
Deferred revenue	7,444	5,624
Current portion of long-term debt	535	204
Total current liabilities	18,325	14,992
Long-term debt, net of current portion	3,369	2,203
Other noncurrent liabilities	148	56
Total liabilities	21,842	17,251
Commitments and contingencies		
Contingently redeemable series C preferred stock, 0 and 0.55 shares issued and outstanding at September 30, 2017 and December 31, 2016, respectively (liquidation preference of \$550)	—	550
Stockholders' equity:		
Preferred stock, \$0.01 par value; 1,000 shares authorized Series B convertible preferred stock, 0 and 0.13 shares issued and outstanding at September 30, 2017 and December 31, 2016, respectively (liquidation preference of \$0 and \$13 as of September 30, 2017 and December 31, 2016, respectively)	—	—
Common stock \$0.01 par value; 150,000 shares authorized; 12,257 issued and 10,844 outstanding at September 30, 2017 and December 31, 2016	123	123
Additional paid-in capital	291,857	290,636
Treasury stock (at cost), 1,413 shares at September 30, 2017 and December 31, 2016	(8,601)	(8,601)
Accumulated deficit	(240,128)	(237,360)
Accumulated other comprehensive loss	(3,338)	(5,028)
Total stockholders' equity	39,913	39,770
Total liabilities, contingently redeemable preferred stock, and stockholders' equity	\$ 61,755	\$ 57,571

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

Juniper Pharmaceuticals, Inc.

Condensed Consolidated Statements of Operations
(in thousands, except per share data)
(unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Revenues				
Product revenues	\$ 8,389	\$ 7,057	\$ 25,684	\$ 20,716
Service revenues	4,597	3,337	12,505	9,964
Royalties	—	1,162	—	2,963
Total revenues	<u>12,986</u>	<u>11,556</u>	<u>38,189</u>	<u>33,643</u>
Cost of product revenues	5,160	3,683	14,776	11,892
Cost of service revenues	2,559	2,022	7,149	6,630
Total cost of revenues	<u>7,719</u>	<u>5,705</u>	<u>21,925</u>	<u>18,522</u>
Gross profit	5,267	5,851	16,264	15,121
Operating expenses				
Sales and marketing	517	259	1,306	910
Research and development	2,291	2,304	5,285	8,234
General and administrative	3,238	3,111	12,263	9,815
Restructuring charge	756	—	756	—
Total operating expenses	<u>6,802</u>	<u>5,674</u>	<u>19,610</u>	<u>18,959</u>
(Loss) income from operations	(1,535)	177	(3,346)	(3,838)
Interest expense, net	(47)	(24)	(105)	(74)
Other income, net	127	90	179	296
Total non-operating income	<u>80</u>	<u>66</u>	<u>74</u>	<u>222</u>
(Loss) income before income taxes	<u>(1,455)</u>	<u>243</u>	<u>(3,272)</u>	<u>(3,616)</u>
Income tax (benefit) expense	(45)	(5)	(45)	47
Net (loss) income	<u>\$ (1,410)</u>	<u>\$ 248</u>	<u>\$ (3,227)</u>	<u>\$ (3,663)</u>
Basic net (loss) income per common share	<u>\$ (0.13)</u>	<u>\$ 0.02</u>	<u>\$ (0.26)</u>	<u>\$ (0.34)</u>
Diluted net (loss) income per common share	<u>\$ (0.13)</u>	<u>\$ 0.02</u>	<u>\$ (0.26)</u>	<u>\$ (0.34)</u>
Basic weighted average common shares outstanding	<u>10,844</u>	<u>10,799</u>	<u>10,817</u>	<u>10,791</u>
Diluted weighted average common shares outstanding	<u>10,844</u>	<u>11,060</u>	<u>10,817</u>	<u>10,791</u>

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

Juniper Pharmaceuticals, Inc.

Condensed Consolidated Statements of Comprehensive Income (Loss)
(in thousands)
(unaudited)

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2017	2016	2017	2016
Net income (loss)	\$ (1,410)	\$ 248	\$ (3,227)	\$ (3,663)
Other comprehensive income (loss) components:				
Foreign currency translation	639	(658)	1,690	(2,863)
Total other comprehensive income (loss)	639	(658)	1,690	(2,863)
Comprehensive income (loss)	<u>\$ (771)</u>	<u>\$ (410)</u>	<u>\$ (1,537)</u>	<u>\$ (6,526)</u>

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

Juniper Pharmaceuticals, Inc.

Condensed Consolidated Statements of Cash Flows
(in thousands)
(unaudited)

	Nine Months Ended September 30,	
	2017	2016
Operating activities:		
Net loss	\$ (3,227)	\$ (3,663)
Reconciliation of net loss to net cash provided by operating activities:		
Depreciation and amortization	1,668	1,435
Stock-based compensation expense	1,216	804
Changes in operating assets and liabilities:		
Accounts receivable	356	1,680
Inventories	(274)	(1,215)
Prepaid expenses and other current assets	(550)	282
Other non-current assets	88	18
Accounts payable	897	2,836
Accrued expenses and other	298	354
Deferred revenue	1,761	1,149
Net cash provided by operating activities	2,233	3,680
Investing activities:		
Purchases of property and equipment	(2,404)	(2,256)
Net cash used in investing activities	(2,404)	(2,256)
Financing activities:		
Proceeds from loan facility	954	—
Proceeds from equipment loans	1,501	—
Principal payments on debt	(1,269)	(175)
Dividends paid	(14)	(21)
Net cash provided by (used in) financing activities	1,172	(196)
Effect of exchange rate changes on cash and cash equivalents	111	(158)
Net increase in cash and cash equivalents	1,112	1,070
Cash and cash equivalents, beginning of period	20,994	13,901
Cash and cash equivalents, end of period	\$ 22,106	\$ 14,971
Supplemental cash flow information		
Cash paid for interest	\$ 85	\$ 67
Supplemental noncash information		
Purchases of equipment through accounts payable and accrued expenses	\$ 100	\$ —
Excess of carrying value of Series C Preferred Stock over redemption value	\$ 459	\$ —

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

Juniper Pharmaceuticals, Inc.
Notes to Condensed Consolidated Financial Statements
(Unaudited)

(1) Interim Condensed Consolidated Financial Statements

The accompanying unaudited interim condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States (“U.S. GAAP”) for interim information and pursuant to the rules and regulations of the Securities and Exchange Commission (the “SEC”) for reporting on Form 10-Q. Accordingly, certain information and footnote disclosures required for complete financial statements are not included herein. It is recommended that these financial statements be read in conjunction with the consolidated financial statements and related notes that appear in the Annual Report on Form 10-K of Juniper Pharmaceuticals, Inc. (“Juniper” or the “Company”) for the year ended December 31, 2016 filed with the SEC on March 7, 2017 (the “2016 Annual Report”). In the opinion of the Company, the accompanying unaudited condensed consolidated financial statements contain all adjustments, consisting of only normal recurring adjustments, necessary for a fair statement of its financial position as of September 30, 2017, and its results of operations for the three and nine months ended September 30, 2017 and 2016, and cash flows for the nine months ended September 30, 2017 and 2016. The condensed consolidated balance sheet at December 31, 2016, was derived from audited annual financial statements, but does not contain all of the footnote disclosures from the annual financial statements. Results of operations for the three and nine months ended September 30, 2017 are not necessarily indicative of the results for the year ending December 31, 2017 or any period thereafter.

At September 30, 2017, cash and cash equivalents were \$22.1 million. The Company’s future funding requirements depend on a number of factors, including the rate of market acceptance of its current and future products and services and the resources the Company devotes to developing and supporting the same. The Company believes that current cash and cash equivalents, as well as cash generated from operations, will be sufficient to meet anticipated cash needs for working capital, including potentially advancing a product candidate, and capital expenditures through the next twelve months from the date of the filing of this Form 10-Q. The Company may be dependent on its ability to raise additional capital to finance operations and further fund research and development programs. If the Company is not able to raise additional capital on terms acceptable to it, or at all, as and when needed, it may be required to curtail its operating spend including spend related to its research and development programs.

Management Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses and related disclosures at the date of the financial statements during the reporting period. Significant estimates are used for, but are not limited to, revenue recognition, allowance for doubtful accounts, inventory reserve, impairment analysis of goodwill and intangibles including their useful lives, research and development accruals, deferred tax assets, liabilities and valuation allowances, restructuring charges and fair value of stock options. On an ongoing basis, management evaluates its estimates. Actual results could differ from those estimates.

(2) Inventories

Inventories are stated at the lower of cost (first-in, first-out) or net realizable value. Components of inventory cost include materials, labor and manufacturing overhead. Inventories consist of the following (in thousands):

	September 30, 2017	December 31, 2016
Raw materials	\$ 2,020	\$ 856
Work in process	3,099	3,806
Finished goods	778	959
Total	<u>\$ 5,897</u>	<u>\$ 5,621</u>

The inventory reserve balance at September 30, 2017 was \$0.3 million. No reserve was required at December 31, 2016. During the three and nine months ended September 30, 2017, the Company recorded charges in the condensed consolidated statements of operations for excess and obsolete inventory of \$0.3 million and \$0.5 million, respectively. No charges were recorded for the three and nine months ended September 30, 2016.

(3) Goodwill and Intangible Assets

Goodwill represents the excess of the purchase price over the fair value acquired and liabilities assumed in a business combination. The Company does not amortize its goodwill, but instead tests for impairment annually in the fourth quarter and more frequently whenever events or changes in circumstances indicate that fair value of the asset may be less than the carrying value of the asset. The Company determined a triggering event occurred in September 2017 based on Juniper's announcement of a corporate reprioritization which aimed to re-focus its resources on the core business of Crinone® progesterone gel and JPS and to focus its research and development organization on its hormone replacement therapy initiative, its lead IVR program, and the Company would seek to partner its other IVR programs.

In accordance with Accounting Standard Codification, or ASC 350, *Goodwill and Other Intangibles* ("ASC 350"), the Company uses the two-step approach for each reporting unit. The first step compares the carrying amount of the reporting unit to its estimated fair value (Step 1) utilizing a discounted cash flow analysis based on the present value of estimated future cash flows to be generated using a risk-adjusted discount rate. To the extent that the carrying value of the reporting unit exceeds its estimated fair value, a second step is performed wherein the reporting unit's carrying value is compared to the implied fair value (Step 2). To the extent that the carrying value of goodwill exceeds the implied fair value of goodwill, impairment exists and must be recognized.

Juniper concluded that the business represents two reporting units for goodwill impairment testing, which are product and service. Juniper's goodwill is assigned to the Company's service reporting unit. Juniper performed an impairment test as of the date of the triggering event and determined the Company's goodwill is not impaired as of that date.

Changes to goodwill during the nine months ended September 30, 2017 were as follows (in thousands):

	Total
Balance—December 31, 2016	\$ 8,342
Effects of foreign currency translation	714
Balance—September 30, 2017	<u>\$ 9,056</u>

Intangible assets consist of the following at September 30, 2017 and December 31, 2016 (in thousands):

	Trademark	Developed Technology	Customer Relationships	Total
Gross carrying amount	\$ 300	\$ 1,370	\$ 1,240	\$ 2,910
Foreign currency translation adjustment	(65)	(206)	(187)	(458)
Accumulated amortization	(235)	(792)	(608)	(1,635)
Balance—September 30, 2017	<u>\$ —</u>	<u>\$ 372</u>	<u>\$ 445</u>	<u>\$ 817</u>

	Trademark	Developed Technology	Customer Relationships	Total
Gross carrying amount	\$ 300	\$ 1,370	\$ 1,240	\$ 2,910
Foreign currency translation adjustment	(53)	(298)	(270)	(621)
Accumulated amortization	(247)	(617)	(456)	(1,320)
Balance—December 31, 2016	<u>\$ —</u>	<u>\$ 455</u>	<u>\$ 514</u>	<u>\$ 969</u>

Amortization expense related to developed technology is classified as a component of cost of service revenues in the accompanying consolidated statements of operations. Amortization expense related to trademark and customer relationships is classified as a component of general and administrative expenses in the accompanying consolidated statements of operations.

Amortization expense for the three months ended September 30, 2017 and 2016 was \$0.1 million. Amortization expense for the nine months ended September 30, 2017 and 2016 was \$0.2 million and \$0.3 million, respectively. Amortization expense on existing intangible assets as of September 30, 2017 is as follows (in thousands):

Year ending December 31,	Total
Remainder of 2017	\$ 78
2018	287
2019	260
2020	192
Total	<u>\$ 817</u>

(4) Debt and other Contractual Obligations

In September 2013, Juniper assumed debt of \$3.9 million in connection with its acquisition of Juniper Pharma Services (“JPS”). JPS had entered into a Business Loan Agreement (“Loan Agreement”) covering three loan facilities (collectively referred to as the “original agreements”) with Lloyds TSB Bank (“Lloyds”) as administrative agent. In May 2017, JPS repaid one of the existing loan facilities upon which JPS subsequently entered into a new loan facility with the same administrative agent for the same outstanding balance. The refinancing was accounted for as a modification with no resulting gain or loss. The remaining original agreements and the new agreement are collectively referred to as the “loan facilities”.

As of September 30, 2017, the Company owed \$2.5 million on the loan facilities. The loan facilities are due for repayment over periods ranging from 7-15 years. Two of the facilities bear interest at the Bank of England’s base rate plus 1.95%, and 2.55%, respectively. The interest rates at September 30, 2017 for these facilities were 2.45% and 3.05%, respectively. The third facility is a fixed rate agreement bearing interest at 2.99% per annum. The weighted average interest rate for the three loan facilities for the three months ended September 30, 2017 was 2.76%. The Loan Agreement is secured by the mortgaged property and an unlimited lien on other assets of JPS. The original agreements under the Loan Agreement contains financial covenants that limit the amount of indebtedness JPS may incur, requires JPS to maintain certain levels of net worth, and restricts JPS’s ability to materially alter the character of its business. The new loan facility contains the same financial covenants outlined above in addition to a covenant which requires that JPS maintain certain levels of earnings before interest, taxes, depreciation and amortization. As of September 30, 2017, the Company is in compliance with all of the covenants under the Loan Agreement.

In September 2013, as part of the acquisition of JPS, Juniper assumed a \$2.5 million obligation under a grant arrangement with the Regional Growth Fund on behalf of the Secretary of State for Business, Innovation, and Skills in the United Kingdom. JPS used this grant to fund the building of its second facility, which includes analytical labs, office space, and a manufacturing facility. As part of the arrangement, JPS is required to create and maintain certain full-time equivalent personnel levels through October 1, 2017. As of September 30, 2017, the Company is in compliance with the covenants of the arrangement. The obligation ended on October 1, 2017. As of the date of this filing, the Company’s obligation under the grant arrangement is complete and the Company met all compliance requirements through October 1, 2017.

The income from the Regional Growth Fund was on a decelerated basis through October 1, 2017. As of September 30, 2017, the Company had recorded all deferred revenue previously recognized under this arrangement. Other income associated with the Regional Growth Fund obligation for the three months ended September 30, 2017 and 2016 was \$0.2 million and \$0.2 million, respectively. Other income associated with the Regional Growth Fund obligation for the nine months ended September 30, 2017 and 2016 was \$0.6 million and \$0.5 million, respectively.

Juniper leases its U.S. corporate office under an operating lease. Additionally, Juniper financed certain equipment under loan agreements with payments through March 2022. In October 2015, the Company entered into a lease agreement for its corporate office in Boston, Massachusetts. The initial term of the lease agreement is approximately 39 months and ends in 2019, which includes a three-month free rent period. In January and March 2017, the Company entered into loans of \$0.9 million and \$0.6 million, respectively, for equipment in its Nottingham, U.K. facility. The interest rate for the two loans was 2.09% at September 30, 2017. The transactions were considered failed sales-leaseback arrangements as the Company will obtain title to the equipment at the end of the term of the financing for little or no consideration. These failed sale-leaseback arrangements have been recorded as a component of long-term debt on the Company’s condensed consolidated balance sheets. The initial terms of the loans are 60 months.

Commitments under Juniper’s debt and lease arrangements are as follows as of September 30, 2017 (in thousands):

	Operating Leases	Debt Principal Payments	Total
Remainder of 2017	\$ 109	\$ 132	\$ 241
2018	443	540	983
2019	74	563	637
2020	—	582	582
2021	—	602	602
Thereafter	—	1,485	1,485
Total minimum debt and lease payments	\$ 626	\$ 3,904	\$ 4,530

(5) Intravaginal Ring Technology License

In March 2015, the Company obtained an exclusive worldwide license (“License Agreement”) to the intellectual property rights for a novel segmented intravaginal ring (“IVR”) technology. Due to its novel polymer and segmentation composition, the Company believes the IVR has the potential to deliver one or more drugs, including hormones and larger molecules such as peptides, at different dosages and release rates within a single segmented ring. Drugs such as progesterone and leuprolide have already been tested using the technology and demonstrated sustained release for up to three weeks. This technology was developed by Dr. Robert Langer from the Massachusetts Institute of Technology (“MIT”) and Dr. William Crowley from Massachusetts General Hospital (“MGH”) and Harvard Medical School. Drs. Langer and Crowley have each agreed to serve a three-year term as strategic advisors to the Company in exchange for an upfront one-time payment plus quarterly fees and equity compensation.

Unless earlier terminated by the parties, the License Agreement will remain in effect until the later of (i) the date on which all issued patents and filed patent applications within the licensed patent rights have expired or been abandoned and (ii) one year after the last sale for which a royalty is due under the License Agreement or 10 years after such expiration or abandonment date referred to in (i), whichever is earlier. Juniper has the right to terminate the License Agreement by giving 90 days advance written notice to MGH. MGH has the right to terminate the License Agreement based on the Company’s failure to make payments due under the License Agreement, subject to a 15 day cure period, or the Company’s failure to maintain the insurance required by the License Agreement. MGH may also terminate the License Agreement based on Juniper’s non-financial default under the License Agreement, subject to a 60 day cure period.

Pursuant to the terms of the License Agreement, Juniper has agreed to reimburse MGH for all costs associated with the preparation, filing, prosecution and maintenance of the licensed patent rights, and has agreed to pay MGH a \$50,000 annual license fee on each of the first five year anniversaries of the effective date of the License Agreement, and a \$100,000 annual license fee beginning on the sixth anniversary of the effective date of the License Agreement and on each subsequent anniversary thereafter. The annual license fee is creditable against any royalties or sublicense income payable in each calendar year.

Under the terms of the License Agreement, Juniper has agreed to use commercially reasonable efforts to develop and commercialize at least one product and/or process related to the IVR technology, which efforts will include the making of certain minimum annual expenditures in each of the first five years following the effective date of the License Agreement. Juniper has also agreed to pay MGH certain milestone payments totaling up to \$1.2 million tied to the Company’s achievement of certain development and commercialization milestones, and certain annual royalty payments based on net sales of any such patented products or processes developed by Juniper.

(6) Segments and Geographic Information

The Company and its subsidiaries currently operate in two segments: product and service. The product segment oversees the supply chain and manufacturing of Crinone, the Company’s sole commercialized product. The product segment included the royalty stream the Company received from Allergan for Crinone sales in the United States, which ceased with the November 2016 agreement with Allergan, as well as the development of new product candidates. The service segment includes product development, clinical trial manufacturing, and advanced analytical and consulting services for the Company’s customers, as well as the characterizing and developing of pharmaceutical product candidates for the Company’s internal programs and managing certain preclinical activities including manufacturing of the Company’s pipeline products. In September 2013, the Company acquired JPS, a U.K.-based provider of pharmaceutical development, clinical trial manufacturing, and advanced analytical and consulting services to the pharmaceutical industry. The Company conducts its advanced formulation, analytical and consulting services through JPS. The Company has integrated its supply chain management for its sole commercialized product, Crinone, into those operations and have therefore sought to capture synergies by transferring all operational activities related to its historic business. The Company owns certain plant and equipment physically located at third party contractor facilities in the United Kingdom and Switzerland.

The Company’s largest customer, Merck KGaA, utilizes a Switzerland-based subsidiary to acquire product from the Company, which it then sells throughout the world excluding the United States. Up until November 2016, the Company’s primary domestic customer, Allergan, Plc (“Allergan”), was responsible for the commercialization and sale of Crinone in the United States. In November 2016, the Company entered into an agreement with Allergan to monetize future royalty payments. Under the agreement, the Company received a one-time payment of \$11.0 million representing all future royalty amounts payable.

The following tables show selected information by geographic area (in thousands):

Revenues:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
United States	\$ 3,230	\$ 2,851	\$ 7,245	\$ 7,066
Switzerland	8,505	7,081	26,021	20,772
United Kingdom	751	981	2,788	3,474
Other countries	500	643	2,135	2,331
Total	<u>\$ 12,986</u>	<u>\$ 11,556</u>	<u>\$ 38,189</u>	<u>\$ 33,643</u>

Total assets:

	September 30, 2017	December 31, 2016
United States	\$ 22,780	\$ 21,423
Switzerland	3,358	4,673
United Kingdom	35,529	31,288
Other countries	88	187
Total	<u>\$ 61,755</u>	<u>\$ 57,571</u>

Long-lived assets:

	September 30, 2017	December 31, 2016
United States	\$ 500	\$ 663
Switzerland	438	369
United Kingdom	15,083	13,468
Other countries	2	2
Total	<u>\$ 16,023</u>	<u>\$ 14,502</u>

Long-lived assets include fixed assets, intangibles and other assets.

No other individual country represented greater than 10% of total revenues, total assets, or long-lived assets for any period presented.

For the three and nine months ended September 30, 2017, Merck KGaA accounted for 100% of the product segment revenue. For the three and nine months ended September 30, 2016, Merck KGaA accounted for 86% and 87% of the product segment revenue, respectively. For the three and nine months ended September 30, 2016, Allergan accounted for 14% and 13% of the product segment revenue, respectively. At September 30, 2017 and December 31, 2016, Merck KGaA made up 100% of the product segment accounts receivable.

For the three and nine months ended September 30, 2017 the same customer accounted for 46% and 31% of the service segment total revenue, respectively. No customers accounted for 10% or more of the service segment total revenue for the three and nine months ended September 30, 2016. At September 30, 2017, one customer accounted for 41% of total service segment accounts receivable, respectively. At December 31, 2016, two customers accounted for 18% and 13% of total service segment net accounts receivable.

The following summarizes other information by segment for the three months ended September 30, 2017 (in thousands):

	<u>Product</u>	<u>Service</u>	<u>Total</u>
Revenues			
Product revenues	\$ 8,389	\$ —	\$ 8,389
Service revenues	—	4,597	4,597
Total revenues	\$ 8,389	\$ 4,597	\$ 12,986
Cost of product revenues	\$ 5,160	\$ —	\$ 5,160
Cost of service revenues	—	2,559	2,559
Total cost of revenues	\$ 5,160	\$ 2,559	\$ 7,719
Gross profit	\$ 3,229	\$ 2,038	\$ 5,267
Total operating expenses			6,802
Total non-operating expense			80
Loss before income taxes			<u>\$ (1,455)</u>

The following summarizes other information by segment for the three months ended September 30, 2016 (in thousands):

	<u>Product</u>	<u>Service</u>	<u>Total</u>
Revenues			
Product revenues	\$ 7,057	\$ —	\$ 7,057
Service revenues	—	3,337	3,337
Royalties	1,162	—	1,162
Total revenues	\$ 8,219	\$ 3,337	\$ 11,556
Cost of product revenues	\$ 3,683	\$ —	\$ 3,683
Cost of service revenues	—	2,022	2,022
Total cost of revenues	\$ 3,683	\$ 2,022	\$ 5,705
Gross profit	\$ 4,536	\$ 1,315	\$ 5,851
Total operating expenses			5,674
Total non-operating income			66
Income before income taxes			<u>\$ 243</u>

The following summarizes other information by segment for the nine months ended September 30, 2017 (in thousands):

	<u>Product</u>	<u>Service</u>	<u>Total</u>
Revenues			
Product revenues	\$ 25,684	\$ —	\$ 25,684
Service revenues	—	12,505	12,505
Total revenues	\$ 25,684	\$ 12,505	\$ 38,189
Cost of product revenues	\$ 14,776	\$ —	\$ 14,776
Cost of service revenues	\$ —	\$ 7,149	\$ 7,149
Total cost of revenues	14,776	7,149	21,925
Gross profit	\$ 10,908	\$ 5,356	\$ 16,264
Total operating expenses			19,610
Total non-operating expense			74
Loss before income taxes			<u>\$ (3,272)</u>

The following summarizes other information by segment for the nine months ended September 30, 2016 (in thousands):

	Product	Service	Total
Revenues			
Product revenues	\$ 20,716	\$ —	\$ 20,716
Service revenues	—	9,964	9,964
Royalties	2,963	—	2,963
Total revenues	<u>\$ 23,679</u>	<u>\$ 9,964</u>	<u>\$ 33,643</u>
Cost of product revenues	\$ 11,892	\$ —	\$ 11,892
Cost of service revenues	—	6,630	6,630
Total cost of revenues	<u>\$ 11,892</u>	<u>\$ 6,630</u>	<u>\$ 18,522</u>
Gross profit	<u>\$ 11,787</u>	<u>\$ 3,334</u>	<u>\$ 15,121</u>
Total operating expenses			18,959
Total non-operating income			222
Loss before income taxes			<u>\$ (3,616)</u>

(7) Property and Equipment

Property and equipment consists of the following (in thousands):

	Estimated Useful Life (Years)	September 30, 2017	December 31, 2016
Machinery and equipment	3-10	\$ 11,765	\$ 8,628
Furniture and fixtures	3-5	1,083	1,190
Computer equipment and software	3-5	625	538
Buildings	Up to 39	7,936	7,310
Land	Indefinite	509	469
Construction in-process		1,150	1,567
		<u>23,068</u>	<u>19,702</u>
Less: Accumulated depreciation		(7,941)	(6,336)
Total		<u>\$ 15,127</u>	<u>\$ 13,366</u>

Depreciation expense was \$0.5 million and \$0.4 million for the three-month periods ended September 30, 2017 and 2016, respectively. Depreciation expense was \$1.4 million and \$1.1 million for the nine month periods ended September 30, 2017 and 2016, respectively. The Company recorded \$0 and \$0.2 million in disposals during the three and nine months ended September 30, 2017. The Company recorded an impairment of \$14,000 as a component of the Restructuring charge (See Note 15) recorded during the three months ended September 30, 2017, associated with the discontinuation of use on assets used in its new product research and development group.

Machinery and equipment includes \$1.5 million of equipment purchased under equipment loans.

(8) Shareholders' Equity

Preferred Stock

At December 31, 2016, 130 shares of Series B Preferred Stock ("Series B") and 550 shares of Series C Preferred Stock ("Series C") remained outstanding. During the quarter ending June 30, 2017, the Company issued a Notice of Conversion to the holders of the Series B and a Notice of Redemption to the Series C giving notice that on June 30, 2017 (the "Redemption and Conversion Date") all outstanding shares of the respective Preferred Stock issuances would be converted, as in the case of the Series B, or redeemed, as in the case of the Series C.

The Series B, by its terms, automatically convert into common stock upon the occurrence of certain events. On the Redemption and Conversion Date, each share of Series B converted into 2.78 shares of common stock resulting in an issuance of 361 common shares.

The holders of the Series C had the right to require the Company to redeem their shares in cash plus all accrued and unpaid dividends thereon the date such redemption is demanded. On the Redemption and Conversion Date, the Company paid to the holders of the Series C approximately \$0.1 million and as a result of the transaction recorded the excess of the carrying value of Series C Preferred Stock over redemption value of approximately \$0.5 million to accumulated deficit for the nine months ended September 30, 2017. There were no remaining outstanding shares of either the Series B or the Series C following the Redemption and Conversion Date.

(9) Net Loss Per Common Share

The calculation of basic and diluted loss per common share and common share equivalents is as follows (in thousands except for per share data):

	<u>Three Months Ended</u> <u>September 30,</u>		<u>Nine Months Ended</u> <u>September 30,</u>	
	<u>2017</u>	<u>2016</u>	<u>2017</u>	<u>2016</u>
Basic net (loss) income per common share				
Net (loss) income	\$ (1,410)	\$ 248	\$ (3,227)	\$ (3,663)
Add: Excess of carrying value of Series C Preferred Stock over redemption value	—	—	459	—
Less: Preferred stock dividends	—	(7)	(14)	(21)
Net (loss) income applicable to common stock	<u>\$ (1,410)</u>	<u>\$ 241</u>	<u>\$ (2,782)</u>	<u>\$ (3,684)</u>
Basic weighted average number of common shares outstanding	<u>10,844</u>	<u>10,799</u>	<u>10,817</u>	<u>10,791</u>
Basic net (loss) income per common share	<u>\$ (0.13)</u>	<u>\$ 0.02</u>	<u>\$ (0.26)</u>	<u>\$ (0.34)</u>
Diluted (loss) income per common share				
Net (loss) income applicable to common stock	\$ (1,410)	\$ 241	\$ (2,782)	\$ (3,684)
Less: Excess of carrying value of Series C Preferred Stock over redemption value	—	—	—	—
Add: Preferred stock dividends	—	7	—	—
Net (loss) income applicable to dilutive common stock	<u>\$ (1,410)</u>	<u>\$ 248</u>	<u>\$ (2,782)</u>	<u>\$ (3,684)</u>
Basic weighted average number of common shares outstanding	10,844	10,799	10,817	10,791
Effect of dilutive securities				
Dilutive stock awards	—	178	—	—
Dilutive preferred share conversions	—	83	—	—
	—	261	—	—
Diluted weighted average number of common shares outstanding	<u>10,844</u>	<u>11,060</u>	<u>10,817</u>	<u>10,791</u>
Diluted net (loss) income per common share	<u>\$ (0.13)</u>	<u>\$ 0.02</u>	<u>\$ (0.26)</u>	<u>\$ (0.34)</u>

Basic net loss per common share is computed by dividing the net loss, less preferred dividends and adding the excess of carrying value of Series C Preferred Stock over redemption value recognized on the conversion of the Series C Preferred Stock, by the weighted-average number of shares of common stock outstanding during a period. The diluted loss per common share calculation gives effect to dilutive options, convertible preferred stock, and other potential dilutive common stock including restricted shares of common stock outstanding during the period. Diluted net loss per share is based on the treasury stock method and includes the effect from potential issuance of common stock, such as shares issuable pursuant to the exercise of stock options, assuming the exercise of all in-the-money stock options. Common share equivalents have been excluded where their inclusion would be anti-dilutive.

Shares to be issued upon the exercise of the outstanding options, performance-based restricted stock units, convertible preferred stock, and selected restricted shares of common stock excluded from the income per share calculation amounted to 2.2 million and 1.7 million in each of the three-month and nine-month periods ended September 30, 2017 and 2016, respectively, because the awards were anti-dilutive.

(10) Accumulated Other Comprehensive Loss

Changes to accumulated other comprehensive loss during the nine months ended September 30, 2017 were as follows (in thousands):

	Translation Adjustment
Balance—December 31, 2016	\$ (5,028)
Current period other comprehensive income (loss)	1,690
Balance—September 30, 2017	<u>\$ (3,338)</u>

(11) Stock-Based Compensation

Stock-based compensation expense was \$0.4 million and \$0.3 million for the three months ended September 30, 2017 and 2016, respectively. Stock-based compensation expense for the nine months ended September 30, 2017 and 2016 was \$1.2 million and \$0.8 million, respectively.

Stock-based compensation relates to options granted to employees, non-employee members of the Board of Directors and non-employees, time-based restricted stock units granted to employees and non-employee members of the Board of Directors and performance-based restricted stock units granted to employees. Total stock-based compensation expense was recorded to cost of revenues and operating expenses based upon the functional responsibilities of the individuals holding the respective awards as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Cost of revenues	\$ 84	\$ 94	\$ 143	\$ 152
Sales and marketing	12	17	35	48
Research and development	(38)	23	(10)	(14)
General and administrative	313	195	1,048	618
Total	<u>\$ 371</u>	<u>\$ 329</u>	<u>\$ 1,216</u>	<u>\$ 804</u>

There were no option exercises in the nine months ended September 30, 2017 and 2016.

Juniper granted options to purchase 680,400 shares of common stock to employees and non-employee directors during the nine months ended September 30, 2017 and options to purchase 642,500 shares of common stock to employees during the nine months ended September 30, 2016. No stock options were granted to non-employee directors during the nine months ended September 30, 2016. Stock options granted to employees typically vest over a four-year term. Stock options granted to non-employee directors typically vest over a three-year term.

Juniper granted 52,700 time-based restricted stock units to employees and 66,234 time-based restricted stock units to non-employee directors during the nine months ended September 30, 2017. Juniper granted 42,203 restricted stock units to non-employee directors during the nine months ended September 30, 2016.

Juniper granted 186,000 performance-based restricted stock units to employees during the nine months ended September 30, 2017. No performance-based restricted stock units were granted during the nine months ended September 30, 2016. The performance-based restricted stock units vest based on the occurrence of certain operational and strategic events which were determined by the Company's Board of Directors.

The Company uses the Black-Scholes option pricing model to determine the estimated grant date fair values for stock options and estimates the fair value of time-based restricted stock units and performance-based restricted stock units based on the closing price of the Company's common stock on the date of grant. The Company's assumptions do not include an estimated forfeiture rate.

Option-pricing models require the input of various subjective assumptions, including the option's expected life and the price volatility of the underlying stock. Juniper's estimated expected stock price volatility is based on its own historical volatility. Juniper's expected term of options granted during the nine months ended September 30, 2017 and 2016 was derived using the simplified method for employees. The risk-free rate for the expected term of the option is based on the U.S. Treasury yield curve in effect at the time of grant.

The weighted-average grant date fair values of options granted to employees during the nine months ended September 30, 2017 and 2016 were \$2.43 and \$4.71, respectively, using the following assumptions:

	Nine Months Ended September 30,	
	2017	2016
Risk free interest rate	1.45% - 1.59%	0.85% - 1.14%
Expected term	4.5 - 4.75 years	4.75 years
Dividend yield	-	-
Expected volatility	53.15% - 55.20%	78.08% - 79.29%

The Company records stock-based compensation expense for stock options granted to non-employees based on the fair value of the stock options, which is re-measured over the graded vesting term resulting in periodic adjustments to stock-based compensation expense. The stock-based compensation expense recorded for non-employees is primarily reflected in the research and development line of the statement of operations and is remeasured on a quarterly basis from the date of grant. During the nine months ended September 30, 2017, the Company recorded a reduction of stock-based compensation expense of \$0.1 million for non-employee options as a result of changes in the fair value of the options during the period. During the nine months ended September 30, 2016, the Company recorded a reduction of stock-based compensation expense of \$0.2 million for non-employee options. No tax benefit has been recognized due to the net tax losses during the periods presented. There were no options granted to non-employees during the nine months ended September 30, 2017 and 2016.

The weighted-average grant date fair value of both the time-based restricted stock units and performance-based restricted stock units was \$4.97 per share during the nine months ended September 30, 2017. The Company recognizes stock-based compensation expense for time-based restricted stock units over the vesting period. For performance-based restricted stock units, the Company considers the performance criteria at each balance sheet date and recognizes stock-based compensation expense for those criteria considered probable. The criteria associated with these performance-based stock units were not determined to be probable at September 30, 2017 and as such, no expense was recorded.

As of September 30, 2017, the total unrecognized compensation cost related to outstanding stock options, time-based restricted stock units and performance-based restricted stock units expected to vest was \$4.4 million, which the Company expects to recognize over a weighted-average period of 3.55 years.

During the three months ended September 30, 2017, in conjunction with the corporate reprioritization (see Note 15) announced in September 2017, the Company modified options held by an executive to extend the exercise period allowed and recorded incremental stock-based compensation of approximately \$17,000 as a component of Restructuring expense. The Company recognized the forfeiture on unvested awards upon the executive's departure and has recognized a reduction in stock-based compensation of approximately \$68,000 during the period ended September 30, 2017.

(12) Fair Value of Financial Instruments

U.S. GAAP establishes a framework for measuring fair value under generally accepted accounting principles and enhances disclosures about fair value measurements. Fair value is defined as the amount that would be received for an asset or paid to transfer a liability (i.e., an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value maximize the use of observable inputs and minimize the use of unobservable inputs. The standard describes the following fair value hierarchy based on three levels of inputs, of which the first two are considered observable and the last unobservable, that may be used to measure fair value:

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

Level 2: Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

Level 3: Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The fair value of cash and cash equivalents are classified as Level 1 at September 30, 2017 and December 31, 2016.

The fair values of accounts receivable and accounts payable approximate their respective carrying amounts. The Company's long-term debt is carried at amortized face value, which approximates fair value based on current market pricing of similar debt instruments and is categorized as a Level 2 measurement.

During the three and nine months ended September 30, 2017, the Company did not have transfers of financial assets between Level 1 and 2.

(13) Income Taxes

During the three and nine months ended September 30, 2017, Juniper recorded an income tax benefit of \$45,000, representing an effective tax rate of 3.1% and 1.4%, respectively. This benefit reflecting an adjustment to the Company's foreign income inclusion for U.S. tax purposes, which reduced its alternative minimum tax recorded in 2016. No income tax expense has been recorded due to expected losses forecasted for the year. During the three months ended September 30, 2016, Juniper recorded income tax benefit of \$5,000, representing an effective tax rate of (2.1)%. During the nine months ended September 30, 2016, Juniper recorded income tax expense of \$47,000, representing an effective tax rate of (1.3)%. The income tax provision for the three and nine months ended September 30, 2016, is primarily attributable to alternative minimum taxes.

Juniper files income tax returns in the U.S. federal jurisdiction, and in various state and foreign jurisdictions. Juniper is no longer subject to U.S. federal income tax examinations by tax authorities for years prior to 2012. Additionally, with few exceptions, Juniper is no longer subject to U.S. state tax examinations for years prior to 2012.

(14) Recent Accounting Pronouncements

Adopted

In March 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2016-09, *Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting* ("ASU 2016-09"). The standard is intended to simplify several areas of accounting for share-based compensation arrangements, including the income tax impact, classification of awards as either equity or liabilities and classification on the statement of cash flows. ASU 2016-09 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2016. The Company adopted the standard as of January 1, 2017. The adoption did not have a material impact on the Company's financial position, results of operations or cash flows.

In November 2015, the FASB issued ASU No. 2015-17, *Income Taxes (Topic 740): Balance Sheet Classification of Deferred Taxes* ("ASU 2015-17"). The standard requires that deferred tax assets and liabilities be classified as noncurrent on the balance sheet rather than being separated into current and noncurrent. ASU 2015-17 is effective for fiscal years, and interim periods within those years, beginning after December 15, 2016. The standard may be applied either retrospectively or on a prospective basis to all deferred tax assets and liabilities. The Company adopted the standard as of January 1, 2017. The adoption did not have a material impact on the Company's financial position.

In July 2015, the FASB issued ASU No. 2015-11, *Simplifying the Measurement of Inventory*. This ASU simplifies the measurement of inventory by requiring certain inventory to be measured at the lower of cost or net realizable value. The amendments in this ASU are effective for fiscal years beginning after December 15, 2016 and for interim periods therein. The Company adopted the standard as of January 1, 2017. The adoption did not have a material impact on the Company's financial position, results of operations or cash flows.

To be adopted

In January 2017, the FASB issued ASU No. 2017-04, *Simplifying the Test for Goodwill Impairment*. The standard simplifies the accounting for goodwill impairment by removing Step 2 of the goodwill impairment test, which requires a hypothetical purchase price allocation. The ASU is effective for annual or interim goodwill impairment tests in fiscal years beginning after December 15, 2019, and should be applied on a prospective basis. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The adoption of this standard is not expected to have a material impact on the consolidated financial statements and related disclosures.

On August 26, 2016, the FASB issued ASU No. 2016-15, *Classification of Certain Cash Receipts and Cash Payments* ("ASU 2016-15"), which amends the guidance in ASC No. 230 on the classification of certain items in the statement of cash flows. The primary purpose of ASU 2016-15 is to reduce the diversity in practice by making amendments that add or clarify the guidance on eight specific cash flow issues. ASU 2016-15 is effective for fiscal years beginning after December 15, 2017, including interim

periods within those fiscal years. ASU 2016-15 should be applied retrospectively to all periods presented, but may be applied prospectively from the earliest date practicable if retrospective application would be impracticable. The Company is currently assessing the impact ASU 2016-15 will have on its consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, *Leases*. The new standard establishes a right-of-use (ROU) model that requires a lessee to record a ROU asset and a lease liability on the balance sheet for all leases with terms longer than 12 months. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the income statement. The new standard is effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. A modified retrospective transition approach is required for lessees for capital and operating leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements, with certain practical expedients available. The Company is currently evaluating the method and impact that the adoption will have on its consolidated financial statements and related disclosures.

In January 2016, the FASB issued ASU No. 2016-01, *Financial Instruments – Recognition and Measurement of Financial Assets and Financial Liabilities*, which provides new guidance for the recognition, measurement, presentation, and disclosure of financial assets and liabilities. The standard becomes effective for Juniper beginning in the first quarter of 2018 and early adoption is permitted. The Company is currently evaluating the effect, if any, that the standard will have on its consolidated financial statements and related disclosures.

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers* (“ASU 2014-09”), which provides guidance for revenue recognition. ASU 2014-09 affects any entity that either enters into contracts with customers to transfer goods or services or enters into contracts for the transfer of nonfinancial assets and supersedes the revenue recognition requirements in Topic 605, *Revenue Recognition*, and most industry-specific guidance. This ASU also supersedes some cost guidance included in Subtopic 605-35, *Revenue Recognition-Construction-Type and Production-Type Contracts*. In August 2015, the FASB issued ASU No. 2015-14, *Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date*, which defers the effective date of ASU 2014-09 by one year, but permits companies to adopt one year earlier if they choose (i.e. the original effective date). As such, ASU 2014-09 will be effective for annual and interim reporting periods beginning after December 15, 2017. In March and April 2016, the FASB issued ASU No. 2016-08, *Revenue from Contracts with Customers (Topic 606): Principal versus Agent Consideration (Reporting Revenue Gross versus Net)* and ASU No. 2016-10, *Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing*, respectively, which clarify the guidance on reporting revenue as a principal versus agent, identifying performance obligations and accounting for intellectual property licenses. In addition, in May 2016 and December 2016, the FASB issued ASU No. 2016-12, *Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients* and ASU No. 2016-20, *Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers*, both of which amend certain narrow aspects of Topic 606. The standard’s core principle is that a company will recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which a company expects to be entitled in exchange for those goods or services. In doing so, companies will need to use more judgment and make more estimates than under today’s guidance. Currently, the Company is in the process of reviewing our historical contracts and evaluating the impact of ASU 2014-09 on its accounting policies, processes and system requirements, and has assigned internal resources and engaged a third-party provider to assist in its evaluation. While the Company continues to assess the impact of the new standard, there is the potential for changes to the pattern of revenue recognition for its arrangements with Merck, where revenue may be recorded earlier than under current guidance, and an impact could be material. The Company’s product revenue could be impacted by a number of items, including inventory levels on the adoption date. The Company is also evaluating its service revenue arrangement to assess changes in performance obligation, inclusion of variable consideration in the transaction price, allocation of the transaction price based on relative standalone selling prices, timing of recognition, accounting for contract acquisition costs, among other areas, as well as the related financial statement disclosures. To date, the Company has not identified any significant differences in its service revenue contracts, and the amount of any change upon adoption, if any, will depend upon the agreements in place at the adoption date. The Company expects to complete its assessment, identify and implement the necessary changes to its business processes, systems and controls to support revenue recognition and disclosures under the new standard. However, the assessment is ongoing and further analysis may identify future impacts. The guidance is effective for the Company beginning January 1, 2018 and, at that time the Company plans to adopt the standard using the modified retrospective approach.

(15) Restructuring Charges

In September 2017, the Company announced a corporate reprioritization which aimed to re-focus its resources on the core businesses of Crinone progesterone gel and JPS and reduce expenditures on research and development activities associated with the Company’s intravaginal ring (IVR) program with the goal of potentially identifying a partner for one or more of its IVR product candidates. As a result, during the three and nine months ended September 30, 2017, the Company incurred approximately \$0.8 million in restructuring charges. The Company accounted for these actions in accordance with ASC 420, *Exit or Disposal Cost Obligations*. This restructuring expense included approximately \$0.4 million for one-time severance and other employee-related costs, approximately \$0.3 million future obligations due under our manufacturing and development contracts, approximately \$17,000 in

additional stock-based compensation expense associated with the modification of the exercise period on options held by an executive and approximately \$14,000 related to fixed asset impairments resulting from the discontinuation of use on assets associated with programs terminated.

No significant additional charges are anticipated relating to this restructuring plan.

The Company has recorded a liability totaling approximately \$0.7 million for ongoing payments due associated with severance and employee-related costs and future contractual obligations. Severance payments totaling approximately \$23,000 were paid during the three months ended September 30, 2017. The Company expects to pay approximately \$0.3 million during the remainder of 2017 and approximately \$0.4 million in 2018 and beyond.

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

Forward-Looking Information

This Quarterly Report on Form 10-Q ("Quarterly Report") contains information that may constitute forward-looking statements. Generally, forward-looking statements can be identified by words such as "may," "will," "plan," "believe," "expect," "intend," "anticipate," "potential," "should," "estimate," "predict," "project," "would," and similar expressions, which are generally not historical in nature. However, the absence of these words or similar expressions does not mean that a statement is not forward-looking. All statements that address operating performance, events or developments that we expect or anticipate will occur in the future—including statements relating to our future operating or financial performance or events, our strategy, goals, plans and projections regarding our financial position, our liquidity and capital resources, and our product development—are forward-looking statements. Management believes that these forward-looking statements are reasonable as and when made. However, caution should be taken not to place undue reliance on any such forward-looking statements because such statements speak only as of the date when made. Our Company undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law. In addition, forward-looking statements are subject to certain known and unknown risks, uncertainties and factors that may cause actual results to differ materially from our Company's historical experience and our present expectations or projections. These risks and uncertainties include, but are not limited to, those described in this Quarterly Report on Form 10-Q, our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2017 and June 30, 2017 and our Annual Report on Form 10-K for the year ended December 31, 2016, and those described from time to time in our future reports filed with the Securities and Exchange Commission (the "SEC").

You should read this Quarterly Report and the documents that we have filed as exhibits to this Quarterly Report completely and with the understanding that our actual future results may be materially different from what we expect. While we may elect to update forward-looking statements at some point in the future, we do not undertake any obligation to update any forward-looking statement, whether written or oral, that may be made from time to time, whether as a result of new information, future events or otherwise.

Company Overview

We are a diversified healthcare company with core businesses consisting of our Crinone® (progesterone gel) franchise and our fee-for-service pharmaceutical development and manufacturing business called Juniper Pharma Services, or JPS. In addition, we are seeking to use our differentiated intravaginal ring (IVR) technology to advance a pipeline of product candidates intended to address unmet needs in women's health, through either internal development or external partnering. We are actively exploring new business development collaborations, including co-development opportunities that could leverage our IVR technology and/or the pharmaceutical development capabilities of JPS, including JNP-0201.

In September 2017, we announced a reduction of approximately 8% of our workforce, primarily in the areas of new product research and development, in order to focus our resources on our core businesses. In addition, as part of our more focused research and development strategy, we plan to complete our ongoing preclinical animal studies for our IVR program by the end of 2017. At the completion of the *in vivo* preclinical studies, we may decide to further advance JNP-0201, a combination of Estradiol plus natural progesterone IVR for hormone replacement therapy (HRT) to address symptoms of menopause. In addition, we may also seek the support of one or more partners for one or more of our IVR product candidates.

CRINONE:

Crinone is a progesterone gel designed to be used for progesterone supplementation or replacement as part of assisted reproductive technology for infertile women with progesterone deficiency. Crinone is approved for marketing in the United States, Europe, China, Japan and certain other markets, and the sole source of our product revenue currently. We have licensed Crinone to our commercial partner, Merck KGaA, for the markets outside the United States and we receive product revenues from the manufacture and sale of Crinone internationally. We sold the U.S. intellectual property rights to Crinone to Allergan in 2010, and received royalty revenues from Allergan based on its U.S. sales through October 2016. In November 2016, we entered into an agreement with Allergan to monetize future royalty payments due to us. Under the agreement, we received a one-time non-refundable payment of \$11.0 million in exchange for which Allergan is no longer required to make future royalty payments to us.

Crinone continues to be introduced in new countries by Merck KGaA. Under the terms of our current license and supply agreement with Merck KGaA, we manufacture and sell Crinone to Merck KGaA on a country-by-country basis at the greater of (i) direct manufacturing cost plus 20% or (ii) a percentage of Merck KGaA's net selling price. Additionally, we are jointly cooperating with Merck KGaA to evaluate and implement manufacturing cost reductions, with both parties sharing any benefits realized from these initiatives. The license and supply agreement with Merck KGaA was renewed in April 2013, extending the expiration date to May 2020. If, at the end of the supply term, the parties cannot agree upon mutually acceptable terms for renewal of the supply

arrangement, Merck KGaA will have the option of converting the agreement into a license agreement and will be free to manufacture, or have manufactured, Crinone pursuant to the terms set forth in the current license and supply agreement.

Product revenues include sales of Crinone to Merck KGaA and prior to November 2016, also included a royalty stream from Allergan based on U.S. sales of Crinone. This royalty stream ceased in connection with our November 2016 agreement with Allergan, under which we received a one-time payment of \$11.0 million representing all future royalty amounts payable to us.

Pharmaceutical Service Business:

JPS, our fee-for-service pharmaceutical development and manufacturing business offers a range of sophisticated technical services to the pharmaceutical and biotechnology industry. Our customers range from start-up biotechnology firms, both in the U.S. and Europe, to global pharmaceutical companies.

Within our services offering, we provide expertise to our customers on the characterization, development, and manufacturing of pharmaceutical compounds for clinical trials. We believe we have particular expertise in problem solving for challenging compounds that are considered “difficult to progress.” Our service model allows us to take our customers’ product candidates from early development through clinical trials manufacturing. We also support our customers with advanced analytical and consulting services for intellectual property issues. We have deployed these same capabilities for our in-house proprietary product development activities.

Through JPS, we also manage the global supply chain and contract manufacturing of Crinone, for our partner Merck KGaA.

Our Strategy:

Our strategy is to grow Crinone in key markets and expand both the JPS technical and geographic reach, while at the same time advancing a pipeline of new product candidates either through internal development or external partnering. Key elements of our strategy include:

- Supplying Crinone to our commercial partner, Merck KGaA, for sale in over 90 countries around the world;
- Growing revenue from our formulation, analytical and product development capabilities at JPS, and deploying those same capabilities for the advancement of our in-house product candidates;
- Completing our ongoing preclinical animal studies for our IVR program by the end of 2017 with the goal of seeking a partner for one or more of our IVR product candidates;
- Potentially continue to further develop our JNP-0201 product candidate, for hormone replacement therapy, leveraging our IVR technology; and
- Exploring potential business development collaborations, including co-development opportunities that leverage our IVR technology and/or the pharmaceutical development capabilities of JPS.

Our Product Candidates:

We have a pipeline of proprietary product candidates to treat unmet medical needs in women’s health. We have three preclinical product development programs utilizing our IVR technology, which target overactive bladder, hormone replacement therapy in women, and prevention of preterm birth in women with short cervical length, each as outlined below. We are currently seeking partnering opportunities for one or more IVR platform.

Product Candidate	Indication/Field	Status
JNP-0101 - Oxybutynin IVR	Overactive bladder in women	Preclinical
JNP-0201 - Progesterone + Estradiol IVR	Hormone replacement therapy in post-menopausal population	Preclinical
JNP-0301 - Progesterone IVR	Prevention of preterm birth in women with short cervical length	Preclinical

We expect to have topline preclinical data for each of these product candidates by the end of 2017.

The expenditures that will be necessary to execute our business plan are subject to numerous uncertainties. Even if we successfully partner one or more of our product candidates, completion of clinical trials may take several years or more, and the length of time generally varies substantially according to the type, complexity, novelty and intended use of a product candidate. It is not

unusual for the clinical development of these types of product candidates to each take three years or more, and for total development costs to exceed \$25 million for each product candidate. We estimate that clinical trials of the type we generally conduct are typically completed over the following timelines:

Clinical Phase	Estimated Completion Period
Phase 1	1 - 2 Years
Phase 2	1 - 3 Years
Phase 3	1 - 3 Years

The duration and the cost of clinical trials may vary significantly over the life of a project as a result of differences arising during the clinical trial protocol, including, among others, the following:

- the number of patients that ultimately participate in the trial;
- the duration of patient follow-up that seems appropriate in view of results;
- the number of clinical sites included in the trials;
- the length of time required to enroll suitable patient subjects; and
- the efficacy and safety profile of the product candidate.

Drug developers generally will test potential product candidates in preclinical studies for safety, toxicology and immunogenicity in addition to utilizing already published data for the underlying active pharmaceutical ingredient. Drug developers may then conduct multiple clinical trials for each product candidate. As drug developers obtain results from trials, they may elect to discontinue or delay clinical trials for certain product candidates in order to focus our resources on more promising product candidates.

An element of our business strategy is to pursue external partnering for our portfolio of product candidates. This is intended to allow us to diversify the risks associated with our research and development expenditures. To the extent we are unable to maintain a broad range of product candidates, our dependence on the success of one or a few product candidates increases. If we successfully partner one or more of our product candidates, we will likely have little or no control over the timing or extent of research development activities associated with these product candidates.

Regulatory approval is required before we or our partners can market our product candidates as therapeutic products. In order to proceed to subsequent clinical trial stages and to ultimately achieve regulatory approval, the regulatory agency must conclude that our product candidates are safe and effective. Results from preclinical testing and early clinical trials (through Phase 2) may often not be predictive of results obtained in later clinical trials. In various pharmaceutical companies like ours, a number of new drugs have shown promising results in early clinical trials, but subsequently failed to establish sufficient safety and efficacy data to obtain necessary regulatory approvals.

Our business strategy includes pursuing collaborative arrangements with third parties to complete the development and commercialization of our product candidates. In the event that third parties take over the clinical trial process for one of our product candidates, the estimated completion date would largely be under control of that third party rather than us. We cannot forecast with any degree of certainty our ability to obtain future collaborative arrangements, in whole or in part, and how such arrangements would affect our development plan or capital requirements.

As a result of the uncertainties discussed above, among others, it is difficult to accurately estimate the duration and completion costs of our research and development projects or when, if ever, and to what extent we will receive cash inflows from the commercialization and sale of a product. Our inability to complete our research and development projects in a timely manner or our failure to enter into collaborative agreements, when appropriate, could significantly increase our capital requirements and could adversely impact our liquidity. These uncertainties could force us to seek additional, external sources of financing from time to time in order to continue with our business strategy. Our inability to raise additional capital, or to do so on terms reasonably acceptable to us, would jeopardize the future success of our business.

Preclinical Programs

JNP-0101 - Oxybutynin IVR for the treatment of OAB

We have an IVR product candidate designed to deliver oxybutynin for the treatment of overactive bladder (“OAB”) in women. Oxybutynin is currently approved for the treatment of OAB, however, oral oxybutynin therapy is frequently discontinued by patients

due to undesirable side effects including dry mouth, blurred vision, and constipation. We expect that the delivery of oxybutynin using our IVR technology will provide an improved side effect profile as the drug will bypass first pass, hepatic metabolism issues. In the case of oxybutynin the drug is metabolized in the liver to an active metabolite resulting in increased central nervous system (“CNS”) side effects. In addition, we believe that delivery using our IVR technology will improve patient compliance and convenience versus other routes of administration, including oral therapies, patches, and gels. We are currently conducting preclinical animal studies for our IVR program which is expected to be completed by the end of 2017. Pending the outcome of these studies, we plan to seek a partner for our JNP-0101 product candidate, on a stand-alone basis or in combination with one or more of our other IVR program candidates.

JNP-0201 - Progesterone and Estradiol IVR for HRT

JNP-0201 is our segmented IVR product candidate, containing both natural progesterone and natural estradiol to be used for hormone replacement therapy (“HRT”) in menopausal women. JNP-0201 has been designed to deliver natural hormones locally to vaginal tissue. This is another example where avoiding first pass, hepatic metabolism of estradiol may result in an improved side-effect profile. We also believe our delivery approach will provide an improvement in the beneficial effects of estradiol when compared to the currently approved combination HRT therapies; these include orally administered formulations utilizing synthetic progestogens, which have been associated in published clinical trials with higher risk of side effects including cardiovascular events. In July 2017, the North American Menopause Society reaffirmed their opinion of hormone therapy as an effective treatment. We believe that delivery using our IVR technology will improve patient compliance and convenience versus other routes of administration, including oral therapies and patches. We are currently conducting preclinical animal studies for our IVR program which is expected to be completed by the end of 2017. Based on our preliminary assessment of the relative clinical data and development funding requirements of our three IVR product candidates we may further develop JNP-0201 or could seek a partner for our JNP-0201 product candidate, on a stand-alone basis or in combination with one or more of our other IVR program candidates.

JNP-0301 - Progesterone IVR for the prevention of PTB

JNP-0301 is a natural progesterone IVR product candidate for the prevention of preterm birth (“PTB”) in women with a short cervical length. Short cervical length at mid-pregnancy is a critical predictor of preterm birth in women. Medical guidelines issued by the American College of Obstetricians and Gynecologists and the Society of Maternal Fetal Medicine, among others, support use of vaginal progesterone in women with a short cervical length at mid-pregnancy to reduce the risk of PTB. There is no Food and Drug Administration (“FDA”) approved therapy to prevent PTB in women at risk due to short cervix. We believe JNP-0301 can enable the consistent local delivery of progesterone while facilitating patient compliance. We are currently conducting preclinical animal studies for our IVR program which is expected to be completed by the end of 2017. Pending the outcome of these studies, we plan to seek a partner for our JNP-0301 product candidate, on a stand-alone basis or in combination with one or more of our other IVR program candidates.

Business Development Collaborations:

Our IVR technology can be applied to life-cycle management strategies for existing commercial products that may benefit from intravaginal delivery of drugs. In particular, existing commercial products that are injectable, experience poor compliance, or have systemic toxicity limitations may benefit from our delivery technologies.

We continue to explore business development collaborations that will leverage the IVR technology and in-house expertise at JPS. If successful, we expect to be an active participant in these collaborations, including participating as a co-development partner, depending on the product and market opportunity.

Sources of Revenue

We generate revenues primarily from the sale of our product and services and, prior to November 2016, from a royalty stream that ceased in connection with the November 2016 agreement with Allergan, under which a one-time payment of \$11.0 million representing all future royalty amounts payable to us. During the three months ended September 30, 2017, we derived approximately 65% of our revenues from the sale of our products and 35% from the sale of our services. During the three months ended September 30, 2016, we derived approximately 61% of our revenues from the sale of our products, 29% from the sale of our services, and 10% from our royalty stream. During the nine months ended September 30, 2017, we derived approximately 67% of our revenues from the sale of our products and 33% from the sale of our services. During the nine months ended September 30, 2016, we derived approximately 61% of our revenues from the sale of our products, 30% from the sale of our services, and 9% from our royalty stream.

We expect that future recurring revenues will be derived from product sales to Merck KGaA, and from offering pharmaceutical development, clinical trial manufacturing, and analytical and consulting services. Quarterly sales results can vary widely and affect comparisons with prior periods because (i) products shipped to Merck KGaA occur only in full batches, and a portion of revenue recognized each period relates to Merck KGaA's in-market sales and (ii) service revenues are driven by contracting and maintaining an active backlog of customer projects, which may vary widely from quarter to quarter.

We recognize revenue from the sale of our product to Merck KGaA when all of the following criteria are met: persuasive evidence of an arrangement exists; delivery has occurred; the price is fixed or determinable; and collectability is reasonably assured. Revenues from services are recognized as the work is performed, and revenues from royalties until November 2016, were recognized as sales were made by Allergan.

Results of Operations – Three Months Ended September 30, 2017 Compared to Three Months Ended September 30, 2016

The following tables contain selected consolidated statements of operations information, which serves as the basis of the discussion surrounding the results of our operations for the three months ended September 30, 2017 and 2016:

	Three Months Ended September 30,					
	2017		2016		\$ Change	% Change
	Amount	As a % of Total Revenues	Amount	As a % of Total Revenues		
(in thousands, except for percentages)						
Product revenues	\$ 8,389	65%	\$ 7,057	61%	\$ 1,332	19%
Service revenues	4,597	35	3,337	29	1,260	38
Royalties	—	—	1,162	10	(1,162)	(100)
Total revenues	12,986	100	11,556	100	1,430	12
Cost of product revenues	5,160	40	3,683	32	1,477	40
Cost of service revenues	2,559	20	2,022	17	537	27
Total cost of revenues	7,719	59	5,705	49	2,014	35
Gross profit	5,267	41	5,851	51	(584)	(10)
Operating expenses:						
Sales and marketing	517	4	259	2	258	100
Research and development	2,291	18	2,304	20	(13)	(1)
General and administrative	3,238	25	3,111	27	127	4
Restructuring charge	756	6	—	—	756	100
Total operating expenses	6,802	52	5,674	49	1,128	20
(Loss) income from operations	(1,535)	(12)	177	2	(1,712)	(967)
Interest expense, net	(47)	—	(24)	—	(23)	96
Other income, net	127	1	90	1	37	41
(Loss) income before income taxes	(1,455)	(11)	243	2	(1,698)	(699)
Income tax (benefit) expense	(45)	—	(5)	—	(40)	800
Net (loss) income	\$ (1,410)	(11)%	\$ 248	2%	\$ (1,658)	(669)%

Revenues

	Three Months Ended September 30,		\$ Change	% Change
	2017	2016		
(in thousands, except for percentages)				
Product revenues	\$ 8,389	\$ 7,057	\$ 1,332	19%
Service revenues	4,597	3,337	1,260	38
Royalties	—	1,162	(1,162)	(100)
Total revenues	\$ 12,986	\$ 11,556	\$ 1,430	12%

Revenues in the three months ended September 30, 2017 increased by \$1.4 million, or 12%, compared to the three months ended September 30, 2016. The increase was primarily attributable to the following factors by segment:

Product

- Revenues from the sale of Crinone, increased by approximately \$1.3 million, or 19%, from the 2016 period primarily due to both in-market and new market growth by Merck KGaA. Revenues included \$6.4 million related to product shipped to Merck KGaA and \$2.0 million related to product sold through by Merck KGaA to its customers in the three months ended September 30, 2017. Revenues included \$4.9 million related to product shipped to Merck KGaA and \$2.2 million related to product sold through by Merck KGaA to its customers in the three months ended September 30, 2016.
- Royalty revenues decreased \$1.2 million, or 100% in the three months ended September 30, 2017 as compared to the three months ended September 30, 2016. In November 2016, we entered into an agreement with Allergan under which we received a one-time payment of \$11.0 million representing all future royalties due to us. No future royalties will be paid to us as a result of this agreement.

Service

- Service revenues increased approximately \$1.3 million, or 38%, from the 2016 period primarily due to increases in customer volume across our service offerings and a sales focus on larger customer contracts.

Cost of revenues

(in thousands, except for percentages)	Three Months Ended September 30,		\$ Change	% Change
	2017	2016		
Cost of product revenues	\$ 5,160	\$ 3,683	\$ 1,477	40%
Cost of service revenues	2,559	2,022	537	27
Total cost of revenues	\$ 7,719	\$ 5,705	\$ 2,014	35%
Total cost of revenues (as a percentage of total revenues)	59%	49%		
Product gross margin	38%	55%		
Service gross margin	44%	39%		

Total cost of revenues was \$7.7 million and \$5.7 million for the three-month periods ended September 30, 2017 and 2016, respectively. The increase in total cost of revenues in 2017 was largely driven by the increased volume of Crinone product sold to Merck KGaA, higher progesterone material costs and inventory reserves recorded during the period. There was a 17% increase in Crinone units shipped in the 2017 period as compared to the comparable 2016 period.

Cost of service revenues are largely fixed and consist mainly of facility costs, external consultant fees, depreciation and materials used in connection with generating our service revenues. Personnel costs are scaled to support customer volume.

Product gross margin decreased in 2017 as compared to 2016 largely due to the reduction of royalty revenue year over year, higher progesterone material costs offset by the higher sell through by Merck KGaA to its customers in more profitable markets where we benefit from a higher selling price from Merck KGaA. Service gross margin increased in 2017 as compared to 2016 due to mix of revenue type within the service segment and higher labor utilization due to fixed labor costs.

Sales and marketing expenses

(in thousands, except for percentages)	Three Months Ended September 30,		\$ Change	% Change
	2017	2016		
Sales and marketing	\$ 517	\$ 259	\$ 258	100%
Sales and marketing (as a percentage of total revenues)	4%	2%		

Sales and marketing expenses incurred during the three months ended September 30, 2017 and 2016 were attributable to our service business and consisted of personnel costs for our sales force as well as marketing costs for certain tradeshows and conference fees. The increase in sales and marketing expense during the 2017 period as compared to the corresponding 2016 period primarily relates to our continued growth of business in the U.S. market and slightly higher headcount.

Research and development

(in thousands, except for percentages)	Three Months Ended September 30,		\$ Change	% Change
	2017	2016		
Research and development	\$ 2,291	\$ 2,304	\$ (13)	(1)%
Research and development (as a percentage of total revenues)	18%	20%		

Research and development expenses primarily include clinical trial costs, personnel-related expenses and professional service consultants. The decrease in research and development costs incurred during the three months ended September 30, 2017 was largely associated with the reduction of costs related to the Phase 2b clinical trial of COL-1077 which was completed in August 2016 offset by increased spend on our pipeline products. In the three months ended September 30, 2016, we incurred approximately \$1.2 million related to COL-1077. The trial did not achieve its primary and secondary endpoints, and further development was discontinued. In the three months ended September 30, 2017, we incurred additional spending of \$1.0 million, primarily related to the ongoing IVR programs and the *in vivo* clinical studies which began in August 2017, as we continue to advance JNP-0101, JNP-0201 and JNP-0301, and by \$0.2 million related to other manufacturing and consulting services in preparation for potential regulatory filings. We expect to continue to incur research and development efforts in the fourth quarter of 2017 as we continue the ongoing *in vivo* preclinical studies for our IVR product candidates. As part of our more focused research and development strategy, we plan to seek the support of a partner to continue to the development of one or more of our product candidates, pending the outcome of the *in vivo* preclinical studies.

General and administrative expenses

(in thousands, except for percentages)	Three Months Ended September 30,		\$ Change	% Change
	2017	2016		
General and administrative	\$ 3,238	\$ 3,111	\$ 127	4%
General and administrative (as a percentage of total revenues)	25%	27%		

General and administrative expenses increased by \$0.1 million to \$3.2 million for the three months ended September 30, 2017 compared with \$3.1 million for the three months ended September 30, 2016. This increase is attributable principally due to the incurrence of general infrastructure related costs including legal, accounting and other professional fees associated with a growing public company, including matters related to the restatement of our financial results for the fiscal years ended December 31, 2013 through December 2015 and the remediation of material weaknesses in our internal control over financial reporting resulting from the restatement, costs associated with our evaluation of potential strategic opportunities and other business development matters and costs associated with shareholder and investor relations. This modest increase reflects our continued efforts to closely manage general and administrative expense.

Restructuring charge

(in thousands, except for percentages)	Three Months Ended September 30,		\$ Change	% Change
	2017	2016		
Restructuring charge	\$ 756	\$ —	\$ 756	100%
Restructuring charge (as a percentage of total revenues)	6%	—		

As a result of our corporate reprioritization which aimed to focus our resources on the core businesses of Crinone progesterone gel and JPS and to focus our research and development organization on the development of JNP-0201 for HRT, we implemented an approximately 8% headcount reduction, primarily in the areas of new product research and development. As a result, we incurred a restructuring charge totaling approximately \$0.8 million during the three months ended September 30, 2017. This restructuring charge included approximately \$0.4 million for one-time severance and other employee-related costs, approximately \$0.3 million future obligations due under our manufacturing and development contracts, approximately \$17,000 in additional stock-based compensation expense associated with the modification of the exercise period on options held by an executive and approximately \$14,000 related to fixed asset impairments resulting from the discontinuation of use on assets associated with programs terminated. As a result of the

corporate reprioritization, we anticipate estimated annual savings in personnel-related costs of approximately \$1.8 million beginning in 2018.

Non-operating income and expense

(in thousands, except for percentages)	Three Months Ended September 30,		\$ Change	% Change
	2017	2016		
Interest expense, net	\$ (47)	\$ (24)	\$ (23)	96%
Other income, net	\$ 127	\$ 90	\$ 37	41%

Interest expense, net, primarily relates to interest payments, denominated in British pounds, associated with our loan facilities and equipment loans.

Other income, primarily relates to the income associated with the Regional Growth Fund offset by net foreign currency transaction losses related to the weakening of the Euro and British pound against the U.S dollar.

Provision for income taxes

(in thousands, except for percentages)	Three Months Ended September 30,		\$ Change	% Change
	2017	2016		
Income tax (benefit) expense	\$ (45)	\$ (5)	\$ (40)	800%
Income tax (benefit) expense (as a percentage of loss before income taxes)	3.1%	(2.1)%		

The 2017 benefit recorded reflects an adjustment to the company's foreign income inclusion for US tax purposes, which reduced its alternative minimum tax provision recorded in 2016. The 2016 tax expense represents alternative minimum taxes.

Results of Operations – Nine Months Ended September 30, 2017 Compared to Nine Months Ended September 30, 2016

The following tables contain selected consolidated statements of operations information, which serves as the basis of the discussion surrounding the results of our operations for the nine months ended September 30, 2017 and 2016:

(in thousands, except for percentages)	Nine Months Ended September 30,					
	2017		2016		\$ Change	% Change
	Amount	As a % of Total Revenues	Amount	As a % of Total Revenues		
Product revenues	\$ 25,684	67%	\$ 20,716	61%	\$ 4,968	24%
Service revenues	12,505	33	9,964	30	2,541	26
Royalties	—	—	2,963	9	(2,963)	(100)
Total revenues	38,189	100	33,643	100	4,546	14
Cost of product revenues	14,776	39	11,892	35	2,884	24
Cost of service revenues	7,149	19	6,630	20	519	8
Total cost of revenues	21,925	57	18,522	55	3,403	18
Gross profit	16,264	43	15,121	45	1,143	8
Operating expenses:						
Sales and marketing	1,306	3	910	3	396	44
Research and development	5,285	14	8,234	24	(2,949)	(36)
General and administrative	12,263	32	9,815	29	2,448	25
Restructuring charge	756	2	—	—	756	100
Total operating expenses	19,610	51	18,959	56	651	3
Loss from operations	(3,346)	(9)	(3,838)	(11)	492	(13)
Interest expense, net	(105)	—	(74)	—	(31)	42
Other income, net	179	—	296	1	(117)	(40)
Loss before income taxes	(3,272)	(9)	(3,616)	(11)	344	(10)
Income tax (benefit) expense	(45)	—	47	—	(92)	(196)
Net loss	\$ (3,227)	(8)%	\$ (3,663)	(11)%	\$ 436	(12)%

Revenues

(in thousands, except for percentages)	Nine Months Ended September 30,		\$ Change	% Change
	2017	2016		
Product revenues	\$ 25,684	\$ 20,716	\$ 4,968	24%
Service revenues	12,505	9,964	2,541	26
Royalties	—	2,963	(2,963)	(100)
Total revenues	\$ 38,189	\$ 33,643	\$ 4,546	14%

Revenues in the nine months ended September 30, 2017 increased by \$4.5 million, or 14%, compared to the nine months ended September 30, 2016. The increase was primarily attributable to the following factors by segment:

Product

- Revenues from the sale of Crinone, increased by approximately \$5.0 million, or 24%, from the 2016 period primarily due to both in-market and new market growth by Merck KGaA. Revenues included \$19.5 million related to product shipped to Merck KGaA and \$6.2 million related to product sold through by Merck KGaA to its customers in the nine months ended September 30, 2017. Revenues included \$15.2 million related to product shipped to Merck KGaA and \$5.5 million related to product sold through by Merck KGaA to its customers in the nine months ended September 30, 2016.
- Royalty revenues decreased \$3.0 million, or 100% in the nine months ended September 30, 2017 as compared to the nine months ended September 30, 2016. In November 2016, we entered into an agreement with Allergan under which we received a one-time payment of \$11.0 million representing all future royalties due to us. No future royalties will be paid to us as a result of this agreement.

Service

- Service revenues increased approximately \$2.5 million, or 26%, from the 2016 period primarily due to increases in customer volume across our service offerings and a sales focus on larger customer contracts.

Cost of revenues

(in thousands, except for percentages)	Nine Months Ended September 30,		\$ Change	% Change
	2017	2016		
Cost of product revenues	\$ 14,776	\$ 11,892	\$ 2,884	24%
Cost of service revenues	7,149	6,630	519	8
Total cost of revenues	\$ 21,925	\$ 18,522	\$ 3,403	18%
Total cost of revenues (as a percentage of total revenues)	57%	55%		
Product gross margin	42%	50%		
Service gross margin	43%	33%		

Total cost of revenues was \$21.9 million and \$18.5 million for the nine month periods ended September 30, 2017 and 2016, respectively. The increase in total cost of revenues in 2017 was largely driven by the increased volume of Crinone product sold to Merck KGaA offset by quality improvements, higher progesterone material costs and inventory reserves recorded during the period. There was a 15% increase in Crinone units shipped in the 2017 period as compared to the 2016 period.

Cost of service revenues are largely fixed and consist mainly of facility costs, external consultant fees, depreciation and materials used in connection with generating our service revenues. Personnel costs are scaled to support customer volume.

Product gross margin decreased in 2017 as compared to 2016 largely due to the increase in product sold through by Merck KGaA to its customers in more profitable markets where we benefit from a higher selling price from Merck KGaA offset by the reduction of royalty revenue year over year, higher material costs and inventory reserves recorded during the period. Service gross margin increased in 2017 as compared to 2016 due to mix of revenue type within the service segment and higher labor utilization due to fixed labor costs.

Sales and marketing expenses

(in thousands, except for percentages)	Nine Months Ended September 30,		\$ Change	% Change
	2017	2016		
Sales and marketing	\$ 1,306	\$ 910	\$ 396	44%
Sales and marketing (as a percentage of total revenues)	3%	3%		

Sales and marketing expenses incurred during the nine months ended September 30, 2017 and 2016 were attributable to our service business and consisted of personnel costs for our sales force as well as marketing costs for certain tradeshows and conference fees. The increase in sales and marketing expense during the 2017 period as compared to the corresponding 2016 period primarily relates to our continued growth of business in the U.S. market and slightly higher headcount.

Research and development

(in thousands, except for percentages)	Nine Months Ended September 30,		\$ Change	% Change
	2017	2016		
Research and development	\$ 5,285	\$ 8,234	\$ (2,949)	(36)%
Research and development (as a percentage of total revenues)	14%	24%		

Research and development expenses primarily include clinical trial costs, personnel-related expenses and professional service consultants. The decrease in research and development costs incurred during the nine months ended September 30, 2017 was largely associated with the reduction of costs related to the Phase 2b clinical trial of COL-1077 which was completed in August 2016 offset by increased spend on our pipeline products. In the nine months ended September 30, 2016, we incurred approximately \$3.6 million in cost related to COL-1077. This decrease was offset by \$0.4 million of additional spending on the IVR technology and by \$1.0 million related to other manufacturing and consulting services in preparation for potential regulatory filings. We expect to continue to incur research and development costs in the fourth quarter of 2017 as we continue the ongoing *in vivo* preclinical studies for our IVR product candidates. As part of our more focused research and development strategy, we plan to seek the support of a partner to continue to the development of one or more of our product candidates, pending the outcome of the *in vivo* preclinical studies. **General and administrative expenses**

(in thousands, except for percentages)	Nine Months Ended September 30,		\$ Change	% Change
	2017	2016		
General and administrative	\$ 12,263	\$ 9,815	\$ 2,448	25%
General and administrative (as a percentage of total revenues)	32%	29%		

General and administrative expenses increased by \$2.4 million to \$12.3 million for the nine months ended September 30, 2017, compared with \$9.8 million for the nine months ended September 30, 2016. This increase was attributable principally to infrastructure related costs including legal, accounting and other professional fees related to matters associated with the restatement of our financial results for the fiscal years ended December 31, 2013 through December 2015 and the remediation of material weaknesses in our internal control over financial reporting resulting from the restatement, costs associated with our evaluation of potential strategic opportunities and other business development matters.

Restructuring charge

(in thousands, except for percentages)	Nine Months Ended September 30,		\$ Change	% Change
	2017	2016		
Restructuring charge	\$ 756	\$ —	\$ 756	100%
Restructuring charge (as a percentage of total revenues)	2%	—		

As a result of our corporate reprioritization which aimed to focus our resources on the core businesses of Crinone progesterone gel and JPS and to focus our research and development organization on the development of JNP-0201 for HRT, we implemented an approximately 8% headcount reduction, primarily in the areas of new product research and development. As a result, we incurred a restructuring charge totaling approximately \$0.8 million during the nine months ended September 30, 2017. This restructuring charge included approximately \$0.4 million for one-time severance and other employee-related costs, approximately \$0.3 million future obligations due under our manufacturing and development contracts, approximately \$17,000 in additional stock-based compensation expense associated with the modification of the exercise period on options held by an executive and approximately \$14,000 related to a fixed asset impairments resulting from the discontinuation of use on assets associated with programs terminated. As a result of the corporate reprioritization, we anticipate estimated annual savings in personnel-related costs of approximately \$1.8 million beginning in 2018.

Non-operating income and expense

(in thousands, except for percentages)	Nine Months Ended September 30,		\$ Change	% Change
	2017	2016		
Interest expense, net	\$ (105)	\$ (74)	\$ (31)	42%
Other income, net	\$ 179	\$ 296	\$ (117)	(40)%

Interest expense, net, primarily relates to interest payments, denominated in British pounds, associated with our outstanding loan facilities and equipment loans.

Other income, primarily relates to the income associated with the Regional Growth Fund offset by net foreign currency transaction losses related to the weakening of the Euro and British pound against the U.S dollar.

Provision for income taxes

(in thousands, except for percentages)	Nine Months Ended		\$	%
	September 30,			
	2017	2016	Change	Change
Income tax (benefit) expense	\$ (45)	\$ 47	\$ (92)	(196)%
Income tax (benefit) expense (as a percentage of loss before income taxes)	1.4%	(1.3)%		

The 2016 tax expense represents alternative minimum taxes. The 2017 benefit recorded reflects an adjustment to the company's foreign income inclusion for US tax purposes, which reduced its alternative minimum tax provision recorded in 2016.

Liquidity and Capital Resources

The Company requires cash to fund operating expenses and working capital needs, finance research and development efforts, make capital expenditures and fund acquisitions.

At September 30, 2017, cash and cash equivalents were \$22.1 million. Cash and cash equivalents are highly liquid investments with original maturities of 90 days or less at date of purchase and consist of cash in operating accounts.

In September 2013, Juniper assumed debt of \$3.9 million in connection with its acquisition of JPS. JPS had entered into a Business Loan Agreement ("Loan Agreement") covering three loan facilities (collectively referred to as the "original agreements") with Lloyds TSB Bank ("Lloyds") as administrative agent. In May 2017, JPS repaid on one of the existing loan facilities upon which JPS subsequently entered into a new loan facility with the same administrative agent for the same outstanding balance. The refinancing was accounted for as a modification with no resulting gain or loss. The remaining original agreements and the new agreement are collectively referred to as the loan facilities.

As of September 30, 2017, the Company owed \$2.5 million on the loan facilities. The loan facilities are due for repayment over periods ranging from 7-15 years. Two of the facilities bear interest at the Bank of England's base rate plus 1.95%, and 2.55%, respectively. The interest rates at September 30, 2017 for these facilities were 2.45% and 3.05%, respectively. The third facility is a fixed rate agreement bearing interest at 2.99% per annum. The weighted average interest rate for the three loan facilities for the three months ended September 30, 2017 was 2.76%. The Loan Agreement is secured by the mortgaged property and an unlimited lien on other assets of JPS. The original agreements under the Loan Agreement contains financial covenants that limit the amount of indebtedness JPS may incur, requires JPS to maintain certain levels of net worth, and restricts JPS's ability to materially alter the character of its business. The new loan facility contains the same financial covenants outlined above in addition to a covenant which requires that JPS maintain certain levels of earnings before interest, taxes, depreciation and amortization. As of September 30, 2017, the Company is in compliance with all of the covenants under the Loan Agreement.

In September 2013, as part of the acquisition of JPS, we assumed a \$2.5 million obligation under a grant arrangement with the Regional Growth Fund on behalf of the Secretary of State for Business, Innovation, and Skills in the United Kingdom. JPS used this grant to fund the building of its second facility, which includes analytical labs, office space and a manufacturing facility. As a part of the arrangement, JPS is required to create and maintain certain full-time equivalent personnel levels through October 1, 2017. As of September 30, 2017, we remained in compliance with the covenants of the arrangement. The obligation ended in October 1, 2017. As of the date of this filing, our obligation under the grant agreement is complete and we met all compliance requirements thru October 1, 2017.

Juniper leases the buildings portion of our U.S. corporate office under an operating lease and assumed debt for the Nottingham, U.K. facility. Additionally, Juniper leases certain equipment under loan agreements with payments through March 2022. In October 2015, we entered into a lease agreement for our corporate office in Boston, Massachusetts. The initial term of the lease agreement is approximately 39 months, which includes a three-month free rent period. In January and March 2017, we entered into loans of \$0.9 million and \$0.6 million, respectively, for equipment in its Nottingham, U.K. facility. The interest rate for the two loans was 2.09% at September 30, 2017. The transactions were considered failed sales-leaseback arrangements as the amount of the loans are less than the carrying value of the equipment. These failed sale-leaseback arrangements have been recorded as a component of long-term debt on the condensed consolidated balance sheets. The initial terms of the loans are 60 months.

Commitments under our lease arrangements are as follows as of September 30, 2017 (in thousands).

	Operating Leases	Debt Principal Payments	Total
Remainder of 2017	\$ 109	\$ 132	\$ 241
2018	443	540	983
2019	74	563	637
2020	—	582	582
2021	—	602	602
Thereafter	—	1,485	1,485
Total minimum debt and lease payments	\$ 626	\$ 3,904	\$ 4,530

Our future capital requirements depend on a number of factors, including the rate of market acceptance of our current and future products and services and the resources we devote to developing and supporting the same. Our capital expenditures for the nine months ended September 30, 2017 and September 30, 2016 were \$2.4 million and \$2.3 million, respectively. Our capital expenditures primarily relate to investments in capital equipment made at our Nottingham, U.K. site, our contract manufacturer sites and for research and development. We expect our capital expenditures to increase for the remainder of the year ending December 31, 2017, as compared to the year ended December 31, 2016, primarily due to continued investments we plan to make additional investments in capital equipment at our Nottingham, U.K. site.

Research and development expenses include costs for product and clinical development, which were a combination of internal and third-party costs, and regulatory fees. For the remainder of 2017, we expect our research and development expenses will moderately increase from current levels as we conclude our ongoing *in vivo* preclinical studies but anticipate a reduction in research and development expenses in 2018 as we cease certain development efforts and seek to partner one or more of our IVR product candidates.

We believe that our current cash and cash equivalents, as well as cash generated from operations, will be sufficient to meet our anticipated cash needs for working capital, including advancing our product candidates, and capital expenditures at least through the next twelve months from the date of issuance of this report. We may be dependent on our ability to raise additional capital to finance operations and fund research and development programs beyond that period. If we are not able to raise additional capital on terms acceptable to us, or at all, as and when needed, we may be required to further curtail our research and development expenses.

Cash Flows

Net cash provided by operating activities for the nine months ended September 30, 2017 was \$2.2 million, which resulted primarily from approximately \$2.9 million in depreciation and amortization, stock-based compensation expense, and net changes in working capital items, which increased cash by approximately \$2.5 million, offset by a \$3.2 million net loss. Net cash used in investing activities was \$2.4 million for the nine months ended September 30, 2017, which resulted primarily from the purchase of property plant and equipment. Net cash provided by financing activities was approximately \$1.2 million for the nine months ended September 30, 2017, primarily relating to proceeds from the equipment loans and financing agreement offset by the principal payments on debt.

Net cash provided by operating activities for the nine months ended September 30, 2016 was \$3.7 million, which resulted primarily from approximately \$2.2 million in depreciation and amortization and stock-based compensation expense and net changes in working capital items, which increased cash by approximately \$5.1 million, offset by a \$3.7 million net loss. Net cash used in investing activities was \$2.3 million for the nine months ended September 30, 2016, which resulted primarily from the purchase of property plant and equipment. Net cash used in financing activities was approximately \$0.2 million for the nine months ended September 30, 2016, primarily relating to the principal payments on our loan facilities.

Off-Balance Sheet Arrangements

As of September 30, 2017, we did not have any off-balance sheet arrangements as defined in Regulation S-K, Item 303(a)(4)(i).

Contractual Obligations

In January and March 2017, we entered into loans for equipment in our Nottingham, U.K. facility. The initial terms of the leases are 60 months.

There have been no other material changes to our contractual obligations and commitments outside the ordinary course of business or described above from those disclosed in our Annual Report on Form 10-K for the year ended December 31, 2016.

Critical Accounting Policies and Estimates

The discussion and analysis of our financial condition and results of operations set forth above are based on our financial statements, which have been prepared in accordance with U.S. GAAP. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses. On an ongoing basis, we evaluate our estimates and judgments, including those described in our Annual Report on Form 10-K for the year ended December 31, 2016. We base our estimates on historical experience and on various assumptions that we believe to be reasonable under the circumstances. These estimates and assumptions form the basis for making judgments about the carrying values of assets and liabilities, and the reported amounts of revenues and expenses, that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. There have been no material changes to our critical accounting policies as of December 31, 2016.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Market Rate Risk

We do not believe that we have material exposure to market rate risk. We may, however, seek additional financing to fund future obligations and no assurance can be given that the terms of future sources of financing will not expose us to material market rate risk.

There has been no material change to our market rate risk exposure since December 31, 2016.

Foreign Currency Exchange

A significant portion of our operations are conducted through operations in countries other than the United States. Revenues from our international operations that were recorded in U.S. dollars represented approximately 79% of our total international revenues for the nine months ended September 30, 2017. The remaining 21% were sales in British pounds. Since we conduct our business in U.S. dollars, our main exposure, if any, results from changes in the exchange rate between the British pound and the U.S. dollar. Our exposure is reduced given assets and liabilities, revenues and expenses are designated in U.S. dollars, or U.S. dollar linked. We have not historically engaged in hedging activities relating to our non-U.S. dollar operations. We may be exposed to exchange rate fluctuations that occur from certain intercompany transactions with our subsidiaries, which we recognize as unrealized gains and losses in our statements of operations.

There has been no material change to our foreign currency exchange risk exposure since December 31, 2016.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

An evaluation was performed under the supervision and with the participation of our management, including our Chief Executive Officer and our Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures as of the end of September 30, 2017. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were not effective as of September 30, 2017 at the reasonable assurance level due to the fact that material weaknesses described under "Management's Annual Report on Internal Control over Financial Reporting" were previously identified in the 2015 Form 10-K/A filed on November 14, 2016 and continued to exist at September 30, 2017.

Changes in Internal Control over Financial Reporting

In connection with the evaluation required by paragraph (d) of Exchange Act Rules 13a-15 or 15d-15, management has identified changes made to its internal control over financial reporting during our last fiscal quarter. These changes relate to the redesign of processes to address the material weaknesses described above. Except as otherwise discussed in the foregoing and below under "Management's Remediation Initiatives", there were no changes in our internal control over financial reporting during the quarter ended September 30, 2017 that materially affected, or were reasonably likely to materially affect, our internal control over financial reporting.

Management's Remediation Initiatives

Our management is committed to the planning and implementation of remediation actions necessary to address all material weaknesses, as well as other identified areas of risk. These remediation efforts, summarized below, are intended to address the identified material weaknesses and to enhance our overall internal control over financial reporting.

With the oversight of senior management and our audit committee, we have implemented steps intended to address the underlying causes of the material weaknesses in the immediate future, primarily through the following:

- Process improvements: We have redesigned of specific processes and controls associated with review of contractual agreements, including the review of significant agreements with the senior management team to ensure that the relevant accounting implications are identified and considered.
- Additionally, we have redesigned our controls over research and development expenses, including the related balance sheet accounts.

We are currently working to remediate these material weaknesses. These actions are subject to ongoing review by our senior management, as well as oversight by the audit committee of our board of directors. Although we plan to complete this remediation process as quickly as possible, we cannot, at this time, estimate when such remediation may occur, and our initiatives may not prove successful in remediating the material weaknesses. Management may determine to enhance other existing controls and/or implement additional controls as the remediation progresses.

While senior management and the audit committee of our board of directors are closely monitoring this implementation, until the remediation efforts discussed in this section, are complete, tested and determined effective, we will not be able to conclude that the material weaknesses have been remediated. In addition, we may need to continue to incur incremental costs associated with this remediation, primarily due to the hiring and training of finance and accounting personnel, and the implementation and validation of improved accounting and financial reporting procedures.

Part II—Other Information

Item 1. Legal Proceedings

Claims and lawsuits are filed against our Company from time to time. Although the results of pending claims are always uncertain, we believe that we have adequate reserves or adequate insurance coverage in respect of these claims, but no assurance can be given as to the sufficiency of such reserves or insurance coverage in the event of any unfavorable outcome resulting from these actions.

Item 1a. Risk Factors

An investment in shares of our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described in our Annual Report on Form 10-K for the year ended December 31, 2016 and in our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2017 and June 30, 2017, in addition to other information included in this Quarterly Report on Form 10-Q, including our financial statements and related notes hereto, before deciding to invest in our common stock. The occurrence of any of these risks could have a material adverse effect on our business, financial condition, results of operations and future growth prospects. In these circumstances, the market price of our common stock could decline, and you may lose all or part of your investment.

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

None.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

None.

Item 5. Other Information

None.

Amended Employment Agreements

On November 1, 2017, each of Alicia Secor, our chief executive officer, Dr. Nikin Patel, our chief operating officer, and Jeffrey Young, our chief financial officer entered into amended and restated employment agreements with the Company. The amended agreements were approved by the compensation committee of the board of directors following the Company's strategic reprioritization and reduction in force announced in September 2017 as part of a retention program for key executives and employees.

In each case, the amendments relate to the certain clarifying changes to the definition of change in control for purposes of determining certain payments to these executives in the event of a change in control transaction. In the case of Dr. Patel and Mr. Young only, the amendments also increased the amount of severance and the company's portion of medical and dental benefits (if elected) they are entitled to receive, from 6 months to 12 months, in the event of a termination of employment by the Company without cause or resignation by the executive with good reason.

The foregoing are only summary descriptions of the material terms of the amended and restated employment agreements, do not purport to be complete descriptions of the rights and obligations of the parties thereunder, and are qualified in their entirety by reference to the full text of the amended and restated employment agreements, which are filed as exhibits to this Quarterly Report.

Item 6. Exhibits

(a) Exhibits

- 3.1.1*** [Restated Certificate of Incorporation, as amended \(filed as Exhibit 3.1 to Juniper Pharmaceuticals, Inc.'s Annual Report on Form 10-K filed on March 13, 2006\).](#)
- 3.1.2*** [Certificate of Amendment of Restated Certificate of Incorporation, dated July 1, 2010 \(filed as Exhibit 3.1 to Juniper Pharmaceuticals, Inc.'s Current Report on Form 8-K filed on July 6, 2010\).](#)
- 3.1.3*** [Certificate of Amendment of Restated Certificate of Incorporation, dated August 7, 2013 \(filed as Exhibit 3.1 to Juniper Pharmaceuticals, Inc.'s Current Report on Form 8-K filed on August 8, 2013\).](#)
- 3.1.4*** [Certificate of Amendment of Restated Certificate of Incorporation, dated April 2, 2015 \(filed as Exhibit 3.1 to Juniper Pharmaceuticals, Inc.'s Current Report on Form 8-K filed on April 3, 2015\).](#)
- 3.2.1*** [Amended and Restated By-Laws of Juniper Pharmaceuticals, Inc. \(filed as Exhibit 3.2 to Juniper Pharmaceuticals, Inc.'s Current Report on Form 8-K filed on January 12, 2015\).](#)
- 3.2.2*** [Amendment No. 1 to the Amended and Restated By-Laws of Juniper Pharmaceuticals, Inc. \(filed as Exhibit 3.2 to Juniper Pharmaceuticals, Inc.'s Current Report on Form 8-K filed on April 3, 2015\).](#)
- 10.1* [Amended and Restated Employment Agreement, dated as of November 1, 2017, by and between Juniper Pharmaceuticals, Inc. and Jeffrey Young.](#)
- 10.2* [Amended and Restated Employment Agreement, dated as of November 1, 2017, by and between Juniper Pharma Services, Limited and Dr. Nikin Patel.](#)
- 10.3* [Amended and Restated Employment Agreement, dated as of November 1, 2017, by and between Juniper Pharmaceuticals, Inc. and Alicia Secor.](#)
- 31.1* [Rule 13a-14\(a\)/15d-14\(a\) Certification of Chief Executive Officer of the Company.](#)
- 31.2* [Rule 13a-14\(a\)/15d-14\(a\) Certification of Chief Financial Officer of the Company.](#)
- 32.1** [Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)
- 32.2** [Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.](#)
- 101* The following materials from the Juniper Pharmaceuticals, Inc. Quarterly Report on Form 10-Q for the quarter ended September 30, 2017, formatted in XBRL (eXtensible Business Reporting Language): (i) Condensed Consolidated Statements of Operations for the three and nine months ended September 30, 2017 and 2016, (ii) Condensed Consolidated Balance Sheets at September 30, 2017 and December 31, 2016, (iii) Condensed Consolidated Statements of Comprehensive Income (Loss) for the three and nine months ended September 30, 2017 and 2016, (iv) Condensed Consolidated Statements of Cash Flows for the nine months ended September 30, 2017 and 2016, and (v) Notes to Condensed Consolidated Financial Statements.

* Filed herewith.

** Furnished herewith.

*** Incorporated by reference.

Signatures

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.

Juniper Pharmaceuticals, Inc.

/s/ Jeffrey E. Young

Jeffrey E. Young

Senior Vice President, Finance, Chief Financial Officer and
Treasurer

(Principal Financial and Accounting Officer)

DATE: November 2, 2017

AMENDED AND RESTATED EMPLOYMENT AGREEMENT

THIS AMENDED AND RESTATED EMPLOYMENT AGREEMENT (as the same may be amended, restated, supplemented or otherwise modified from time to time hereafter, the “Agreement”) is effective as of November 1, 2017, and is entered into by and between Juniper Pharmaceuticals, Inc., a Delaware corporation having its corporate offices at 33 Arch St, Suite 3110, Boston, MA, 02110 (the “Company”), and Jeffrey Young (“Executive”), 516 Central Avenue, Needham, MA, 02494. This Agreement supersedes, amends and restates in all respects the Employment Agreement dated December 19, 2016 between Executive and the Company, and all other employment agreements between Executive and the Company (collectively, the “Superseded Employment Agreements”).

WHEREAS, the Company wishes to continue to employ Executive on the terms and conditions set forth in the Agreement; and

WHEREAS, the Company and Executive desire to enter into the Agreement so the rights, duties, benefits, and obligations of each regarding Executive’s employment for and by the Company will be fully set forth under the terms and conditions stated within the Agreement;

NOW THEREFORE, in consideration of the mutual promises and undertakings hereunder, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

1. At-Will.

Executive’s employment is “at will.” Either the Executive or the Company may terminate the Executive’s employment with the Company at any time for any or no reason, with or without notice. Nothing in the Agreement or in any other statement shall be interpreted to be in conflict with or to eliminate or modify in any way the employment-at-will status of the Executive.

2. Title, Duties.

(a) Executive shall continue to be the Senior Vice President, Finance, Chief Financial Officer, Treasurer and Secretary of the Company. Executive will perform duties customarily associated with such position, including, but not limited to, duties relating to the management of the financial affairs of the Company and its affiliates, investor relations matters, and such other duties commensurate with the job description as may be assigned to Executive from time to time by the chief executive officer of the Company (the “Company CEO”). Executive shall have an office at the Company’s headquarters located in Boston, Massachusetts.

(b) Executive agrees to devote his entire business time and attention to the performance of his duties under the Agreement. Executive shall perform his duties for the Company to the best of his ability and shall use his best efforts to further the interests of the Company. Executive acknowledges he will be required to travel as reasonably necessary to perform the services required of him under the Agreement. Executive represents and warrants to the Company that he is able to enter into the Agreement and that his ability to enter into the

Agreement and to fully perform his duties hereunder are not limited or restricted by any agreements or understandings between Executive and any other person. For the purposes of the Agreement, the term "person" means any natural person, corporation, partnership, limited liability partnership, limited liability company, or any other entity of any nature.

(c) Executive will observe the rules, regulations, policies and/or procedures which the Company may now or hereafter establish governing the conduct of its business, except to the extent that any such rules, regulations, policies and/or procedures may be inconsistent with the terms of the Agreement, in which case the terms of the Agreement shall control.

3. Employment Contract.

The Company and Executive acknowledge that the terms of his employment are set forth in the Agreement. If Executive's employment terminates for any reason, Executive shall not be entitled to any payments, benefits, damages, awards or compensation other than as provided in the Agreement.

4. Compensation.

Subject to the terms and conditions of Paragraph 1 of the Agreement and Executive's continued employment with the Company, and in consideration for the services to be provided hereunder by Executive, the Company hereby agrees to pay or otherwise provide Executive with the following compensation during his employment with the Company:

(a) Subject to tax withholdings and other legally required deductions, the Company will pay Executive an annual base compensation of \$355,000 (\$14,791.67 semi-monthly) to be paid in accordance with the Company's normal payroll practices ("Base Salary"). Executive acknowledges and understands that his position of employment with the Company is considered "exempt," as that term is defined under the Fair Labor Standards Act and applicable state or local law. As an exempt employee, Executive is not eligible to receive overtime pay.

(b) In addition to Base Salary, Executive shall be eligible to receive an annual performance bonus as the Board shall, in its sole discretion, deem appropriate based upon the parameters and criteria contained in the Company's bonus plan and in consultation with the Company's CEO, and can range from 0% to 150% of targeted levels, depending on the degree of attainment of pre-established Company goals for a particular year. Executive's target bonus is equal to 45% of his Base Salary as then in effect. Executive's performance bonus shall be based on the period from January 1 through December 31 of each applicable calendar year. Except as provided in Section 7, to earn any performance bonus, Executive must be employed through the end of the year to which the bonus applies. The annual performance bonus if any, shall be paid no later than March 15 following the end of each calendar year in which such bonus was earned.

(c) Executive shall also be eligible in the sole discretion of the Board or the Compensation Committee of the Board (or any committee of the Board that shall replace such committee) to participate in the Company's stock option plan as is from time to time in effect, subject to the terms and conditions of such plan. The Executive received on his start date (the "Grant Date") an initial grant of 170,000 options to purchase shares of the Company's common stock which options have a life of seven years and vest at the rate of one-quarter on each of the

first four anniversaries of the Grant Date. The purchase price per share is equal to the fair market value of the Company's common stock, as determined by the closing price on the Grant Date. Promptly after the Grant Date, the Company and Executive executed and delivered to each other the Company's then standard form of stock option agreement, evidencing the terms of the stock options. The stock options are subject to, and governed by, the terms and provisions of the stock option agreement. Executive must sign the stock option agreement to receive the stock option.

(d) Executive is eligible to participate in the Company's Performance Share program. Under the program, the Company has granted to Executive 25,000 performance-based RSUs (the "Performance Shares"). Performance Shares shall vest in accordance with pre-established criteria to be established by the Compensation Committee of the Company's Board of Directors. Executive's eligibility to participate in the Performance Share program, if any, will be governed by the applicable performance share agreement required to be entered into between Executive and the Company.

5. Benefits.

(a) Executive and Executive's eligible dependents shall be eligible for all employee benefit programs (including any 401(k), group life insurance, group medical, dental and vision, and short-term and long-term disability policies, plans and programs) generally available to other executive level employees of the Company.

(b) Executive shall be entitled to accrue paid time off ("PTO") during the term of the Agreement in accordance with the Company's standard policy and in an amount commensurate with other executive level employees of the Company.

(c) Executive shall be entitled to reimbursement for all reasonable expenses that he incurs in connection with the performance of his duties and obligations hereunder. Upon presentment by Executive of appropriate and sufficient documentation, as determined in the Company's sole direction, the Company shall reimburse Executive for all such expenses in accordance with the Company's expense reimbursement policy, as in effect from time to time.

6. Termination Upon Death.

Executive's employment shall terminate immediately upon his death.

7. Compensation Upon Termination.

(a) Subject to Paragraphs 18 and 19 of the Agreement, if Executive's employment is terminated by the Executive's death or resignation without Good Reason (as that term is defined below), or if Executive is terminated with or without Cause (as that term is defined below), Executive shall be entitled to receive (i) the Base Salary through the effective date of termination together with any accrued but unused vacation pay and (ii) in the case of a termination by the Company without Cause, the Company shall pay to Executive (A) twelve (12) months of his final Base Salary; (B) an amount equal to six (6) months of Executive's target annual performance bonus in accordance with Paragraph 4(c), each of which shall be paid to him in installments beginning within sixty (60) days after the date of termination, subject to Paragraph 18; and (C) the amount equivalent to twelve (12) months of the Company's portion of

medical and dental benefits if these benefits were elected by Executive as of the date of termination. Such payments ((A) through (C)) shall be conditioned upon execution and non-revocation by Executive of a separation agreement containing, among other terms, a release of claims with respect to the Company and its affiliates, entities and related persons and a non-disparagement provision, which the Company shall present to Executive and which Executive shall sign no later than thirty (30) days after the date of termination. Except with respect to (B) above, Executive shall not be entitled to any annual performance bonus for the year in which such termination occurs.

(b) For the purposes of Paragraph 7(a) above, "Cause" shall mean a good faith determination by the Company that any of the following has occurred (i) any action or omission by the Executive involving the Executive's fraud, embezzlement, or willful misconduct relating to his duties to the Company; (ii) the Executive's indictment or conviction for a criminal offense (other than a summary or similar offense) or a crime of moral turpitude; (iii) the Executive's material breach of any of the provisions of the Agreement or obligations under any other written agreement or covenant with or policy of the Company that results in a material injury to the Company; (iv) unauthorized use or disclosure by Executive of any confidential or proprietary information or trade secrets of the Company or any other party to whom the Executive owes an obligation of nondisclosure as a result of his relationship with the Company that results in a material injury to the Company; or (v) Executive's refusal to carry out the directives of the Company CEO.

(c) Executive may terminate his employment hereunder with Good Reason, provided that Executive has first provided written notice of such reason to the Company no later than thirty (30) days after the event or occurrence constituting Good Reason first arises, with such notice affording the Company thirty (30) days from the date of the Company's receipt of such notice to cure the deficiency, and further provided that, upon such cure by the Company, "Good Reason" shall not be deemed to exist for purposes of the Agreement. Subject to Paragraph 18, in the event Executive terminates his employment with Good Reason, the Company shall pay to Executive (i) the Base Salary through the effective date of termination together with any accrued but unused vacation pay and (ii) (A) twelve (12) months of his final Base Salary; (B) an amount equal to six (6) months of Executive's target annual performance bonus amount in accordance with Paragraph 4(c), each of which shall be paid to him in installments beginning within sixty (60) days after the date of termination, subject to Paragraph 18; and (C) the amount equivalent to twelve (12) months of the Company's portion of medical and dental benefits if these benefits were elected by Executive as of the date of termination. Such payments ((A) through (C)) shall be conditioned upon execution and non-revocation by Executive of a separation agreement containing, among other terms, a release of claims with respect to the Company and its affiliates, entities and related persons and a non-disparagement provision, which the Company shall present to Executive and which Executive shall sign no later than thirty (30) days after the date of termination. Except with respect to (B) above, Executive shall not be entitled to any annual performance bonus for the year in which such termination occurs. For the purposes of this Paragraph 7(c), "Good Reason" shall mean the occurrence of either of the following events without the consent of Executive: (a) a material breach of the Agreement by the Company; or (b) a material reduction in Executive's responsibility, authority, or duties relative to Executive's responsibility, authority or duties as outlined in Paragraph 2 above.

(d) If Executive is terminated without Cause or resigns with Good Reason, in either case within twenty four (24) months after a Change of Control as defined below, the Company shall pay to Executive: (i) the Base Salary through the effective date of termination together with any accrued but unused vacation pay and (ii) a lump sum payment equal to (A) twelve (12) months of his final Base Salary (B) an amount equal to twelve (12) months of Executive's target annual performance bonus in accordance with Paragraph 4(c); and (C) an amount equal to twelve (12) months of the Company's portion of medical and dental benefits if these benefits were elected by Executive as of the date of termination, which lump sum payment ((A through C)) shall be paid to him within sixty (60) days after the date of termination, subject to Paragraphs 18 and 19 of the Agreement. In addition, as of the date of termination Executive shall fully vest in all equity granted to him by the Company. Such lump sum payment ((A through C)) shall be conditioned upon execution and non-revocation by Executive of a separation agreement containing, among other terms, a release of claims with respect to the Company and its affiliates, entities and related persons and a non-disparagement provision, which the Company shall present to Executive and which Executive shall sign no later than thirty (30) days after the date of termination. To avoid doubt, the compensation under this Paragraph 7(d) is in place of, and not in addition to, Paragraphs 7(a) and (c).

(e) For the purposes of Paragraph 7(d) above, a "Change of Control" shall mean any of the following:

(i) any "person," as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended (the "Act"), any of its subsidiaries, or any trustee, fiduciary or other person or entity holding securities under any employee benefit plan or trust of the Company or any of its subsidiaries), together with all "affiliates" and "associates" (as such terms are defined in Rule 12b-2 under the Act) of such person, shall become the "beneficial owner" (as such term is defined in Rule 13d-3 under the Act), directly or indirectly, of securities of the Company representing 50 percent or more of the combined voting power of the Company's then outstanding securities having the right to vote in an election of the Board ("Voting Securities") (in such case other than as a result of an acquisition of securities directly from the Company); or

(ii) the consummation of (A) any consolidation or merger of the Company where the stockholders of the Company, immediately prior to the consolidation or merger, would not, immediately after the consolidation or merger, beneficially own (as such term is defined in Rule 13d-3 under the Act), directly or indirectly, shares representing in the aggregate more than 50 percent of the voting shares of the Company issuing cash or securities in the consolidation or merger (or of its ultimate parent corporation, if any), or (B) any sale or other transfer (in one transaction or a series of transactions contemplated or arranged by any party as a single plan) of all or substantially all of the assets of the Company.

Notwithstanding the foregoing, a "Change in Control" shall not be deemed to have occurred for purposes of the foregoing clause (i) solely as the result of an acquisition of securities by the Company which, by reducing the number of shares of Voting Securities outstanding, increases the proportionate number of Voting Securities beneficially owned

by any person to 50 percent or more of the combined voting power of all of the then outstanding Voting Securities; provided, however, that if any person referred to in this sentence shall thereafter become the beneficial owner of any additional shares of Voting Securities (other than pursuant to a stock split, stock dividend, or similar transaction or as a result of an acquisition of securities directly from the Company) and immediately thereafter beneficially owns 50 percent or more of the combined voting power of all of the then outstanding Voting Securities, then a "Change in Control" shall be deemed to have occurred for purposes of the foregoing clause

8. Restrictive Covenants.

Executive and Company agree that the Company is engaged in a highly competitive industry and would suffer irreparable harm and incur substantial damage if Executive were to enter into competition with the Company. Therefore, in order for the Company to protect its legitimate business interests, Executive covenants and agrees as follows:

(a) Executive shall not, at any time during his employment with the Company and for a period of twelve (12) months thereafter, anywhere in United States, either directly or indirectly: (i) accept employment with or render services to any person or entity that is a business competitor of the Company, or has at any time during Executive's employment with the Company engaged or attempted to engage in business competition with the Company, in a position, capacity, or function that is similar, in title or substance, whether in whole or in part, to any position, capacity, or function that Executive held with or in which Executive served the Company; or (ii) invest in any person or entity that is a business competitor of the Company, or has at any time during Executive's employment with the Company engaged or attempted to engage in business competition with the Company, except that Executive may own up to five percent (5%) of any outstanding class of securities of any company registered under Section 12 of the Securities Exchange Act of 1934, as amended;

(b) Executive shall not, at any time during his employment with the Company and for a period of twelve (12) months thereafter, for any reason, on his own behalf or on behalf of any other person or entity: (i) solicit, invite, induce, cause, or encourage to alter or terminate his, her, or its business relationship with the Company, any client, customer, supplier, vendor, licensee, licensor, or other person or entity that, at any time during Executive's employment with the Company, had a business relationship with the Company, or any person or entity whose business the Company was soliciting or attempting to solicit at the time of Executive's termination and (a) with whom Executive had contact, or for whom Executive performed services, to any extent, during his employment with the Company, and (b) with whom Executive did not have a business relationship prior to his employment with the Company; (ii) solicit, entice, attempt to solicit or entice, or accept business from any such client, customer, supplier, vendor, licensee, licensor, person, or entity; or (iii) interfere or attempt to interfere with any aspect of the business relationship between the Company and any such client, customer, supplier, vendor, licensee, licensor, person, or entity; and

(c) Executive shall not, at any time during his employment with the Company and for a period of twelve (12) months thereafter, either directly or indirectly, on his own behalf or on behalf of any other person or entity: (i) solicit, invite, induce, cause, or encourage any

director, officer, employee, agent, representative, consultant, or contractor of the Company to alter or terminate his, his, or its employment, relationship, or affiliation with the Company; (ii) interfere or attempt to interfere with any aspect of the relationship between the Company and any such director, officer, employee, agent, representative, consultant, or contractor; or (iii) engage, hire, or employ, or cause to be engaged, hired, or employed, in any capacity whatsoever, any such director, officer, employee, agent, representative, consultant, or contractor.

(d) Executive represents, warrants, agrees, and understands that: (i) the covenants and agreements set forth in the Paragraph 8 of the Agreement are reasonable in their geographic scope, temporal duration, and content; (ii) the Company's agreement to employ Executive, and a portion of the compensation to be paid to Executive hereunder, are in consideration for such covenants and Executive's continued compliance therewith; (iii) Executive shall not raise any issue of, nor contest or dispute, the reasonableness of the geographic scope, temporal duration, or content of such covenants and agreements in any proceeding to enforce such covenants and agreements; (iv) the enforcement of any remedy under the Agreement will not prevent Executive from earning a livelihood, because Executive's past work history and abilities are such that Executive can reasonably expect to find work in other areas and lines of business; (v) the covenants and agreements set forth in the Paragraph 8 of the Agreement are essential for the Company's reasonable protection, are designed to protect the Company's legitimate business interests, and are necessary and implemented for legitimate business reasons; and (vi) in entering into the Agreement, the Company has relied upon Executive's representation that he will comply in full with the covenants and agreements set forth in the Paragraph 8 of the Agreement. The post-employment restricted periods under this Paragraph 8 shall be extended by each day that the Executive is in breach of this Paragraph.

9. Confidentiality.

(a) The Employee Proprietary Information and Inventions Agreement between the Company and Executive remains in full effect, is hereby reaffirmed, is attached hereto as Exhibit A and is incorporated by reference as if fully set forth herein.

(b) Protected Disclosures. Executive understands that nothing contained in this Agreement limits Executive's ability to communicate with any federal, state or local governmental agency or commission, including to provide documents or other information, without notice to the Company. Executive also understands that nothing in this Agreement limits Executive's ability to share compensation information concerning Executive or others, except that this does not permit Executive to disclose compensation information concerning others that Executive obtains because Executive's job responsibilities require or allow access to such information.

(c) Defend Trade Secrets Act of 2016. Executive understands that pursuant to the federal Defend Trade Secrets Act of 2016, Executive shall not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that (a) is made (i) in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney; and (ii) solely for the purpose of reporting or investigating a suspected violation of law; or (b) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal.

10. Indemnification.

The Indemnification Agreement between the Company and Executive is attached hereto as Exhibit B and incorporated by reference as if fully set forth herein.

11. Cooperation.

(a) Executive agrees to cooperate on a reasonable basis in the truthful and honest prosecution and/or defense of any claim in which the Company, its affiliates, and/or its subsidiaries may have an interest (subject to reasonable limitations concerning time and place), which may include without limitation making himself available on a mutually agreed, reasonable basis to participate in any proceeding involving the Company, its affiliates, and/or its subsidiaries, allowing himself to be interviewed by representatives of the Company, its affiliates, and/or its subsidiaries without asserting or claiming any privilege against the Company, its affiliates, and/or its subsidiaries, appearing for depositions and testimony without requiring a subpoena and without asserting or claiming any privilege against the Company, its affiliates, and/or its subsidiaries, and producing and/or providing any documents or names of other persons with relevant information without asserting or claiming any privilege against the Company, its affiliates, and/or its subsidiaries; provided that, if such services are required after termination of the Agreement, the Company, its affiliates, and/or its subsidiaries shall provide Executive with reasonable compensation for the time actually expended in such endeavors and shall pay his reasonable expenses incurred at the prior and specific request of the Company, its affiliates, and/or its subsidiaries.

(b) Nothing in the provision shall be construed or applied so as to obligate Executive to violate the law or any legal obligation. Further, nothing in the Agreement shall be construed as, or shall interfere with, abridge, limit, restrain, or restrict Executive's right to communicate with any federal, state, or local government agency charged with the enforcement and/or investigation of claims of discrimination, harassment, retaliation, improper wage payments, or any other unlawful employment practices under federal, state, or local law, or to file a charge, claim, or complaint with, or participate in or cooperate with any investigation or proceeding conducted by, any such agency.

12. Remedies.

Executive acknowledges and agrees that the Company's remedy at law for a breach or threatened breach of the provisions of the Agreement would be inadequate and, in recognition of the fact, in the event of a breach or threatened breach by Executive of any provision of the Agreement, it is agreed that, in addition to any available remedy at law, the Company shall be entitled to, without posting any bond, specific performance, a temporary restraining order, a temporary or permanent injunction, or any other equitable relief or remedy which may then be available; provided, however, nothing herein shall be deemed to relieve the Company of its burden to prove grounds warranting such relief nor preclude Executive from contesting such grounds or facts in support thereof. Nothing herein contained shall be construed as prohibiting

the Company from pursuing any other remedies available to it for such breach or threatened breach thereof.

13. Applicable Laws and Consent to Jurisdiction.

The validity, construction, interpretation, and enforceability of the Agreement shall be determined and governed by the laws of the Commonwealth of Massachusetts without giving effect to the principles of conflicts of law. For the purpose of litigating any dispute that arises under the Agreement, the parties hereby consent to exclusive jurisdiction of, and agree that such litigation shall be conducted in, any state or federal court located in the Commonwealth of Massachusetts.

14. Severability.

The provisions of the Agreement are severable and if any one or more provisions are determined to be illegal or otherwise unenforceable, in whole or in part, the remaining provisions shall nevertheless be binding and enforceable. The parties agree that the covenants set forth herein are reasonable. Without limiting the foregoing, it is the intent of the parties that the covenants set forth herein be enforced to the maximum degree permitted by applicable law. As such, the parties ask that if any court of competent jurisdiction were to consider any provisions of the Agreement to be overly broad based on the circumstances at the time enforcement is requested, that such court "blue pencil" the provision and enforce the provision to the full extent that such court deems it to be reasonable in scope.

15. Miscellaneous, Waiver.

Executive further agrees that the Agreement, together with the Exhibits incorporated by reference as if fully set forth herein, sets forth the entire employment agreement between the Company and Executive, supersedes any and all prior agreements between the Company and Executive, including without limitation the Superseded Employment Agreements, and shall not be amended or added to accept in a writing signed by the Company and Executive. Neither e-mail correspondence, text messages, nor any other electronic communications constitutes a writing for purposes of the Paragraph 15. Executive understands that he may not assign his duties and obligations under the Agreement to any other party and that the Company may, at any time and without further action or the consent of the Executive, assign the Agreement to any of its affiliated companies. In entering into and performing under the Agreement, neither the Company nor Executive has relied upon any promises, representations, nor statements except as expressly set forth herein.

16. Counterparts.

The Agreement may be executed in any number of counterparts, each of which shall be deemed an original and all of which taken together shall constitute one and the same agreement.

17. Successors and Assigns.

The Agreement shall be binding on the successors and heirs of Executive and shall inure to the benefit of the successors and assigns of the Company.

18. Compliance with Section 409A of the Internal Revenue Code of 1986, as Amended (Section 409A).

(a) Notwithstanding anything herein to the contrary, to the maximum extent permitted by applicable law, amounts payable to Executive pursuant to Paragraph 7 of the Agreement shall be made in reliance upon Treas. Reg. Section 1.409A-1 (b)(9) (Separation Pay Plans) or Treas. Reg. Section 1.409A-1(b)(4) (Short-Term Deferrals), as applicable. For the purpose, each payment (including each monthly installment) shall be considered a separate and distinct payment, and each payment made in reliance on Treas. Reg. Section 1.409A-1(b)(9) shall only be payable if the Executive's termination of employment constitutes a "separation from service" within the meaning of Treas. Reg. Section 1.409A-1(h).

(b) Notwithstanding anything contained in the Agreement to the contrary, no amount payable on account of Executive's termination of employment which constitutes a "deferral of compensation" ("Section 409A Deferred Compensation") within the meaning of the Treasury Regulations issued pursuant to Section 409A of the Code (the "Section 409A Regulations") shall be paid unless and until Executive has incurred a "separation from service", and if the 60-day payment period set forth under Paragraphs 7(a) or 7(d) of the Agreement commences in one taxable year and ends in another, then payment under such paragraphs shall not be made until the second taxable year. For purposes of the Agreement, "separation from service" shall have the meaning of such term as defined by the Section 409A Regulations, and each payment shall be considered a separate and distinct payment. Furthermore, if Executive is a "specified employee" within the meaning of the Section 409A Regulations as of the date of Executive's separation from service, no amount that constitutes Section 409A Deferred Compensation which is payable on account of Executive's separation from service shall be paid to Executive before the date (the "Delayed Payment Date") which is first business day of the seventh month after the date of Executive's separation from service or, if earlier, the date of Executive's death following such separation from service. All such amounts that would, but for the Paragraph, become payable prior to the Delayed Payment Date will be accumulated and paid on the Delayed Payment Date.

(c) To the extent that all or any portion of the Company's payment of benefits or reimbursements or in-kind benefits provided to Executive (the "Company-Provided Benefits") would constitute Section 409A Deferred Compensation, then, for the duration of the applicable period during which the Company is required to provide such benefits: (a) the amount of Company-Provided Benefits furnished in any taxable year of Executive shall not affect the amount of Company-Provided Benefits furnished in any other taxable year of Executive; (b) any right of Executive to Company-Provided Benefits shall not be subject to liquidation or exchange for another benefit; and (c) any reimbursement for Company-Provided Benefits to which Executive is entitled shall be paid no later than the last day of Executive's taxable year following the taxable year in which Executive's expense for such Company-Provided Benefits was incurred.

(d) The Company intends that income provided to Executive pursuant to the Agreement will not be subject to taxation under Section 409A of the Code. The provisions of the Agreement shall be interpreted and construed in favor of satisfying any applicable requirements of Section 409A and the Section 409A Regulations. However, the Company does not guarantee

any particular tax effect for income provided to Executive pursuant to the Agreement. In any event, except for the Company's responsibility to withhold applicable income and employment taxes from compensation paid or provided to Executive, the Company shall not be responsible for the payment of any applicable taxes incurred by Executive on compensation paid or provided to Executive pursuant to the Agreement.

19. Limitation on Payments.

(a) In the event that the post-termination payments and other benefits provided for in the Agreement or otherwise payable to Executive (i) constitute "parachute payments" within the meaning of Section 280G of the Code and (ii) but for this Paragraph 19, would be subject to the excise tax imposed by Section 4999 of the Code, then Executive's post-termination payments or benefits will be either: (a) delivered in full, or delivered as to such lesser extent which would result in no portion of such post-termination payments or other post-termination benefits being subject to the excise tax under Section 4999 of the Code, whichever of the foregoing amounts, taking into account the applicable federal, state and local income taxes and the excise tax imposed by Section 4999 of the Code, results in the receipt by Executive on an after-tax basis, of the greatest amount of post-termination payments or benefits, notwithstanding that all or some portion of such post-termination payments or benefits may be taxable under Section 4999 of the Code. If a reduction in the severance and other benefits constituting "parachute payments" is necessary so that no portion of such post-termination payments or benefits is subject to the excise tax under Section 4999 of the Code, the reduction shall occur in the following order: (i) reduction of the post-termination payments under Paragraph 7; (ii) reduction of other cash payments, if any; (iii) cancellation of accelerated vesting of equity awards; and (iv) reduction of continued employee benefits. In the event that acceleration of vesting of equity award compensation is to be reduced, such acceleration of vesting shall be cancelled in the reverse order of the date of grant of Executive's equity awards. If two or more equity awards are granted on the same date, each award will be reduced on a pro-rata basis. In no event shall the Executive have any discretion with respect to the ordering of payment reductions.

(b) Unless the Company and Executive otherwise agree in writing, any determination required under this Paragraph 19 will be made in writing by an independent firm immediately prior to Change of Control (the "Firm"), whose determination will be conclusive and binding upon Executive and the Company. For purposes of making the calculations required by the Paragraph 19, the Firm may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code. The Company and Executive will furnish to the Firm such information and documents as the Firm may reasonably request in order to make a determination. The Company will bear all costs the Firm may reasonably incur in connection with any calculations contemplated by this Paragraph 19.

20. Notices.

Any notice required or permitted hereunder shall be in writing and shall be sufficiently given if personally delivered or if sent by registered or certified mail, postage prepaid, with return receipt requested, addressed: (a) in the case of the Company, to Juniper Pharmaceuticals, Inc., 33 Arch Street, 31st floor, Boston, MA, 02109, attn.: Company CEO, and (b) in the case of

Executive, to Executive's last known address as reflected in the Company's records, or to such other address as Executive shall designate by written notice to the Company. Any notice given hereunder shall be deemed given at the time of receipt thereof by the person to whom such notice is given.

IN WITNESS WHEREOF, the parties have executed the Agreement as of the dates set forth below.

EXECUTIVE

Juniper Pharmaceuticals, Inc.

/s/ Jeffrey Young

/s/ Alicia Secor

Jeffrey Young

Alicia Secor
President and Chief Executive Officer

Date: November 1, 2017

Date: November 1, 2017

Exhibit A

EMPLOYEE PROPRIETARY INFORMATION AND INVENTIONS AGREEMENT

The Employee Proprietary Information and Inventions Agreement (the “Agreement”) is made as of **December 20, 2016**, between **Jeffrey Young** (referred to below as “I”, “My”, “Myself”, or “Me”) and Juniper Pharmaceuticals, Inc., having an office at 33 Arch Street, Suite 3110, Boston, MA, 02110 (referred to below together with its subsidiaries and affiliates as the “Company”).

RECITALS

A. The Company is engaged in a continuous program of research, development, production, distribution, and marketing with respect to its present and future business; and

B. I understand that My employment with the Company creates a relationship of confidence and trust between the Company and Me with respect to any information: (a) applicable to the business of the Company, or (b) applicable to the business of any client or customer of the Company, that may be made known to Me by the Company, any client or customer of the Company, or learned by Me during the period of My employment. I understand that this information constitutes a very valuable asset of the Company.

NOW, THEREFORE, in consideration of My employment by the Company and the salary and other employee benefits I will receive from the Company for My service, which in all cases are subject to Section 12(a) of the Agreement, I hereby agree as follows:

1. Proprietary Information. The Company possesses and will come to possess information that has been created, discovered or developed, or has otherwise become known to the Company (including without limitation, information created, discovered, developed or made known by or to Me arising out of My employment by the Company), and/or in which property rights have been assigned or otherwise conveyed to the Company, which information has commercial value in the business in which the Company is engaged. All of the aforementioned information is “Proprietary Information.” Any information disclosed to Me or to which I have access (whether I or others originated it) during the time I am employed by the Company, that the Company or I reasonably consider Proprietary Information or that the Company treats as Proprietary Information is Proprietary Information.

By way of illustration, but not limitation, Proprietary Information includes trade secrets, processes, formulae, data and know-how, improvements, inventions, techniques, marketing plans, strategies, forecasts, customer lists, and finance and business systems.

(a) Company as Sole Owner. I agree and acknowledge that all Proprietary Information, and all Inventions (defined below in Section 4(a) of the Agreement), shall be the sole property of the Company and its assigns, and the Company and its assigns shall be the sole owner of all patents and trade secrets and any other rights in connection therewith.

(b) Assignment of Rights; Obligation of Confidentiality. I hereby assign to the Company any rights I may have or acquire in all Proprietary Information. At all times during My employment by the Company and at all times after termination of such employment, I will keep in confidence and trust all Proprietary Information and, except as I may be authorized to make disclosure in the ordinary course of performing My duties as an employee of the Company, I will not disclose, sell, use, lecture upon or publish any Proprietary Information or anything relating to it without the prior written consent of the Company.

2. Retention of Rights. Notwithstanding any other provision hereof, nothing in the Agreement shall be construed as, or shall interfere with, abridge, limit, restrain, or restrict My right: (i) to engage in any activity or conduct protected by Section 6 or any other provision of the National Labor Relations Act; or (ii) to communicate with any federal, state, or local government agency charged with the enforcement and/or investigation of claims of discrimination, harassment, retaliation, improper wage payments, or any other unlawful employment practices under federal, state, or local law, or to file a charge, claim, or complaint with, or participate in or cooperate with any investigation or proceeding conducted by, any such agency.

3. Other Proprietary Rights. All documents, data, records, apparatus, equipment, chemicals, molecules, organisms, and other physical property, whether or not pertaining to Proprietary Information, furnished to Me by the Company or produced by Me or others in connection with My employment shall be and remain the sole property of the Company and shall be returned promptly to the Company as and when requested by the Company. Should the Company not so request, I shall return and deliver all such property upon termination of My employment by Me or the Company for any reason and I will not take with Me any such property or any reproduction of such property upon such termination.

4. Obligations Regarding Inventions.

(a) I will promptly disclose to the Company, or any persons designated by it, and will not use Myself or disclose to anyone else at any time during or after My employment without the prior written consent of the Company, all improvements, inventions, formulae, processes, techniques, know-how and data (whether or not they can be patented, trademarked or copyrighted), made, conceived, reduced to practice or learned by Me, either alone or jointly with others, during the period of My employment, which are related to or useful in the business of the Company, or which the Company would be interested in, or result from tasks assigned to Me by the Company, or result from use of any premises owned, leased or contracted for by the Company (all said improvements, inventions, formulae, processes, techniques, know-how, and data initiated or developed during My employment shall be collectively hereinafter called "Inventions"); such disclosure shall continue after termination of My employment with the Company with respect to any Invention, which in all cases are subject to Section 4(c) of the Agreement.

(b) Company Sole Owner of Patent Rights. I will promptly and fully disclose the existence and describe the nature of any such Invention to the Company in writing and without request. I agree that all Inventions shall be the sole property of the Company and its assigns, and the Company and its assigns shall be the sole owner of all patents, copyrights, trade secrets, and other intellectual property rights (collectively, "Patent Rights") in connection therewith. I will,

with respect to any such Invention, keep current, accurate and complete records that will belong to the Company and will be kept stored on the Company premises while I am employed by the Company and shall be turned over to the Company immediately upon termination of My employment.

(c) Assignment of Inventions and Patent Rights; Duty to Cooperate. I hereby assign to the Company any rights I may have or acquire in all Inventions. I further agree as to all Inventions and Proprietary Information to assist the Company in every proper way (but at the Company's expense) to obtain and from time to time enforce Patent Rights regarding the Inventions or Proprietary Information in any and all countries, and to that end I will execute all documents for use in applying for and obtaining such patents or copyrights thereon and enforcing same, as the Company may desire, together with any assignments thereof to the Company or entities or persons designated by it. I agree further that these obligations to assist the Company in obtaining and enforcing Patent Rights in any and all countries shall continue beyond the termination of My employment, in return for which assistance after termination the Company shall compensate Me at a reasonable rate for time actually spent by Me at the Company's request on such assistance.

6. Prior Inventions List. **[Please initial one of the following two entries.]**

As a matter of record, I have attached hereto a complete list of all inventions or improvements relevant to the subject matter of My employment by the Company which have been made or conceived or first reduced to practice by Me alone or jointly with others prior to My employment by the Company which I desire to remove from the operation of the Agreement; and I warrant that such list is complete.

No such list is attached to the Agreement, and I represent that I have made no such inventions or improvements prior to or My employment by the Company.

7. No Breach of Confidentiality. I represent that My performance of all terms of the Agreement and that My employment by the Company does not and will not breach any obligation of confidentiality that I have to others, which existed prior to My employment by the Company. I have not brought or used, and will not bring with Me to the Company or use any equipment, supplies, facility or trade secret information of any former employer or any other person, which information is not generally available to the public, unless I have obtained written authorization for their possession and use, and promptly provided such written authorization to the Company. I have not entered into, and I agree I will not enter into, any agreement either written or oral in conflict with the Agreement.

8. Injunctive Relief. I acknowledge and agree that the Company's remedy at law for a breach or threatened breach of any of the provisions of the Agreement would be inadequate and, in recognition of that fact, in the event of any such breach or threatened breach, I agree that, in addition to its remedy at law, the Company shall be entitled to equitable relief in the form of specific performance, a temporary restraining order, a temporary or permanent injunction or any other equitable remedy that may then be available. Nothing herein contained shall be construed as prohibiting the Company from pursuing any other remedies available to it for such breach or threatened breach.

9. Not Debarred. I warrant and represent that I have never been, and am not currently an individual who has been, debarred by the United States Food and Drug Administration (“FDA”) pursuant to 21 U.S.C. §335a (a) or (b) (“Debarred Individual”) from providing services in any capacity to a person that has an approved or pending drug product application. I further warrant and represent that I have no knowledge of any FDA investigations of, or debarment proceedings against, Me or any person or entity with which I am, or have been, associated, and I will immediately notify the Company if I become aware of any such investigations or proceedings during the term of My employment with the Company.

10. Protected Disclosures. I understand that nothing contained in this Agreement limits my ability to communicate with any federal, state or local governmental agency or commission, including to provide documents or other information, without notice to the Company. I also understand that nothing in this Agreement limits my ability to share compensation information concerning myself or others, except that this does not permit me to disclose compensation information concerning others that I obtain because my job responsibilities require or allow access to such information.

11. Defend Trade Secrets Act of 2016. I understand that pursuant to the federal Defend Trade Secrets Act of 2016, I shall not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that (a) is made (i) in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney; and (ii) solely for the purpose of reporting or investigating a suspected violation of law; or (b) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal.

12. Miscellaneous Provisions.

(a) Employment. Nothing in the Agreement shall alter My “at will” employee status or be construed to create a specific term of employment or a promise of continued employment. Either I or the Company may terminate the employment relationship for any reason at any time, with or without notice.

(b) Enforceability. If one or more of the provisions contained in the Agreement shall, for any reason, be held to be excessively broad as to scope, activity, subject or otherwise, so as to be unenforceable at law, such provision or provisions shall be construed by the appropriate judicial body by limiting or reducing it or them, so as to be enforceable to the maximum extent compatible with then applicable law. If any provision of the Agreement shall be declared invalid, illegal or unenforceable, such provision shall be severed and all remaining provisions shall continue in full force and effect.

(c) Assignment. The Agreement is not assignable by Me without the written consent of the Company, which consent may be withheld for any reason or no reason. In light of the very personal and critical nature of the Agreement, I recognize that it is unlikely such consent would ever be granted. The Company may assign or otherwise transfer this Agreement to any person or entity.

(d) Entire Agreement. The Agreement contains the entire agreement between Me and the Company with respect to the subject matter of the Agreement. The Agreement may be amended only by a written instrument signed by Me and the Company.

(e) Binding Effect. The Agreement shall be binding upon Me, My heirs, executors, assigns and administrators and shall inure to the benefit of the Company, its successors and assigns.

(f) Governing Law. The Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts without regard to its rules on conflicts of law.

Exhibit B

INDEMNIFICATION AGREEMENT

The Agreement (“Agreement”) is made and entered into as of the 19th day of December, 2016, by and between Juniper Pharmaceuticals, Inc., a Delaware corporation (the “Corporation”) and Jeffrey Young (“Indemnitee”).

WHEREAS the Board of Directors (the “Board”) has determined that the best interests of the Corporation require that persons serving as directors of, and in other capacities for, the Corporation receive better protection from the risk of claims and actions against them arising out of their service to and activities on behalf of the Corporation; and

WHEREAS, the Agreement is a supplement to and in furtherance of Article VI of the amended and restated by-laws of the Corporation, any rights granted by the Certification of Incorporation of the Corporation and any resolutions adopted pursuant thereto and shall not be deemed to be a substitute therefore nor to diminish or abrogate any rights of the Indemnitee thereunder; and

WHEREAS, Indemnitee is willing to serve, continue to serve and take on additional service for or on behalf of the Corporation on the condition that Indemnitee be indemnified according to the terms of the Agreement;

NOW, THEREFORE, in consideration of the premises and the covenants contained herein, the Corporation and Indemnitee do hereby covenant and agree as follows:

Section 1. Definitions.

For purposes of the Agreement:

(a) “Change in Control” shall be deemed to have occurred if (a) there shall have consummated (i) any consolidation or merger of Corporation in which Corporation is not the continuing or surviving entity or pursuant to which shares of Corporation’s common stock would be converted to cash, securities or other property, other than a merger of Corporation in which the holders of Corporation’s common stock immediately prior to the merger have the same proportionate ownership of common stock of the surviving entity immediately after the merger, or (ii) any sale, lease, exchange or transfer (in one transaction or a series of related transactions) of all, or substantially all, of the assets of the Corporation; or (b) the stockholders of the Corporation approve a plan or proposal for the liquidation or dissolution of the Corporation; or (c) any person (as that term is used in Sections 13(d) and 14(d)(z) of the Securities and Exchange Act, as amended (the “Exchange Act”)) shall become a beneficial owner (within the meaning of Rule 13d-2 under the Exchange Act) of 40% or more of Corporation’s outstanding common stock; or (d) during any period of two consecutive years, individuals who at the beginning of such period constitute the entire Board shall cease for any reason to constitute a majority thereof unless the election, or the nomination for election by Corporation’s stockholders, of each new

director was approved by a vote of at least 50% of the directors eligible to vote who were directors at the beginning of the period.

(b) “Disinterested Director” means a director of the Corporation who is not and was not a party to the Proceeding in respect of which indemnification is sought by Indemnitee.

(c) “Effective Date” means the date first written above.

(d) “Expenses” mean all reasonable attorneys’ fees, retainers, court costs, transcript costs, fees of experts, witness fees, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees and all other disbursements and expenses of the type customarily incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, or being or preparing to be a witness in a Proceeding.

(e) “Independent Counsel” means a law firm, or a member of a law firm, that is experienced in matters of corporation law and neither presently is, nor in the past five years has been, retained to represent: (i) the Corporation or Indemnitee in any other matter material to either such party, or (ii) any other party to the Proceeding giving rise to a claim for indemnification hereunder. Notwithstanding the foregoing, the term “Independent Counsel” shall not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Corporation or Indemnitee in an action to determine Indemnitee’s rights under the Agreement.

(f) “Proceeding” means an action, suit, arbitration, alternate dispute resolution mechanism, investigation, administrative hearing or any other proceeding, whether civil, criminal, administrative or investigative, except one initiated by an Indemnitee pursuant to Section 11 of the Agreement to enforce Indemnitee’s rights under the Agreement.

Section 2. Service by Indemnitee.

Indemnitee agrees to serve as an officer or director of the Corporation, and, at its request, as a director, officer, employee, agent or fiduciary of certain other corporations and entities.

Indemnitee may at any time and for any reason resign from any such position (subject to any other contractual obligation or any obligation imposed by operation of law).

Section 3. Indemnification - General.

The Corporation shall indemnify, and advance Expenses to, Indemnitee as provided in the Agreement to the fullest extent permitted by applicable law in effect on the date hereof and to such greater extent as applicable law may thereafter from time to time permit. The rights of Indemnitee provided under the preceding sentence shall include, but shall not be limited to, the rights set forth in the other Sections of the Agreement.

Section 4. Proceeding Other Than Proceedings by or in the Right of the Corporation.

Indemnitee shall be entitled to the rights of indemnification provided in the Section if, by reason of Indemnitee’s employment or service as an officer or director, Indemnitee is, or is

threatened to be made, a party to any threatened, pending or completed Proceeding, other than a Proceeding brought by or in the right of the Corporation to procure a judgment in its favor.

Pursuant to the Section, Indemnitee shall be indemnified against Expenses, judgments, penalties, fines and amounts paid in settlement, actually and reasonable incurred by Indemnitee or on Indemnitee's behalf in connection with any such Proceeding if Indemnitee acted in good faith and in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the Corporation, and, with respect to any criminal Proceeding, had no reasonable cause to believe Indemnitee's conduct was unlawful.

Section 5. Proceedings by or in the Right of the Corporation.

Indemnitee shall be entitled to the rights of indemnification provided in the Section if, by reason of his status as an employee or director of the Corporation, Indemnitee is, or is threatened to be made, a party to any threatened, pending or completed Proceeding brought by or in the right of the Corporation to procure a judgment in its favor. Pursuant to the Section, Indemnitee shall be indemnified against Expenses, judgments, penalties, fines and amounts paid in settlement, actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection with any such Proceeding if Indemnitee acted in good faith and in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the Corporation.

Notwithstanding the foregoing, no indemnification against such Expenses shall be made in respect of any claim, issue or matter in any such Proceeding as to which Indemnitee shall have been adjudged to be liable to the Corporation if applicable law prohibits such indemnification unless the Court of Chancery of the State of Delaware, or the court in which such Proceeding shall have been brought or is pending, shall determine that indemnification against Expenses may nevertheless be made by the Corporation.

Section 6. Indemnification for Expenses of a Party Who is Wholly or Partly Successful.

Notwithstanding any other provision of the Agreement, to the extent that Indemnitee is, by reason of Indemnitee's employment or service as an officer or director, a party to and is successful, on the merits or otherwise, in any Proceeding, Indemnitee shall be indemnified against all Expenses actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection therewith. If Indemnitee is not wholly successful in such Proceeding but is successful, on the merits or otherwise, as to one or more but less than all claims, issues or matters in such Proceeding, the Corporation shall indemnify Indemnitee against all Expenses actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection with each successfully resolved claim, issue or matter. For the purposes of the Section and without limiting the foregoing, the termination of any claim, issue or matter in any such Proceeding by dismissal, with or without prejudice, shall be deemed to be a successful result as to such claim, issue or matter.

Section 7. Indemnification for Expenses of a Witness.

Notwithstanding any other provision of the Agreement, to the extent that Indemnitee is, by reason of Indemnitee's employment or service as an officer or director, a witness in any

Proceeding, Indemnitee shall be indemnified against all Expenses actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection therewith.

Section 8. Advancement of Expenses.

The Corporation shall advance all Expenses incurred by or on behalf of Indemnitee in connection with any Proceeding within thirty (30) days after the receipt by the Corporation of a statement or statement from Indemnitee requesting such advance or advances from time to time, whether prior to or after final disposition of such Proceeding. Such statement or statements shall reasonably evidence the Expenses incurred by Indemnitee and shall include or be preceded or accompanied by an undertaking by or on behalf of Indemnitee to repay any Expenses advanced if it shall ultimately be determined that Indemnitee is not entitled to be indemnified against such Expenses.

Section 9. Procedure for Determination of Entitlement to Indemnification.

(a) To obtain indemnification under the Agreement in connection with any Proceeding, and for the duration thereof, Indemnitee shall submit to the Corporation a written request, including therein or therewith such documentation and information as is reasonably available to Indemnitee and is reasonably necessary to determine whether and to what extent Indemnitee is entitled to indemnification. The Secretary of the Corporation shall, promptly upon receipt of any such request for indemnification, advise the board in writing that Indemnitee has requested indemnification.

(b) Upon written request by Indemnitee for indemnification pursuant to Section 9(a) hereof, a determination, if required by applicable law, with respect to Indemnitee's entitlement thereto shall be made in such case: (i) if a Change in Control shall have occurred, by Independent Counsel (unless Indemnitee shall request that such determination be made by the Board or the stockholders in the manner provided for in clauses (ii) or (iii) or this Section 9(b)) in written opinion to the Board, a copy of which shall be delivered to Indemnitee; (ii) if a Change of Control shall not have occurred, (A) by the Board by a majority vote of a quorum consisting of Disinterested Directors, or (B) if a quorum of the Board consisting of Disinterested Directors is not obtainable, or even if such quorum is obtainable, if such quorum of Disinterested Directors so directs, either (x) by Independent Counsel in a written opinion to the Board, a copy of which shall be delivered to Indemnitee, or (y) by the stockholders of the Corporation, as determined by such quorum of Disinterested Directors, or a quorum of the Board, as the case may be; or (iii) as provided in Section 10(b) of the Agreement. If it is so determined that Indemnitee is entitled to indemnification, payment to Indemnitee shall be made within thirty (30) days after such determination. Indemnitee shall cooperate with the persons or entity making such determination with respect to Indemnitee's entitlement to indemnification, including providing to such persons or entity upon request any documentation or information which is not privileged or otherwise protected from disclosure and which is reasonably available to Indemnitee and reasonably necessary to such determination. Any costs or expenses (including attorneys' fees and disbursements) incurred by Indemnitee in so cooperating with the persons or entity making such determination shall be borne by the Corporation (irrespective of the determination as to Indemnitee's entitlement to indemnification) and the Corporation hereby indemnifies and agrees to hold Indemnitee harmless therefrom.

(c) If required, Independent Counsel shall be selected as follows: (i) if a Change of Control shall not have occurred, Independent Counsel shall be selected by the Board by a majority vote of a quorum consisting of Disinterested Directors and the Corporation shall give written notice to Indemnitee advising Indemnitee of the identity of Independent Counsel so selected; or (ii) if a Change of Control shall have occurred, Independent Counsel shall be selected by Indemnitee (unless Indemnitee shall request that such selection be made by the Board, in which event (i) shall apply), and Indemnitee shall give written notice to the Corporation advising it of the identity of Independent Counsel so selected. In either event, Indemnitee or the Corporation, as the case may be, may, within seven (7) days after such written notice of selection shall have been given, deliver to the Corporation or to Indemnitee, as the case may be, a written objection to such selection. Such objection may be asserted only on the ground that Independent Counsel so selected does not meet the requirements of "Independent Counsel" as defined in Section 1 of the Agreement, and the objection shall set forth with particularity the factual basis of such assertion. If such written objection is made, Independent Counsel so selected may not serve as Independent Counsel unless and until a court has determined that such objection is without merit. If, within twenty (20) days after submission by Indemnitee of a written request for indemnification pursuant to Section 9(a) hereof, no Independent Counsel shall have been selected and not objected to, either the Corporation or Indemnitee may petition the Court of Chancery of the State of Delaware, or any court in the Commonwealth of Massachusetts in which such petition would be cognizable, for resolution of any objection which shall have been made by the Corporation or Indemnitee to the other's selection of Independent Counsel and/or for the appointment as Independent Counsel of a person selected by such court or by such other person as such court shall designate, and the person with respect to whom an objection is so resolved or the person so appointed shall act as Independent Counsel under Section 9(b) hereof. The Corporation shall pay any and all reasonable fees and expenses incurred by such Independent Counsel in connection with its actions pursuant to the Agreement, and the Corporation shall pay all reasonable fees and expenses incident to the procedures of this Section 9(c) regardless of the manner in which such Independent Counsel was selected or appointed. Upon the due commencement date of any judicial proceeding pursuant to Section 11 (a)(iii) of the Agreement, Independent Counsel shall be discharged and relieved of any further responsibility in such capacity (subject to the applicable standards of professional conduct then prevailing).

Section 10. Presumptions and Effects of Certain Proceedings.

(a) If a Change in Control shall have occurred, in making a determination with respect to entitlement to indemnification hereunder, the person or persons or entity making such determination shall presume that Indemnitee is entitled to indemnification under the Agreement if Indemnitee has submitted a request for indemnification in accordance with Section 9(a) of the Agreement, and the Corporation shall have the burden of proof to overcome that presumption in connection with the making by any person, persons or entity of any determination contrary to that presumption.

(b) The person or entity empowered or selected under Section 9 of the Agreement shall make the determination of whether Indemnitee is entitled to indemnification as soon as practicable after receipt by the Corporation of the request therefore.

(c) The termination of any Proceeding or of any claim, issue or matter therein, by judgment, order, settlement or conviction, or upon a plea of nolo contendere or its equivalent, shall not (except as otherwise expressly provided in the Agreement) of itself adversely affect the right of Indemnitee to indemnification or create a presumption that Indemnitee did not act in good faith and in a manner which Indemnitee reasonably believed to be in or not opposed to the best interests of the Corporation or, with respect to any criminal Proceeding, that Indemnitee had reasonable cause to believe that Indemnitee's conduct was unlawful.

Section 11. Remedies of indemnitee.

(a) In the event that (i) a determination is made pursuant to Section 9 or 10 of the Agreement that Indemnitee is not entitled to indemnification under the Agreement, (ii) advancement of Expenses is not timely made pursuant to Section 8 of the Agreement, (iii) the determination of entitlement to indemnification is made by Independent Counsel pursuant to Section 9 of the Agreement and such determination shall not have been made and delivered in a written opinion within ninety (90) days after receipt by the Corporation of the request for indemnification, or (iv) payment of indemnification is not made within thirty (30) days after such determination has been made that Indemnitee is entitled to indemnification or such determination is deemed to have been made pursuant to Sections 9 or 10 of the Agreement, Indemnitee shall be entitled to an adjudication in an appropriate court of the State of Delaware or the Commonwealth of Massachusetts, of Indemnitee's entitlement to such indemnification or advancement of Expenses. Indemnitee shall commence such proceeding seeking an adjudication or an award within one hundred eighty (180) days following the date on which Indemnitee first has the right to commence such proceeding pursuant to this Section 11(a).

(b) In the event that a determination shall have been made pursuant to Section 9 of the Agreement that Indemnitee is not entitled to indemnification, any judicial proceeding commenced pursuant to the Section shall be conducted in all respects as a de novo trial and Indemnitee shall not be prejudiced by any reason of that adverse determination. If a Change of Control shall have occurred, in any judicial proceeding commenced pursuant to the Section the Corporation shall have the burden of proving that Indemnitee is not entitled to indemnification or advancement of Expenses, as the case may be.

(c) If a determination shall have been made or deemed to have been made pursuant to Section 9 or 10 of the Agreement that Indemnitee is entitled to indemnification, the Corporation shall be bound by such determination in any judicial proceeding commenced pursuant to the Section, absent (i) a misstatement by Indemnitee or Indemnitee's representative of a material fact, or an omission of any material fact necessary to make Indemnitee's or Indemnitee's representative's statement not materially misleading, in connection with the request for indemnification, or (ii) prohibition of such indemnification under applicable law.

(d) The Corporation shall be precluded from asserting in any judicial proceeding commenced pursuant to the Section that the procedures and presumptions of the Agreement are not valid, binding and enforceable and shall stipulate in any such court that the Corporation is bound by all the provisions of the Agreement.

(e) In the event that Indemnitee, pursuant to the Section, seeks a judicial adjudication of Indemnitee's rights under, or to recover damages for breach of, the Agreement, Indemnitee shall be entitled to recover from the Corporation and shall be indemnified by the Corporation against, any and all expenses (of the kinds described in the definition of Expenses) actually and reasonably incurred by Indemnitee in such judicial adjudication, but only if Indemnitee prevails therein. If it shall be determined that Indemnitee is entitled to receive part but not all of the indemnification or advancement of expenses sought, the expenses incurred by Indemnitee in connection with such judicial adjudication shall be appropriately prorated.

Section 12. Non-Exclusivity; Survival of Rights; Insurance Subrogation.

(a) The rights of indemnification and to receive advancement of Expenses as provided by the Agreement shall not be deemed exclusive of any other rights to which Indemnitee may at any time be entitled under applicable law, the certificate of incorporation or by-laws of the Corporation, any agreement, a vote of stockholders or resolution of directors or otherwise. No amendment, alteration or repeal of the Agreement or any provision hereof shall be effective as to Indemnitee with respect to any action taken or omitted by such Indemnitee in Indemnitee's employment or service as an officer or director prior to such amendment, alteration or repeal.

(b) To the extent that the Corporation maintains an insurance policy or policies providing liability insurance for directors, officers, employees, agents or fiduciaries of the Corporation or of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise which such person serves at the request of the Corporation, Indemnitee shall be covered by such policy or policies in accordance with its or their terms to the maximum extent of the coverage available for any such director, officer, employee, agent or fiduciary under such policy or policies.

(c) In the event of any payment under the Agreement, the Corporation shall be subrogated to the extent of such payment to all of the rights of recovery of Indemnitee who shall execute all papers required and take all action necessary to secure such rights, including execution of such documents as are necessary to enable the Corporation to bring suit to enforce such rights.

(d) The Corporation shall not be liable under the Agreement to make any payment of amounts otherwise indemnifiable hereunder if and to the extent that Indemnitee has otherwise actually received such payment under any insurance policy, contract, agreement or otherwise.

Section 13. Duration of Agreement.

The Agreement shall continue until and terminate upon the later of: (a) ten (10) years after the date that Indemnitee shall have ceased to serve as a director, officer, employee, agent or fiduciary of the Corporation or of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise which Indemnitee served at the request of the Corporation; (b) the final termination of all pending Proceedings in respect of which Indemnitee is granted rights of indemnification or advancement of Expenses hereunder and of any proceeding commenced by Indemnitee pursuant to Section 11 of the Agreement. The Agreement

shall be binding upon the Corporation and its successors and assigns and shall inure to the benefit of Indemnitee and Indemnitee's heirs.

Section 14. Severability.

If any provision or provisions of the Agreement shall be held to be invalid, illegal or unenforceable for any reason whatsoever: (a) the validity, legality and enforceability of the remaining provisions of the Agreement (including, without limitation, each portion of any Section of the Agreement containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal unenforceable) shall not in any way be affected or impaired thereby; and (b) to the fullest extent possible, the provisions of the Agreement (including, without limitation, each portion of any Section of the Agreement containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) shall be construed so as to give effect to the intent manifested by the provision held invalid, illegal or unenforceable.

Section 15. Exception to Right of Indemnification or Advancement of Expenses.

Except as provided in Section 11(e), Indemnitee shall not be entitled to indemnification or advancement of Expenses under the Agreement with respect to any Proceeding, or any claim therein, brought or made by Indemnitee against the Corporation. For the purposes of the Section 15, a Proceeding in the right of the Corporation shall not be deemed to constitute a Proceeding brought or made by the Corporation.

Section 16. Identical Counterparts.

The Agreement may be executed in one or more counterparts, each of which shall for all purposes be deemed to be an original but all of which together shall constitute one and the same Agreement. Only one such counterpart signed by the party against whom enforceability is sought needs to be produced to evidence the existence of the Agreement.

Section 17. Headings.

The headings of the paragraphs of the Agreement are inserted for convenience only and shall not be deemed to constitute part of the Agreement or to affect the construction thereof.

Section 18. Modification and Waiver.

No supplement, modification or amendment to the Agreement shall be binding unless executed in writing by both of the parties hereto. No waiver of any of the provisions of the Agreement shall be deemed or shall constitute a waiver of any other provisions hereof (whether or not similar) nor shall such waiver constitute a continuing waiver.

Section 19. Notice by Indemnitee.

Indemnitee agrees promptly to notify the Corporation in writing upon being served with any summons, citation, subpoena, complaint, indictment, information or other document relating

to any Proceeding or matter which may be subject to indemnification or advancement of Expenses covered hereunder.

Signed on December 19, 2016 in Boston, MA

I, Alicia Secor, Chief Executive Officer, certify that the Board of Directors has authorized the Corporation to enter into the Agreement by a resolution adopted at a meeting of the Board of Directors.

Signed on December 19, 2016 in Boston, MA

THIS AMENDED AND RESTATED EMPLOYMENT AGREEMENT is made this 1st day of November, 2017 (the “Effective Date”).

BETWEEN:

- (1) **Juniper Pharma Services, Limited** (company number 3397582) whose registered office is at 8 Orchard Place, Nottingham Business Park, Nottingham, Nottinghamshire NG8 6PX (“the Company”); and
- (2) **DR. NIKIN PATEL** of 6 Sefton Drive, Mapperley Park, Nottingham, NG3 5ER (“you”).

IT IS AGREED as follows

1. DEFINITIONS

1.1 In this agreement the following expressions have the meanings set out next to them

“the Company”,	Juniper Pharma Services, Limited of 8 Orchard Place, Nottingham Business Park, Nottingham, Nottinghamshire NG8 6PX.
“you”	Dr. Nikin Patel.
“Associated Employer”	As defined in the Employment Rights Act 1996.
“the Board”	means the board of directors of the Company for the time being.
“person”	Any individual, firm, partnership, association (whether incorporated or otherwise), private members club, company, corporation, joint venture, trust, organisation or other incorporated or unincorporated body (in each case whether or not having separate legal personality).
“the employment”	your employment under this agreement.
“Inventions”	The matters set out in sub-clause 25.1.
“Intellectual Property”	Patents, trade marks and service marks (whether registered or unregistered), rights in trade or business names, copyrights (including rights in computer software), registered and unregistered designs, design copyrights, design rights and rights in designs and moral rights (whether or not any of these are registered and including applications for registration of any such thing and renewals and extensions of them) capable of subsisting under English law and all rights or forms of protection of a similar nature or having equivalent or similar effect to any of these which may subsist anywhere in the world.

1.2 Words and expressions defined in the Companies Act 2006 will, unless they are otherwise defined in this agreement, or the context otherwise requires, bear the same meaning in this agreement.

2. INTERPRETATION

2.1 In this agreement, the headings and table of contents are inserted for convenience only and do not affect its interpretation or construction.

2.2 In this agreement, references to clauses, sub-clauses and schedules are, unless otherwise stated, to clauses and sub-clauses of and schedules to this agreement. References to this agreement include clauses and sub-clauses of and schedules to this agreement.

2.3 In this agreement, unless the context does not so admit, references to the singular include the plural and vice versa.

2.4 In this agreement, unless the context does not so admit, references to the masculine, feminine or neuter include each of them.

2.5 In this agreement, references to statutes or to statutory instruments include all re-enactments, amendments, extensions or modifications of them and any regulations made under them.

2.6 In this agreement 'writing' or 'written' shall include any means of visible reproduction.

3. Effective Date

This Agreement, if fully executed, shall become effective on the Effective Date.

4. PERIOD CONTINUOUSLY EMPLOYED

For the purposes of the Employment Rights Act 1996 your period of continuous employment began on 1 October 1998. No employment with a previous employer shall count towards your period of continuous employment with the Company.

5. FORMER AGREEMENTS

5.1 This agreement amends, supersedes, replaces and is in substitution for all previous employment agreements, whether oral or in writing, express or implied and whether of an employment nature or otherwise, between you and the Company, including without limitation the Employment Agreement dated September 12, 2013 between you and the Company. All subsisting agreements are terminated by mutual consent with immediate effect.

6. JOB TITLE AND DESCRIPTION

6.1 You shall continue to be the President of the Company and the Chief Operating Officer of Juniper Pharmaceuticals, Inc. In circumstances where you are suspended, whether pursuant to clause 30 of this agreement or otherwise or at any time after either party has served notice to terminate the employment or otherwise purports to do so, the Company may, at its sole and absolute discretion, appoint any other person to carry out your duties and/or exercise any of your powers.

- 6.2 In addition to the duties which the position set out in clause 6.1 normally entails, you shall also carry out such duties as the Company or an Associated Employer may require you to perform from time to time.
- 6.3 The Company may require you, without additional remuneration, to perform such services or to take up any other position than that set out in clause 6.1, including but not limited to any services for or position with an Associated Employer, that the Company considers appropriate provided that any such requirement under this clause 6.3 will not place you in a position in which you would reasonably need to permanently relocate to comply with the requirement.

7. PROMOTION AND PROTECTION OF THE EMPLOYER'S INTERESTS

- 7.1 You undertake to the Company and to any Associated Employer that during the employment you will:
- 7.1.1 faithfully, diligently and perform such duties and exercise such powers consistent with them as may be from time to time required of, assigned to or vested in you by the Company;
 - 7.1.2 to obey the reasonable and lawful directions of the Company or directions given under the authority of the Company;
 - 7.1.3 to comply with all rules, regulations, policies, statements and procedures from time to time issued by the Company;
 - 7.1.4 to protect the Company and any Associated Employer from unnecessary or disproportionate risk;
 - 7.1.5 to keep the Company at all times promptly and fully informed (in writing if so requested) of your conduct of the business of the Company or any Associated Employer and to provide such information, explanations, data and assistance in connection with it as the Company may require;
 - 7.1.6 to use your best endeavours to promote and further the interests of the Company and any Associated Employer and to further the trade and business of the Company and any Associated Employer;
 - 7.1.7 subject as hereinafter provided unless prevented by incapacity, illness or injury or with the prior agreement of the Company, devote, during normal working hours and such additional times as provided for at clause 9 below, the whole of your time, attention and skill to your duties and to the furtherance of the business and interests of the Company and any Associated Employer;
 - 7.1.8 undertake such travel both within the United Kingdom and abroad as may be required by the Company from time to time in its sole and absolute discretion;
 - 7.1.9 at all times comply with, abide by and accept the requirements or directions of any regulator;

7.1.10 avoid situations where your personal interests conflict with the interests of the Company or any Associated Employer or any of its or their customers and, if you believe that any such conflict of interest may exist, disclose the same to the Company without delay.

7.2 You undertake to the Company and to any Associated Employer that during the employment you will not:

7.2.1 do anything which may result in damage being caused to the Company's interests, trade, business, or goodwill, to bring the Company into disrepute or which is prejudicial to the Company including without limitation making any untrue, misleading or disparaging statement in relation to the Company or any Associated Employer (or any of its or their employees or officers);

7.2.2 without the prior approval of the Board, either as principal, employee or agent carry on or be engaged, concerned or interested either directly or indirectly in any other trade, profession, business or occupation (including any public or private activity) or hold any directorship or other office in any company or other body whether incorporated or unincorporated;

7.2.3 without prejudice to the generality of clause 7.2.2 and without the prior approval of the Board, introduce to any other person business of a kind in which the Company is for the time being engaged or capable of becoming engaged or with which the Company is able to deal in the course of the business for the time being carried on or planned by the Company to be carried on;

7.2.4 without the Company's prior written permission, have any financial benefit from contracts made by the Company with any person (including but not limited to any supplier to the Company or any Associated Employer);

7.2.5 without the Company's prior written permission, receive or obtain directly or indirectly any commission, gift or other inducement in respect of any sale or purchase of any goods or services or other business transaction (whether procured by you or by someone else) effected by the Company or on the Company's behalf;

7.2.6 without the Company's prior written permission, hold any shares or securities or have any interest of any kind in any company (other than the Company or any Associated Employer) or other business organisation, save that you may hold not more than five per cent of the issued shares or other securities of any class of any one company which is not a competitor of the Company or any Associated Employer, where such shares or other securities are listed or dealt in on a recognised investment exchange in the United Kingdom or elsewhere, and are to be held by you for investment purposes only;

7.2.7 without the Company's prior written permission take any preparatory steps to join a competitor of the Company or to set up in competition with the Company;

- 7.2.8 enter on the Company's behalf and without the Company's prior written consent into any obligation for the acquisition whether by lease or purchase of any land, building or premises;
- 7.2.9 give or agree to give on the Company's behalf and without the Company's prior written consent any debenture, mortgage or charge on any of the Company's property;
- 7.2.10 after the termination of the employment represent yourself as being employed by or connected with the Company or any Associated Employer.

7.3 If you are in breach of any of the express or implied terms of this agreement you must immediately disclose the breach to the Company and must immediately inform the Company if you become aware of any misconduct or other breach of contract committed by any of the Company's employees or directors.

7.4 To ensure that the Company's property is not being used for improper purposes, the Company reserves the right to monitor and record all usage of the Company's telephones, mobile phones, faxes and IT equipment and systems and to monitor incoming and outgoing communications including but not limited to retrieving and reviewing the contents of files, emails, messages and searches that have been made on the internet via the Company's systems. You hereby give authority for the Company to do so.

7.5 You agree to comply with any rules, policies and procedures set out in the Company's Employee Handbook from time to time. The Employee Handbook does not form part of this agreement and the Company may amend it at any time. To the extent that there is any conflict between the terms of this agreement and the Employee Handbook, the terms of this agreement shall prevail.

8. PLACE OF WORK

8.1 Your principal place of work will be 8 Orchard Place, Nottingham Business Park, Nottingham, Nottinghamshire NG8 6PX.

8.2 The Company may, however, require you to work at other locations (including overseas) in the performance of your duties provided that you may not without your agreement be required to work overseas for any consecutive period of more than four weeks.

9. NORMAL HOURS OF WORK

9.1 Your normal hours of work will be 37.5 hours per week Monday to Friday.

9.2 You will also be required to work such additional hours as may be necessary for the performance of your duties.

9.3 Due to the autonomous nature of your role the duration of working time cannot be measured or monitored and, accordingly your employment falls within the scope of regulation 20 of the Working Time Regulations 1998.

10. REMUNERATION

- 10.1 Currently the Company pays you a basic salary at the rate £229,884 per annum (the base salary in effect from time to time, the “**Base Salary**”).
- 10.2 You will receive no additional pay for hours worked in excess of your normal hours of work.
- 10.3 Your salary will accrue from day to day but will not accrue on any day during which you are absent due to sickness or injury or for some other unauthorized reason.
- 10.4 Your salary will be payable in equal monthly instalments in arrears on or around the 28th day of each month or on such other day as may be notified to you by the Company from time to time.
- 10.5 Payment will be made by direct bank transfer and will be subject to such deductions as the Company may make for income tax, employee’s National Insurance contribution and any other taxes, social security contributions and withholdings as the Company may deduct.
- 10.6 Your salary shall be inclusive of any fees to which you may be entitled as a director or secretary of the Company or any Associated Employer if appointed as such.

11. DISCRETIONARY BONUS

- 11.1 You may at the Company’s sole and absolute discretion be paid a bonus in accordance with this clause 11 and the Company’s discretionary bonus scheme in place from time to time. In considering any such bonus, the Company will, amongst other factors, consider your and the Company’s performance. If, in the absolute discretion of the Company, you meet the annual performance targets set for you and the Company has hit its targets, such bonus is likely to be 45% of your Base Salary, but whether a bonus is awarded, the bonus target and any bonus amount shall be determined by the Company in its absolute discretion. Such bonus may be greater than 45% of your Base Salary in circumstances where the Company considers, at its absolute discretion, that you have materially exceeded your annual performance targets. Any such bonus (if any) will never exceed 150% of your target Discretionary Bonus. Any such bonus may be paid to you at such intervals and subject to such conditions as the Company may in its sole and absolute discretion determine. The Company may in its sole and absolute discretion determine whether any such bonus is paid in cash or in some other form.
- 11.2 You will not be eligible for any bonus, or if a bonus has already been awarded but not paid, will not receive payment of any such bonus, if, on the date that bonuses are due to be paid, you are no longer employed by the Company or either you or the Company has served notice to terminate the employment.
- 11.3 If you receive any bonus or payment thereof under this clause 11 or otherwise, the receipt of the same shall not entitle you to receive any further bonus or payments thereof. You acknowledge and agree that any bonuses or payments thereof that you may receive under this clause 11 or otherwise shall be purely discretionary and shall not form part of your contractual remuneration and shall not be pensionable.

11.4 The Company may, in its absolute discretion, suspend or discontinue any bonus or the payment thereof at any time in relation to any person or persons, including you. The Company may, in its absolute discretion, impose, vary or remove any conditions in relation to any bonus or the payment thereof at any time, including but not limited to after the award of any bonus or any payment thereof, whether in whole or in part.

11.5 If the employment or this agreement is terminated for any reason, whether lawfully or unlawfully, you agree that you will not be entitled by way of compensation for breach of contract, unfair dismissal or otherwise to any sum, or other benefit to compensate you for the loss or diminution in value of any actual or prospective rights, benefits or expectations under or in relation to the Company's discretionary bonus scheme.

12. PENSIONS AND BENEFITS

12.1 The Company will pay 3% of your Base Salary, which is the current employer's pension contribution, into your private pension plan, which currently is Crescent Trustees (the "Pension Plan"). The Pension Plan requires you to make an equal contribution or a lesser amount depending on the then-current limit on contributions. You agree to notify the Company if you change your pension plan during your employment.

12.2 Any benefits arising under or in respect of the Pension Plan or any other such pension scheme will be payable by or under the authority of its trustees and the Company neither guarantees nor warrants any such payment.

12.3 You may participate in such benefits and benefit schemes as the Company may provide to employees of your seniority and status from time to time, if any, subject in all cases to the terms of the governing documents and policies in force from time to time. Your eligibility to participate in any such benefits and/or benefit schemes shall be subject to you meeting the relevant insurance provider's eligibility criteria. The Company shall be entitled to change the provider of any benefits and/or benefit schemes, withdraw any such benefits and/or benefit schemes that may be provided from time to time and/or to amend the terms on which any benefit is and/or benefit schemes are provided without paying you any compensation. You acknowledge that as any benefits and/or benefit schemes that may be provided are insured arrangements, the payment and/or provision of any benefits whatsoever is subject to the discretion of the insurers and subject to the terms and conditions of the respective benefit and/or benefit scheme. The Company has no obligation to assist you in the advancement of any claim you may make, nor any obligation to make any payment to you should the insurer refuse to pay or provide any or all benefits whatsoever for whatever reason.

13. CONTRACTING-OUT CERTIFICATE

13.1 There is no contracting-out certificate in force in relation to the employment.

14. EXPENSES

14.1 The Company will reimburse you for all out of pocket expenses reasonably incurred in the proper performance of the Company's duties.

14.2 Your entitlement to reimbursement in accordance with clause 14.1 above is conditional upon you providing the Company with such invoices, vouchers or other evidence as may be required by the Company and subject to you complying with such guidelines or regulations as the Company may from time to time issue in relation to the incurring and reimbursement of expenses.

15. HOLIDAYS

15.1 The Company's holiday year is from 1st January until 31st December each year.

15.2 You are entitled to eight public and Bank holidays which are New Year's Day, Good Friday, Easter Monday, May Day, Spring Bank Holiday, Late Summer Bank Holiday, Christmas Day and Boxing Day.

15.3 In addition, you are entitled to 26 days paid holiday each holiday year. Where you are employed for only part of a holiday year, either on commencement or termination of the employment, you will be entitled to a pro-rated holiday entitlement based on the number of complete months worked in that holiday year.

15.4 All holiday is to be taken on days that are convenient to the Company, which are approved by the Company in writing.

15.5 You shall be entitled to carry forward up to 3 days' holiday from any holiday year to the next holiday year with the prior written approval of the Company provided any such holiday carried forward is taken by 31 March in the next holiday year. No payment will be made for any holiday accrued but not taken in a holiday year or carried forward in accordance with this clause save in the year in which the employment terminates (see clause 15.6 below).

15.6 Upon termination of the employment, you will be entitled to a payment of one day's salary (calculated at a daily rate of 1/260ths of your annual basic salary) for each complete day of accrued but unused holiday entitlement at such termination but if at the termination date you have taken holiday in excess of your accrued holiday entitlement at that date, the Company will make a commensurate deduction from any salary payment (whether of salary, expenses or otherwise) to be made to you.

16. ABSENCE FROM WORK

16.1 If you are absent from work for any reason and the absence has not previously been authorised by the Company you must notify the Company orally or in writing as soon as possible and in any event by 9.30 a.m. on the first day of absence and from then on you must keep the Company informed of your circumstances and your anticipated return to work. If you notify the Company orally, you must confirm the reasons for your absence in writing as soon as practicable.

16.2 You must report to the Company on the first day that you return to work after a period of absence for which you did not obtain approval prior to the absence from the Company. You will be required to state the dates of and reasons for your absence and will be provided with a form for that purpose.

16.3 If you are absent from work due to sickness or injury and your absence continues for more than seven days, you must provide a doctor's certificate on the eighth day of absence. You must then provide a doctor's certificate weekly.

17. INCAPACITY PAY

17.1 If you are absent from work due to sickness or injury and comply with the requirements set out in this clause and clause 16, you will receive your salary at full rate for a maximum period of 3 months and thereafter two thirds of your salary for a maximum period of 3 months and thereafter half of your salary for a maximum period of 6 months of absence in aggregate in any period of 52 consecutive weeks. Any such payments are inclusive of any statutory sick pay entitlement. Any payment which the Company makes under this clause 17.1 may be varied or discontinued at any time at the Company's sole and absolute discretion.

17.2 If your absence is or appears to be occasioned by the negligence, nuisance or breach of statutory duty by or on behalf of any person in respect of which compensation is or may be recoverable by you then all incapacity payments made by the Company will constitute loans to you. You must notify the Company immediately of any relevant circumstances, claim, compromise, settlement or judgment made or awarded in connection therewith and must give the Company all particulars of such matters as the Company may reasonably require. You must use all reasonable endeavours to recover (by way of settlement or otherwise) damages for loss of earnings over any period for which salary has been paid or shall be paid to you, keeping the Company informed of the commencement, progress and outcome of any such claim. If the Company so requires you must repay to the Company a sum as the Company may determine not exceeding:

17.2.1 the amount of compensation recovered by you under such claim, compromise, settlement or judgment in respect of lost earnings; or

17.2.2 the aggregate incapacity pay which you received from the Company less an amount equivalent to any statutory sick pay which the Company was obliged by law to pay to you.

17.3 Your eligibility to receive incapacity pay and/or statutory sick pay (see clause 18 below), or your receipt of any of the same, shall not affect the Company's ability to terminate the employment and/or this agreement.

18. STATUTORY SICK PAY

18.1 The Company operates the statutory sick pay scheme. You must co-operate in the maintenance of all necessary records. Any payment made to you during a period of sickness or injury will satisfy (or contribute to if it does not satisfy) any liability of the Company to make payment under the statutory sick pay scheme. For the purposes of the statutory sick pay scheme, your "qualifying days" are Monday to Friday.

19. MATERNITY AND PARENTAL LEAVE

19.1 Your maternity, paternity and adoption leave and pay rights are according to statute.

19.2 Your parental leave rights are according to statute.

20. COLLECTIVE AGREEMENTS

There are no collective agreements currently in force which directly or indirectly affect the employment.

21. RIGHT TO REQUIRE A MEDICAL EXAMINATION

21.1 The Company may in its sole and absolute discretion require you to provide evidence, satisfactory to the Company, of any sickness or injury suffered by you and/or provide the Company with medical evidence of your fitness to return to work after any period of absence from work due to sickness or injury.

21.2 You must upon the Company's request and at the Company's expense undergo a medical examination by any registered medical practitioner nominated by the Company and, for the purposes of the Data Protection Act 1998 and any other applicable legislation:

21.2.1 you agree to give consent to such examination; and

21.2.2 you agree to give consent that a report may be published in relation to the examination and that the Company may have access to it.

22. RIGHT TO SEARCH

The Company reserves the right to make searches of your person and personal property whilst on the Company's premises or any premises from which the Company or any Associated Employer operates without prior notice provided that any such search is carried out in the presence of at least two witnesses. Any personal search will be conducted by persons of the same sex as you. Personal property includes any vehicle owned by the Company.

23. HEALTH AND SAFETY

23.1 You should be familiar with the Company's health and safety policy and all procedures concerning safety in emergencies including the use and operation of safety equipment and protective clothing.

23.2 A copy of the Company's health and safety policy can be obtained from the Company upon request.

23.3 Details of any accident must be reported as soon as possible after the event.

24. CONFIDENTIAL INFORMATION

24.1 The provisions of this clause 24 apply to you for the benefit of the Company and any Associated Employer.

- 24.2 You acknowledge that in the course of the employment you will have access to and be entrusted with information in respect of the business of the Company and/or any Associated Employer and the Company's and/or any Associated Employer's customers' businesses, which information is or may be secret or confidential and important to the Company, any Associated Employers and the Company's customers respectively ("Confidential Information").
- 24.3 Confidential Information includes (but is not limited to):
- 24.3.1 trade secret or confidential or secret information concerning the business development, affairs, future plans, proposals, inventions, ideas, transactions, business methods, connections, operations, accounts, finances, organisation, processes, policies or practices, statements, rules, regulations, designs, products, machinery, manufacturing processes, dealings, trading, software, or know-how relating to or belonging to the Company and/or to any Associated Employer or any of its or their suppliers, agents, distributors, clients or customers;
 - 24.3.2 confidential computer software, computer-related know-how, passwords, computer programmes, specifications, object codes, source codes, network designs, business processes, business logic, inventions, improvements and /or modifications relating to or belonging to the Company and/or any Associated Employer;
 - 24.3.3 details of the Company's or any Associated Employer's financial projections or projects, prices or pricing strategy, advertising, marketing or development plans, product development plans or strategies, fee levels, commissions and commission structures, market share and pricing statistics, marketing surveys and research reports and their interpretation;
 - 24.3.4 confidential research, report or development undertaken by or for the Company or any Associated Employer;
 - 24.3.5 details of relationships or arrangements with, or knowledge of the needs or the requirements of, the Company's and/or any Associated Employer's actual or potential clients or customers;
 - 24.3.6 information supplied in confidence by customers, clients or any third party to which the Company or any Associated Employer owes an obligation of confidentiality;
 - 24.3.7 lists and details of contracts with the Company's or any Associated Employer's actual or potential suppliers;
 - 24.3.8 details of or information regarding the Company's or any Associated Employer's terms of business with customers and suppliers;
 - 24.3.9 details of or information regarding the Company's or other Associated Employer's development or staffing plans;

- 24.3.10 information of a personal or otherwise of a confidential nature relating to fellow employees, directors or officers of and/or consultants to, the Company and/or any Associated Employer for which you may from time to time provide services;
 - 24.3.11 confidential information concerning, or details of, any competitive business pitches, and/or target details;
 - 24.3.12 details of or information regarding the nature and origin of any goods and/or services provided, marketed or sold, obtained or brokered by the Company or any Associated Employer;
 - 24.3.13 details of or information regarding the Company's and/or any Associated Employer's sales techniques, price lists, pricing policies and/or discount structures;
 - 24.3.14 documents or information marked as confidential on its face; and/or
 - 24.3.15 documents or information which have been given to the Company or any Associated Employer in confidence by any customer, supplier or other person and/or any documents or information which have been supplied to you in confidence or which you have been informed are confidential or which you might reasonably be aware is confidential.
- 24.4 You must not at any time whether during or after the termination of the employment directly or indirectly, whether on your own account or for or on behalf of any other person other than in the proper performance of your duties, with the prior written consent of the Company or as required or permitted by law:
- 24.4.1 divulge Confidential Information to any person;
 - 24.4.2 use or attempt to use Confidential Information for your own purposes or for any purposes which are not the Company's or any Associated Employer's purposes or in any manner which may injure or cause loss either directly or indirectly to the Company or any Associated Employer or its of their business or may be likely to do so; or
 - 24.4.3 through any failure to exercise reasonable care and diligence, cause or bring about any unauthorised disclose or any Confidential Information.
- 24.5 You undertake to use reasonable endeavours to prevent the disclosure of any Confidential Information and keep with complete secrecy all Confidential Information entrusted to you.
- 24.6 Clauses 24.4 and 24.5 do not relate to information that is or may become (other than through your breach of this clause) generally available to the public or which constitutes a protected disclosure within the meaning of section 43 A of the Employment Rights Act 1996.

- 24.7 You undertake to promptly disclose to the Company any information which comes into your possession which affects adversely or may affect adversely the Company, any Associated Employer or the business of the Company or any Associated Employer. Such information shall include (but shall not be limited to)-
- 24.7.1 the plans of any employee to leave the Company (whether alone or in concert with other employees);
 - 24.7.2 the plans of any employee (whether alone or in concert with other employees) to join a competitor or to establish or operate a business in competition with the Company;
 - 24.7.3 any steps taken by any employee to implement either of such plans;
 - 24.7.4 the misuse by any employee of any Confidential Information belonging to the Company or any Associated Employer.

25. INTELLECTUAL PROPERTY

- 25.1 In this clause “Client” means any client or customer (including any potential client or customer) of the Company and/or any Associated Employer.
- 25.2 You acknowledge that in the course of your employment and as part of your duties both prior to the date of this agreement and following the commencement of this agreement:
- 25.2.1 you have conceived, originated, made or acquired and may conceive, originate, make or acquire individually or with others, certain inventions processes, formulas, utility models, novel creations, ideas, discoveries, know how, trade secrets, business names, developments, writings, trade marks, service marks, designs, drawings, improvements and innovations, whether or not capable of being patented or registered in some other way; and
 - 25.2.2 you have developed or produced and may develop or produce, individually or with others, certain works in which copyright, design right and/or database right will subsist in various media, including but not limited to electronic materials (including but not limited to software or instruction manuals), (together called “Inventions”).
- 25.3 You undertake to promptly following the date of this agreement disclose to the Company in writing full particulars of any Inventions created prior to the date of this agreement and you undertake to disclose to the Company in writing full particulars of any Inventions created after the date of this agreement promptly following their creation. You undertake not to use, disclose to any other person or exploit any Inventions without the Company’s prior written consent.

- 25.4 You acknowledge that any and all Inventions and the Intellectual Property subsisting or which may in the future subsist in any Inventions, including but not limited to any that:
- 25.4.1 relate or related in any manner to the business of the Company or any Associated Employer or to the Company's or any Associated Employer's actual or anticipated activities or to any Client or to any Client's actual or anticipated activities; or
 - 25.4.2 involve or involved the use of the Company's, any Associated Employer's or any Client's equipment, supplies, facilities, confidential information, Intellectual Property or time,
- hereby vest in or be or will, on creation, subject to the provisions of the Patents Act 1977, the Registered Designs Act 1949 and the Copyright Designs and Patents Act 1988, vest in and be the Company's (or if required by the Company, the relevant Client's) exclusive property in the United Kingdom or any other part of the world as absolute beneficial owner without any payment to you for it and where the same does not automatically vest in accordance with this clause, you hereby irrevocably and unconditionally assign the same to the Company (or if required by the Company, the relevant Client).
- 25.5 You agree to assist the Company and, if requested by the Company, any Client in connection with any application in relation to Inventions and to prepare and execute such instruments and do all such other acts and things as may be necessary or desirable to enable the Company, the relevant Client or their respective nominees to obtain and maintain protection of any Inventions vested in the Company or the relevant Client in such parts of the world as may be specified by the Company, the relevant Client or their respective nominees and to enable the Company or the relevant Client to exploit any Inventions vested in them to the best advantage.
- 25.6 You hereby irrevocably appoint the Company to be your attorney in your name and on your behalf to do all such acts and things and to sign all such deeds and documents and to use your name for the purpose of giving the Company, any relevant Client or their respective nominees the full benefit of this clause 25. You agree that, as evidence to any person, a certificate signed by the Company or by any duly authorised employee that any act or thing or deed or document falls within the authority hereby conferred by this clause 25.6 will be conclusive evidence that this is the case.
- 25.7 You agree that any and all Inventions disclosed by you to any person, published or described in a patent or registered design application or registered trade mark or service mark application filed by you (alone or jointly) or on your behalf within 12 months after the termination of this agreement will be presumed to have been conceived, made, developed or produced by you in the course of the employment unless proved by you to have been conceived, made, developed or produced by you after the termination of this agreement.
- 25.8 You irrevocably and unconditionally waive any and all rights which you may have which are or have been conferred on you by Chapter IV of Part 1 of the Copyright, Designs and Patents Act 1988 headed "Moral Rights" and by any other laws of a similar or equivalent nature in any of the countries of the world.

- 25.9 Where an injunction restraining use or exploitation by the Company or any Client of any invention is, in the opinion of the Company's legal advisers, likely to be granted by a court to a third party, you must do all such acts and things either to render them noninfringing without affecting any of your other duties and obligations under this agreement or shall obtain a licence from the third party, at the Company's reasonable expense which is preapproved by the Board, granting the Company or the Client as the case may be the right to continue using them.
- 25.10 You must not knowingly do, permit or suffer to be done any act or thing or omit to do any act or thing which might jeopardize or prejudice any of the rights conferred on or vested in the Company or any Client by virtue of this clause or any document signed executed and delivered pursuant to this clause or which might invalidate or prejudice any application made by the Company or any Client for a patent, registered design, copyright, design right or other similar right in any part of the world.
- 25.11 Your obligations under this clause 25 shall continue to apply after the termination of the employment (whether terminated lawfully or not). Each of these obligations is enforceable independently of each of the others and its validity shall not be affected if any of the others are unenforceable to any extent.

26. GRIEVANCE PROCEDURE

- 26.1 If you have a grievance relating to the employment, this should be raised initially with your Manager. You may be required to put any such grievance in writing.
- 26.2 Your Manager or another appropriate person will consider the grievance and will notify you of its decision.
- 26.3 The grievance procedure in the Employee Handbook shall not apply to the employment.

27. DISCIPLINARY PROCEDURE

- 27.1 The Company's Disciplinary Procedure can be found in the Handbook. The Disciplinary Procedure may be varied, disappplied, removed, added to or supplemented by the Company at any time in its sole and absolute discretion and shall not have contractual effect.

28. TERMINATION

- 28.1 Without prejudice to any other term of this agreement providing for earlier termination (including clauses 28.2, 28.3, 28.5 or 28.6), the employment may be terminated by either you or the Company giving to the other not less than 6 months' prior written notice (the "Six Month Notice Period"). To avoid doubt, if your employment is terminated as specified in clauses 28.2, 28.3, 28.5 or 28.6, the Six Month Notice Period shall not be required.
- 28.2 You may terminate your employment with Good Reason as described in this clause 28, but not at any other time, and provided that you have first provided written notice of such reason to the Company no later than thirty (30) days after the event or occurrence constituting Good Reason first arises, with such notice affording the Company thirty (30) days from the date of the Company's receipt of such notice to cure the deficiency. Upon such cure by the Company or if no such written notice has been provided by you

in accordance with this clause, “Good Reason” shall be deemed not to exist for purposes of the Agreement. “Good Reason” shall mean the occurrence of either of the following events without your consent: (a) a material breach of the Agreement by the Company; or (b) a material reduction in your responsibility, authority, or duties relative to your responsibility, authority or duties as outlined in this Agreement;

28.3 The Company may (without prejudice to and in addition to any other remedy) forthwith terminate the employment for “Cause” without any prior notice or payment in lieu thereof if, in the opinion of the Company, it appears that you:

28.3.1 are guilty of gross misconduct;

28.3.2 have committed any act of fraud or dishonesty;

28.3.3 have committed any act, which in the opinion of the Company, constitutes a breach (or may have been calculated by you to constitute a breach) of the relationship of trust and confidence between the Company by you;

28.3.4 have misconducted yourself during or outside the course of the employment in a manner, which in the opinion of the Company, brings the Company and/or any Associated Employer into disrepute or otherwise harms or has the potential to harm the interests of the Company and/or any Associated Employer or its or their business(es), including (without prejudice to the generality of foregoing), any conduct in respect of which disciplinary and/or corrective proceedings and/or measures are brought or implemented (or might be brought or implemented) by any public body, regulatory authority or society that is relevant to the Company and/or any Associated Employer and/or the employment;

28.3.5 have committed any, serious and/or any repeated, breach of or failure to observe, any of the terms, conditions or stipulations contained in this agreement;

28.3.6 are guilty of serious and/or any repeated negligence or incompetence;

28.3.7 have committed any breach of any of the rules, regulations, codes of practice, recommendations and/or requirements of any public body, regulatory authority or society that is relevant to the Company and/or any Associated Employer and/or the employment;

28.3.8 have knowingly provided any misleading or inaccurate information to any public body, regulatory authority or society that is relevant to the Company and/or any Associated Employer and/or the employment;

28.3.9 do not possess, have lost or do not obtain any certificate, approval, authorisation, permission, visa, registration, security clearance or any other item that is granted by any third party (included but not limited to any public body, regulatory authority or society) that is necessary or desirable for you to possess for the performance of your duties hereunder;

- 28.3.10 have become bankrupt or applied for a receiving order or have a receiving order made against you or have entered into any arrangement or composition with your creditors;
 - 28.3.11 have been prohibited by law from acting as a director of any company;
 - 28.3.12 have become of unsound mind or a patient within the meaning of any United Kingdom statute relating to mental health; and/or
 - 28.3.13 have been convicted of any criminal offence (other than an offence under the Road Traffic Acts for which a penalty of imprisonment is not imposed), and any delay by the Company in exercising such right to terminate shall not constitute a waiver thereof.
- 28.4 Upon the termination of this agreement under clause 28.3, you shall be paid your salary accrued to the date of termination, together with any entitlement to be paid for accrued but untaken holiday and statutory holidays at the date of termination but you shall not be entitled to any other payment or compensation whatsoever in respect of such termination.
- 28.5 If you are terminated by the Company without Cause or you resign with Good Reason, in either case within twenty four (24) months after a Change of Control as defined below (the "Change in Control Period"):
- 28.5.1 the Company shall pay to you the amounts required under clause 28.4 and a lump sum payment equal to (A) twelve (12) months of your final Base Salary (B) an amount equal to twelve (12) months of your target annual performance bonus in accordance with clause 11.1 and (C) an amount equal to twelve (12) months of the Company's cost of providing medical and dental benefits to you if these benefits were elected by you as of the date of termination, which lump sum payment ((A through C)) shall be paid to you within sixty (60) days after the date of termination, subject to clause 40; and
 - 28.5.2 you shall fully vest in all of your unvested equity of the Company granted on or after March 3, 2017.
 - 28.5.3 the lump sum payment ((A) through (C) of clause 28.5.1) shall be conditioned upon execution and non-revocation by you of a Release Agreement, which the Company shall present to you and which you shall sign and shall become irrevocable within the time periods required by the Release Agreement but in no event later than thirty (30) days after the date of termination.
 - 28.5.4 For the purposes of this clause 28.5, a "Change of Control" shall occur if:
 - 28.5.4.1 any "person," as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended (the "Act"), any of its subsidiaries, or any trustee, fiduciary or other person or entity holding securities under any employee benefit plan or trust of the Company or any of its subsidiaries), together with all "affiliates" and "associates" (as such terms are defined in Rule

12b-2 under the Act) of such person, shall become the “beneficial owner” (as such term is defined in Rule 13d-3 under the Act), directly or indirectly, of securities of the Company representing 50 percent or more of the combined voting power of the Company’s then outstanding securities having the right to vote in an election of the Board (“Voting Securities”) (in such case other than as a result of an acquisition of securities directly from the Company); or

28.5.4.2 the consummation of (A) any consolidation or merger of the Company where the stockholders of the Company, immediately prior to the consolidation or merger, would not, immediately after the consolidation or merger, beneficially own (as such term is defined in Rule 13d-3 under the Act), directly or indirectly, shares representing in the aggregate more than 50 percent of the voting shares of the Company issuing cash or securities in the consolidation or merger (or of its ultimate parent corporation, if any), or (B) any sale or other transfer (in one transaction or a series of transactions contemplated or arranged by any party as a single plan) of all or substantially all of the assets of the Company.

Notwithstanding the foregoing, a “Change in Control” shall not be deemed to have occurred for purposes of the foregoing clause (i) solely as the result of an acquisition of securities by the Company which, by reducing the number of shares of Voting Securities outstanding, increases the proportionate number of Voting Securities beneficially owned by any person to 50 percent or more of the combined voting power of all of the then outstanding Voting Securities; provided, however, that if any person referred to in this sentence shall thereafter become the beneficial owner of any additional shares of Voting Securities (other than pursuant to a stock split, stock dividend, or similar transaction or as a result of an acquisition of securities directly from the Company) and immediately thereafter beneficially owns 50 percent or more of the combined voting power of all of the then outstanding Voting Securities, then a “Change in Control” shall be deemed to have occurred for purposes of the foregoing clause (i).

28.6 If you are terminated by the Company without Cause or you resign with Good Reason, in either case at any time other than during the Change in Control Period,

28.6.1 the Company shall pay to you the amounts required under clause 28.4 and (A) twelve (12) months of your final Base Salary and (B) an amount equal to twelve (12) months of the Company’s cost of providing medical and dental benefits to you if these benefits were elected by you as of the date of termination, which payments ((A and B)) shall be paid to you in installments on the Company regular payroll dates applicable to your position, beginning within sixty (60) days after the date of termination,

28.6.2 the payments described in (A) and (B) of clause 28.6.1 shall be conditioned upon execution and non-revocation by you of a Release Agreement, which the Company shall present to you and which you shall sign and shall become irrevocable within the time period required by the Release Agreement but in no event later than thirty (30) days after the date of termination.

28.6.3 To avoid doubt, notwithstanding anything in this Agreement to the contrary, under no circumstance shall you be entitled to payments under both clauses 28.5 and 28.6.

28.7 On the termination of the employment for any reason and howsoever arising:

28.7.1 you shall at the request of the Company, resign from all offices held by you, if any, in or as the representative or nominee of the Company or any Associated Employer, including but not limited to any appointment as director or company secretary of the same; and

28.7.2 you shall, without payment, transfer to the company, or as the Company may otherwise direct, any qualifying shares held by you on behalf of or as the representative or nominee of the Company or any Associated Employer, and you hereby, irrevocably appoint the Company to be your attorney in your name and on your behalf to sign, execute or do any instrument or act and generally to use your name for the purpose of giving to the Company or its nominee the full benefit of the provisions of this clause 28.7.

28.8 After the termination of the employment under this agreement, you shall, on request, render such assistance and perform such tasks and functions as the Company may reasonably require for its business to assist the Company (to deal properly, efficiently and cost-effectively with any matters in connection with the affairs of the Company and/or any Associated Employer and in respect of which you have particular knowledge and expertise by reason of the employment. You shall be entitled to be paid a reasonable fee (not exceeding your base salary pro-rata on termination of this employment) and to be reimbursed all reasonable out of pocket expenses properly incurred in rendering such assistance and performing such tasks and functions.

29. PAYMENT IN LIEU OF NOTICE

29.1 Where notice is served by the Company or you to terminate the employment or if either you or the Company otherwise purports to terminate the employment, the Company may in its sole and absolute discretion elect to terminate the employment at any time and with immediate effect by:

29.1.1 notifying you that the Company is exercising its right under this agreement to make a payment in lieu of notice; and

29.1.2 within 28 days of the notification referred to in clause 29.1.1 above, making to you a payment in lieu of notice in accordance with clause 29.2 below (the "Payment In Lieu of Notice").

Provided that, for the avoidance of doubt but without limiting the foregoing, the Company shall not be required to make any Payment in Lieu of Notice in connection with any termination by the Company under clauses 28.5 or 28.6.

29.2 When making a payment in lieu of notice pursuant to clause 29.1 above, or otherwise, the Company may make a payment equivalent to your basic salary (as at the date of the termination) only for the whole of the notice period (or, if applicable, its remainder):

29.2.1 in a lump sum; or

29.2.2 in instalments over the period until the expiry, if it had been served (in full or at all), of the notice period, and, in each case, such payments will be subject to income tax and national insurance contributions.

29.3 The Company will not be deemed to have made an election to pay in lieu of notice unless written notice to that effect is given to you in accordance with clause 29.1.1. For the avoidance of doubt, the Company's right to elect to make a payment in lieu of notice does not give you any right to receive one.

30. SUSPENSION, CHANGE OF DUTIES AND GARDEN LEAVE

30.1 The Company may suspend all or any of your duties and powers or assign you such alternative duties as the Company may in its sole and absolute discretion deem appropriate for such periods and on such terms as it considers expedient in its sole and absolute discretion:

30.1.1 during any period in which the Company is carrying out an investigation into any alleged acts or defaults by you;

30.1.2 in circumstances where it is suspected that you are in breach of any legal or regulatory requirement, including but not limited to any such requirements imposed by any public body, regulatory authority or society that is relevant to the Company and/or any Associated Employer and/or the employment and/or any stock exchange on which the Company's or any Associated Employer's shares are traded, and during any such period, you shall continue to receive your salary and contractual benefits.

30.2 At any stage during your notice period or if you seek to or indicate an intention to resign as an employee of the Company or any Associated Employer or to terminate the employment without notice the Company may, in its sole and absolute discretion (without any requirement to give a reason):-

30.2.1 alter your duties to such other duties as the Company may determine in its sole and absolute discretion, including but not limited to non-client facing duties; or

30.2.2 instruct you to remain away from work on garden leave ("Garden Leave").

30.3 During any period of Garden Leave;

30.3.1 You may be excluded from all or any premises of the Company or any Associated Employer;

- 30.3.2 you must be available for work but the Company is not obliged to provide you with any work and may require you to perform different duties and/or tasks from your normal duties;
- 30.3.3 the Company shall be entitled to require you to perform work at home in relation to matters of which you have knowledge or which fall within your competence;
- 30.3.4 you will be entitled to receive your salary and any contractual benefits under this agreement, excluding any bonus of any nature, which you will not be entitled to in respect of any period of Garden Leave;
- 30.3.5 you may not, without the prior written consent of the Company, contact or attempt to contact any client, customer, prospective client or customer, agent, professional adviser, employee, consultant, supplier or broker of the Company or any Associated Employer;
- 30.3.6 you will not be permitted to work for any other organisation or on your own behalf without the Company's prior written consent;
- 30.3.7 you shall keep the Company informed of your whereabouts (except in any period taken as holiday) so that you can be called upon to perform any appropriate duties as requested by the Company (and if required to provide the Company with a contact telephone number and email address for this purpose);
- 30.3.8 you shall refer to the Company immediately any communications in whatever form received by you from any client or customer or prospective client or customer of the Company or any Associated Employer;
- 30.3.9 you must take any accrued and accruing holiday (and any accrued but unused holiday entitlement shall be deemed to be taken during any period of Garden Leave) and this clause 30.3.9 is notice to you pursuant to Regulation 15(3) of the Working Time Regulations 1998 that holiday is to be taken during this period;
- 30.3.10 you may be required to return to the Company all documents and items of property which belong to the Company or any Associated Employer (including but not limited to those which contain or refer to any Confidential Information (as defined in clause 24)) and which are in your possession or under your power or control;
- 30.3.11 you must immediately on request resign as a director, secretary or from any other appointment held in or on behalf of the Company or any Associated Employer without claim for compensation for loss of office (and in the event of your failure to do so the Company is hereby irrevocably appointed to appoint some person in your name and on your behalf to sign and deliver such resignation(s) to the Company);
- 30.3.12 all other terms and conditions of the employment (both express and implied) will remain in full force and effect; and

30.3.13 you will continue to owe the Company a duty of fidelity and good faith and, if applicable, duties as a fiduciary, in full and to the same extent as existed prior to the Garden Leave period.

31. RECONSTRUCTION

If the employment is terminated by reason of the Company's liquidation for the purposes of an amalgamation or reconstruction and you are offered work by any person resulting from such amalgamation or reconstruction on terms no less favourable than the terms of this agreement you will have no claim against the Company in respect of the termination of the employment.

32. DEDUCTIONS

You hereby irrevocably agree that the Company may at any time deduct any sum you owe to the Company or any Associated Employer (including without limitation any overpayment of salary or other benefits) from any sum the Company owes to you.

33. COMPANY DOCUMENTS

All notes, memoranda, records, lists of customers and suppliers and employees, papers, documents, correspondence, writings, accounts, designs, price lists, specifications, Company letterhead paper, stationary, computer software, computer programmes, computer operating systems, computers, laptop computers, table computers, mobile phones, PDAs, smart phones, portable devices, material and all information recorded on magnetic tape or disc or otherwise recorded or stored for reproduction whether by mechanical or electronic means including any copy which is from time to time in your possession or control and which relates to the Company or any Associated Employer will be and remain at all times the property of the Company or any Associated Employer (as the case may be). Upon the termination of the employment, or at any other time as requested by the Company, you must return all such items and information in your possession or under your control and will provide to the Company on request a statement that you have complied with these requirements.

34. POST TERMINATION COVENANTS

34.1 For the purpose of this clause 34 the following expressions have the following meanings respectively—

34.1.1 “**Confidential Information**” has the meaning given to that expression in clause 24;

34.1.2 “**Customer**” means any person, company or other entity who or which at any time in the 12 months immediately preceding the Termination Date was a customer or client of the Company or any Associated Employer and:

34.1.2.1 with whom or which, during such period you had business dealings in the course of the employment; or

34.1.2.2 in relation to whom or which, you, by reason of the employment, are in possession of any trade secrets or Confidential Information;

- 34.1.3 **“Prospective Customer”** means any person, company or other entity with whom or which at any time in the 12 months immediately preceding the Termination Date the Company or any Associated Employer shall have had negotiations or discussions for the supply or provision of goods and/or services supplied and/or provided by the Company or any Associated Employer, and:
- 34.1.3.1 with whom or which, during such period you had business dealings during the course of those negotiations or discussions; or
 - 34.1.3.2 in relation to whom or which, you, by reason of the employment, are in possession of any trade secrets or Confidential Information;
- 34.1.4 **“Relevant Person”** means any person who at any time in the 12 months immediately preceding the Termination Date was employed or engaged by the Company or any Associated Employer:
- 34.1.4.1 as a vice president, officer, director, and/or senior manager;
 - 34.1.4.2 who has acquired influence over any Customers and/or Prospective Customers by reason of being or having been employed or engaged by the Company and/or any Associated Employer; and/or
 - 34.1.4.3 who is in possession of any trade secrets or Confidential Information relating to the business of the Company or any Associated Employer or relating to any Customer and/or Prospective Customer by reason of being or having been employed or engaged by the Company and/or any Associated Employer;
- and with whom you had dealings at any time in the 12 months immediately preceding the Termination Date;
- 34.1.5 **“Restricted Business”** means the business of the Company and the business of any Associated Employer (and in each case, any parts thereof) with which you were materially concerned and/or for which you were responsible, in each case at any time during the 12 months immediately preceding the Termination Date;
- 34.1.6 **“Restricted Period”** means:
- 34.1.6.1 in the case of clause 34.2.1 to 34.2.9 the period of 12 months following the Termination Date, less any period of time spent by you on Garden Leave;
 - 34.1.6.2 in the case of clause 34.2.10, the whole of the period following the Termination Date;

34.1.7 “**Supplier**” means any person, company or other entity who or which at any time in the 12 months immediately preceding the Termination Date was a supplier of goods and/or services to the Company or any Associated Employer, and:

34.1.7.1 with whom or which, during such period you had business dealings in the course of the employment; or

34.1.7.2 in relation to whom or which, you, by reason of the employment with the Company, are in possession of any trade secrets or Confidential Information; and

34.1.8 “**Termination Date**” means the date of termination of the employment, howsoever arising.

34.2 You hereby undertake with the Company (for itself and as trustee and agent for each Associated Employer) that you will not without the prior written consent of the Company for the relevant Restricted Period, whether on your own account, or for, with or through any other person company or other entity, directly or indirectly:

34.2.1 carry on or be employed, engaged, interested or concerned in any capacity in any trade or business or occupation whatsoever which is or might reasonably be considered to be in competition with the Restricted Business;

34.2.2 in competition with the Restricted Business solicit, interfere with or entice away or endeavour to solicit, interfere with or entice away any Customer;

34.2.3 in competition with the Restricted Business solicit, interfere with or entice away or endeavour to solicit, interfere with or entice away any Prospective Customer;

34.2.4 in competition with the Restricted Business have business dealings with any Customer;

34.2.5 in competition with the Restricted Business have business dealings with any Prospective Customer;

34.2.6 solicit or induce or endeavour to solicit or induce any Relevant Person to cease working for or providing services to the Company, whether or not any such person would thereby commit a breach of contract;

34.2.7 employ or otherwise engage in any business in competition with the Restricted Business any Relevant Person;

34.2.8 encourage or cause or endeavour to encourage or cause any Supplier to cease providing goods and/or services to the Company or any Associated Employer;

34.2.9 encourage or cause or endeavour to encourage or cause any Supplier to materially alter the terms of its business with the Company or any Associated Employer; and/or

34.2.10 use or permit to be used any trade or service name or get-up used in the Company and/or any Associated Employer or any other name likely to be confused with such name and/or get-up.

34.3 While the restrictions in this clause 34 (on which you have had the opportunity to take independent legal advice, as you hereby acknowledge) are considered by the parties to be reasonable in all the circumstances, it is agreed that if any such restriction (including the definitions contained in clause 34.1), by itself, or taken together with the others, is found to be void but would be valid if some part of it were deleted, such restriction shall apply with such modification as may be necessary to make it valid and effective.

34.4 The parties agree that the restrictions set out in this clause 34 shall be separate and severable and enforceable as such. If any restriction is determined as being unenforceable in whole or in part for any reason, that shall not affect the enforceability of the remaining restrictions or, in the case of part of a restriction being unenforceable, the remainder of that restriction.

34.5 You hereby agree and undertake that you will upon receipt of any request from the Company to do so, enter into equivalent restrictions to those contained within this clause 34 directly with any Associated Employer with which you may be involved from time to time.

34.6 The Company may by notice to you at any time reduce in whole or in part the scope and/or duration of any of the restrictions set out in this agreement to such extent as the Company may in its sole and absolute discretion determine and thereupon such restrictions shall apply as modified by such notice.

34.7 The benefit of each restriction set out in this agreement shall be enforceable by the Company and any Associated Employer.

34.8 You undertake immediately to draw these restrictions to the attention of any person for or with whom you commence employment or work at any time during the period to which each restriction applies. For this purpose, the phrase "commences employment or work" includes entering into discussions or negotiations that are likely or intended to result in such commencement.

35. DATA PROTECTION

35.1 You consent to the Company or any Associated Employer holding and processing personal data as defined in the Data Protection Act 1998 (the "DPA") concerning you in order to properly fulfil its obligations to you under this agreement and as otherwise required or permitted by law in relation to your employment in accordance with the DPA. Such processing shall principally be for legal, personnel, administrative and payroll purposes.

35.2 You accept and acknowledge that, if required at any time to work on behalf of the Company or any Associated Employer overseas, the Company may need to pass personal data concerning you to the person, firm or company with whom you are working anywhere in the world and you hereby expressly consent to the Company doing so.

- 35.3 You further consent to the Company and any Associated Employer processing any sensitive personal data (as defined in the DPA) relating to you, including, as appropriate:
- 35.3.1 information about your physical or mental health or condition in order to monitor sick leave and take decisions as to fitness for work (including any medical report made by a medical practitioner nominated by the Company pursuant to clause 21);
 - 35.3.2 your racial or ethnic origin or religious or similar information in order to monitor compliance with equal opportunities legislation; and
 - 35.3.3 information relating to any criminal proceedings in which you may have been involved for insurance purposes and in order to comply with legal requirements and obligations to third parties.
- 35.4 You acknowledge that the Company and any Associated Employer may make any information to which clause 35 relates available to individuals or companies who provide products or services to the Company (such as advisers and payroll administrators), regulatory authorities, potential or future employers, governmental or quasi-governmental organisations and potential purchasers of the Company or the business in which you are employed.

36. MISREPRESENTATION

You must not at any time make any untrue statement in relation to the Company and, in particular, must not after the termination or expiration of the employment represent to any person that you remain employed by or connected with the Company.

37. PROVISIONS OPERATING AFTER TERMINATION OR EXPIRATION

- 37.1 The termination or expiration of the employment will not affect any provision of this agreement that operates or has effect or is expressed to operate or have effect after termination or expiration whether the employment is terminated or expires lawfully and fairly or otherwise.
- 37.2 No changes to this agreement will be effective unless made in writing and signed by the parties or on their behalf by any properly authorised person.

38. INVALIDITY OR UNENFORCEABILITY

The parties agree that each of the clauses and sub-clauses of this agreement shall be separate and severable and enforceable as such. The complete or partial invalidity or unenforceability of any provision of this agreement for any purpose will in no way affect the validity or enforceability of such provision for any other purpose or of the remaining provisions of this agreement.

39. SUPPLEMENTAL TERMS

- 39.1 Each Associated Employer and any of their agents may enforce the terms of this agreement directly against you pursuant to the Contracts (Rights of Third Parties) Act 1999.

- 39.2 Save as provided in clause 39.1 above, no term of this agreement shall be enforceable by any person who is not a party to it either under the Contracts (Rights of Third Parties) Act 1999 or otherwise.
- 39.3 There is no current requirement for you to work outside the United Kingdom for any consecutive period in excess of one month.

40. Limitation on Payments.

- 40.1 In the event that the post-termination payments and other benefits provided for in the Agreement or otherwise payable to you (i) constitute “parachute payments” within the meaning of Section 280G of the Internal Revenue Code of 1986 (the “Code”) and (ii) but for this clause, would be subject to the excise tax imposed by Section 4999 of the Code, then your post-termination payments benefits will be either: (a) delivered in full, or delivered as to such lesser extent which would result in no portion of such post-termination payments or other post-termination benefits being subject to the excise tax under Section 4999 of the Code, whichever of the foregoing amounts, taking into account the applicable federal, state and local income taxes and the excise tax imposed by Section 4999 of the Code, results in the receipt by you on an after-tax basis, of the greatest amount of post-termination payments or benefits, notwithstanding that all or some portion of such post-termination payments or benefits may be taxable under Section 4999 of the Code. If a reduction in the severance and other benefits constituting “parachute payments” is necessary so that no portion of such post-termination payments or benefits is subject to the excise tax under Section 4999 of the Code, the reduction shall occur in the following order: (i) reduction of the post-termination payments under clause 28.5; (ii) reduction of other cash payments, if any; (iii) cancellation of accelerated vesting of equity awards; and (iv) reduction of continued employee benefits. In the event that acceleration of vesting of equity award compensation is to be reduced, such acceleration of vesting shall be cancelled in the reverse order of the date of grant of your equity awards. If two or more equity awards are granted on the same date, each award will be reduced on a pro-rata basis. In no event shall you have any discretion with respect to the ordering of payment reductions.
- 40.2 Unless the Company and you otherwise agree in writing, any determination required under this clause will be made in writing by an independent firm immediately prior to Change of Control (the “Firm”), whose determination will be conclusive and binding upon you and the Company. For purposes of making the calculations required by this clause, the Firm may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code. The Company and you will furnish to the Firm such information and documents as the Firm may reasonably request in order to make a determination. The Company will bear all costs the Firm may reasonably incur in connection with any calculations contemplated by this clause.

41. CHOICE OF LAW AND SUBMISSION TO JURISDICTION

This agreement will be governed by and construed in accordance with English law. The parties agree to submit to the exclusive jurisdiction of the English courts in relation to any claim or matter arising under this agreement.

IN WITNESS whereof this agreement has been executed as a deed by the parties on the date stated above.

SIGNED as a DEED by

Limited

acting by

Director

/s/ Alicia Secor

in the presence of:

Witness' Signature:

/s/ Pamela Isaacson

Witness' Name:

Pamela Isaacson

Witness' Address:

81 Westminster Ave

Roxbury, MA 02119

EXECUTED AS A DEED by

⇨ *sign here*

/s/ Nikin Patel

in the presence of

/s/ Helen Bloore

Witness sign here

Helen Bloore

Witness print name

21 Stanley Street

Ilkeston

Derbyshire, DE75FX

Witness address

AMENDED AND RESTATED EMPLOYMENT AGREEMENT

THIS AMENDED AND RESTATED EMPLOYMENT AGREEMENT (as the same may be amended, restated, supplemented or otherwise modified from time to time hereafter, the “Agreement”) is effective as of November 1, 2017 (the “Effective Date”), and is entered into by and between Juniper Pharmaceuticals, Inc., a Delaware corporation having its corporate offices at 33 Arch St, Suite 3110, Boston, MA 02110 (the “Company”), and Alicia Secor (“Executive”), 246 Lazell Street, Hingham, MA 02043. This Agreement supersedes, amends and restates in all respects the Employment Agreement dated August 1, 2016 between Executive and the Company, and all other employment agreements between Executive and the Company (collectively, the “Superseded Employment Agreements”).

WHEREAS, the Company wishes to continue to employ Executive on the terms and conditions set forth in the Agreement; and

WHEREAS, the Company and Executive desire to enter into the Agreement so the rights, duties, benefits, and obligations of each regarding Executive’s employment for and by the Company will be fully set forth under the terms and conditions stated within the Agreement;

NOW THEREFORE, in consideration of the mutual promises and undertakings hereunder, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

1. At-Will. Executive’s employment is “at will.” Either the Executive or the Company may terminate the Executive’s employment with the Company at any time for any or no reason, with or without notice. Nothing in the Agreement or in any other statement shall be interpreted to be in conflict with or to eliminate or modify in any way the employment-at-will status of the Executive.

2. Title, Duties.

(a) Executive shall continue to be the President and Chief Executive Officer of the Company. Executive will perform duties customarily associated with such position, including, but not limited to, duties relating to the overall management of the development, testing, registration, manufacturing, licensing, marketing and selling of pharmaceutical products for the Company and its affiliates, and such other duties commensurate with the job description as may be assigned to her from time to time by the Board of Directors of the Company (the “Board”) or its designee. Executive shall have an office at the Company’s headquarters located in Boston, Massachusetts. Executive will report to the Company’s Board in accordance with applicable law, the Company’s by-laws, and otherwise as reasonably necessary to keep the Board apprised of material business issues.

(b) In 2016, Executive was appointed as a member of the Board. Board membership is conditioned upon Executive’s continued employment as President and Chief Executive Officer. If Executive’s employment with the Company terminates, Executive will

immediately resign from the Board. The Company will nominate the Executive to the slate of directors at the 2018 Annual General Meeting.

(c) Subject to the following sentence, Executive agrees to devote her entire business time and attention to the performance of her duties under the Agreement. Executive may serve as a director on a board of one non-competing entity. Executive may serve as a director on additional non-competing boards provided Executive receives the prior written approval of the Board. Executive shall perform her duties for the Company to the best of her ability and shall use her best efforts to further the interests of the Company. Executive acknowledges she will be required to travel as reasonably necessary to perform the services required of her under the Agreement. Executive represents and warrants to the Company that she is able to enter into the Agreement and that her ability to enter into the Agreement and to fully perform her duties hereunder are not limited or restricted by any agreements or understandings between Executive and any other person. For the purposes of the Agreement, the term "person" means any natural person, corporation, partnership, limited liability partnership, limited liability company, or any other entity of any nature.

(d) Executive will observe the rules, regulations, policies and/or procedures which the Company may now or hereafter establish governing the conduct of its business, except to the extent that any such rules, regulations, policies and/or procedures may be inconsistent with the terms of the Agreement, in which case the terms of the Agreement shall control.

3. Employment Contract.

The Company and Executive acknowledge that the terms of her employment are set forth in the Agreement. If Executive's employment terminates for any reason, Executive shall not be entitled to any payments, benefits, damages, awards or compensation other than as provided in the Agreement.

4. Compensation.

Subject to the terms and conditions of Paragraph 1 of the Agreement and Executive's continued employment with the Company, and in consideration for the services to be provided hereunder by Executive, the Company hereby agrees to pay or otherwise provide Executive with the following compensation during her employment with the Company:

(a) Subject to tax withholdings and other legally required deductions, the Company will pay Executive an annual base compensation of \$459,200 (\$19,133.33 semimonthly) to be paid in accordance with the Company's normal payroll practices ("Base Salary"). Executive acknowledges and understands that her position of employment with the Company is considered "exempt," as that term is defined under the Fair Labor Standards Act and applicable state or local law. As an exempt employee, Executive is not eligible to receive overtime pay.

(b) In addition to Base Salary, Executive shall be eligible to receive an annual performance bonus as the Board shall, in its sole discretion, deem appropriate based upon the parameters and criteria contained in the Company's bonus plan, and can range from 0% to 150% of targeted levels, depending on the degree of attainment of pre-established Company goals for a particular year. Executive's target bonus is equal to 60% of her Base Salary as then in effect.

The annual performance bonus if any, shall be paid no later than March 15 following the end of each calendar year in which such bonus was earned.

(c) Executive shall also be eligible in the sole discretion of the Board or the Compensation Committee of the Board (or any committee of the Board that shall replace such committee) to participate in the Company's stock option plan as is from time to time in effect, subject to the terms and conditions of such plan. The Executive received, on July 20, 2016 (the "Grant Date"), an initial grant of 225,000 options to purchase shares of the Company's common stock which vest at the rate of one-quarter on each of the first four anniversaries of the Grant Date. The purchase price per share is equal to the fair market value of the Company's common stock, as determined by the closing price on the Grant Date. The Company and Executive executed and delivered to each other the Company's then standard form of stock option agreement, evidencing the terms of the stock options. The stock options are subject to, and governed by, the terms and provisions of the stock option agreement. Executive must sign the stock option agreement to receive the stock option.

(d) Executive is eligible to participate in the Company's Performance Share program. Under the program, the Company has granted to Executive 50,000 performance-based RSUs (the "Performance Shares"). Performance Shares vest in accordance with criteria established by the Compensation Committee of the Company's Board of Directors.

5. Benefits.

(a) Executive and Executive's eligible dependents shall be eligible for all employee benefit programs (including any 401(k), group life insurance, group medical, dental and vision, and short-term and long-term disability policies, plans and programs) generally available to other executive level employees of the Company.

(b) Executive shall be entitled to accrue paid time off ("PTO") during the term of the Agreement in accordance with the Company's standard policy and in an amount commensurate with other executive level employees of the Company.

(c) Executive shall be entitled to reimbursement for all reasonable expenses that she incurs in connection with the performance of her duties and obligations hereunder. Upon presentment by Executive of appropriate and sufficient documentation, as determined in the Company's sole direction, the Company shall reimburse Executive for all such expenses in accordance with the Company's expense reimbursement policy, as in effect from time to time.

6. Termination Upon Death.

Executive's employment shall terminate immediately upon her death.

7. Compensation Upon Termination.

(a) Subject to Paragraphs 18 and 19 of the Agreement, if Executive's employment is terminated by the Executive's death or resignation without Good Reason (as that term is defined below), or if Executive is terminated with or without Cause (as that term is defined below), the Company shall pay to the Executive (i) the Base Salary through the effective

date of termination together with any accrued but unused vacation pay and (ii) in the case of a termination without Cause, the Company shall pay to Executive an additional 12 months of her final Base Salary and an amount equal to Executive's target bonus in accordance Paragraph 4(c) set at no less than 60% of Executive's base salary, which shall be paid to her within 60 days after the date of termination, subject to Paragraph 18 and the amount equivalent to 12 months of the Company's portion of medical and dental benefits if these benefits were elected. Such payment shall be conditioned upon execution and non-revocation by Executive of a release of the Company which the Company shall present to Executive and which Executive shall sign no later than 30 days after the date of termination. Executive shall not be entitled to any annual performance bonus for the year in which such termination occurs.

(b) For the purposes of Paragraph 7(a) above, "Cause" shall mean a good faith determination by the Company that any of the following has occurred : (i) an material failure by the Executive to (A) render services to the Company in accordance with her reasonably assigned duties, or (B) follow the lawful directives of the Board; (ii) a material violation of Company policy that results in a material injury to the Company; (iii) any action or omission by the Executive involving the Executive's fraud, embezzlement, or willful misconduct relating to her duties to the Company; (iv) the Executive's indictment or conviction for a criminal offense (other than a summary or similar offense) or a crime of moral turpitude; (v) the Executive's material breach of any of the provisions of the Agreement or obligations under any other written agreement or covenant with the Company that results in a material injury to the Company; and (vi) unauthorized use or disclosure by Executive of any confidential or proprietary information or trade secrets of the Company or any other party to whom the Executive owes an obligation of nondisclosure as a result of her relationship with the Company that results in a material injury to the Company. Notwithstanding the foregoing, Cause shall not be deemed to exist under this Agreement unless and the Board makes a formal determination that Cause does exist after giving the Executive a reasonable opportunity to be heard on the issue.

(c) Subject to Paragraph 18, Executive may terminate her employment hereunder with Good Reason, provided that Executive has first provided written notice of such reason to the Company no later than 30 days after the event or occurrence constituting Good Reason first arises, with such notice affording the Company 30 days, from the date of the Company's receipt of such notice, to cure the deficiency, and further provided that, upon such cure by the Company, "Good Reason" shall not be deemed to exist for purposes of the Agreement. In the event Executive terminates her employment with Good Reason, the Company shall pay to Executive (i) the Base Salary through the effective date of termination together with any accrued but unused vacation pay and (ii) an additional 12 months of her final Base Salary, which shall be paid to her within 60 days after the date of termination, subject to Paragraph 18 and the amount equivalent to 12 months of the Company's portion of medical and dental benefits if these benefits were elected and (iii) an amount equal to Executive's target bonus in accordance Paragraph 4(c) set at no less than 60% of Executive's base salary. Such payment shall be conditioned upon execution and non-revocation by Executive of a release of the Company which the Company shall present to Executive and which Executive shall sign no later than 30 days after the date of resignation or termination. Executive shall not be entitled to any annual performance bonus for the year in which such termination occurs. For the purposes of the Paragraph 7(c), "Good Reason" shall mean the occurrence of either of the following events without the consent of Executive: (a) a material breach of the Agreement by the Company; (b) a

material reduction in Executive's responsibility, authority, or duties relative to Executive's responsibility, authority or duties as outlined in Paragraph 2 above; (c) a relocation of the Executive's principal place of work within the first 18 months of the Executive's employment with the Company (to which the Executive has not expressly consented in writing) by more than 35 miles from her main residence as of the date of this Agreement; (d) failure of the Company to appoint Executive to the Board as soon as practicable following the commencement of her employment with the Company; or (e) failure to nominate the Executive to the slate of directors for the 2018 Annual General Meeting of the Company. Failure of the Executive to be elected or reelected to the Board in 2017 or 2018 will not, in and of itself, constitute Good Reason to terminate her employment under this section.

(d) If Executive is terminated without Cause or resigns with Good Reason within twenty four months after a Change of Control as defined below, the Company shall pay to Executive: (i) the Base Salary through the effective date of termination together with any accrued but unused vacation pay and (ii) an additional 18 months of her final Base Salary, one and one half (1.5) times her target bonus in accordance with Paragraph 4(c) set at 60% of Executive's base salary, and the amount equivalent to 12 months of the Company's portion of medical and dental benefits if these benefits were elected, which Base Salary, bonus and the amount equivalent to 12 months of the Company's portion of medical and dental benefits shall be paid to her within 60 days after the date of termination, subject to Paragraphs 18 and 19 of the Agreement. In addition, as of the date of termination Executive shall fully vest in all equity granted to her by the Company. Such payment shall be conditioned upon execution and non-revocation by Executive of a release of the Company which the Company shall present to Executive and which Executive shall sign no later than 30 days after the date of resignation or termination. To avoid doubt, the compensation under this Paragraph 7(d) is in place of, and not in addition to, Paragraph 7(a) and (c).

(e) For the purposes of Paragraph 7(d) above, a "Change in Control" shall mean any of the following:

(i) any "person," as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended (the "Act"), any of its subsidiaries, or any trustee, fiduciary or other person or entity holding securities under any employee benefit plan or trust of the Company or any of its subsidiaries), together with all "affiliates" and "associates" (as such terms are defined in Rule 12b-2 under the Act) of such person, shall become the "beneficial owner" (as such term is defined in Rule 13d-3 under the Act), directly or indirectly, of securities of the Company representing 50 percent or more of the combined voting power of the Company's then outstanding securities having the right to vote in an election of the Board ("Voting Securities") (in such case other than as a result of an acquisition of securities directly from the Company); or

(ii) the consummation of (A) any consolidation or merger of the Company where the stockholders of the Company, immediately prior to the consolidation or merger, would not, immediately after the consolidation or merger, beneficially own (as such term is defined in Rule 13d-3 under the Act), directly or indirectly, shares representing in the aggregate more than 50 percent of

the voting shares of the Company issuing cash or securities in the consolidation or merger (or of its ultimate parent corporation, if any), or (B) any sale or other transfer (in one transaction or a series of transactions contemplated or arranged by any party as a single plan) of all or substantially all of the assets of the Company.

Notwithstanding the foregoing, a “Change in Control” shall not be deemed to have occurred for purposes of the foregoing clause (i) solely as the result of an acquisition of securities by the Company which, by reducing the number of shares of Voting Securities outstanding, increases the proportionate number of Voting Securities beneficially owned by any person to 50 percent or more of the combined voting power of all of the then outstanding Voting Securities; provided, however, that if any person referred to in this sentence shall thereafter become the beneficial owner of any additional shares of Voting Securities (other than pursuant to a stock split, stock dividend, or similar transaction or as a result of an acquisition of securities directly from the Company) and immediately thereafter beneficially owns 50 percent or more of the combined voting power of all of the then outstanding Voting Securities, then a “Change in Control” shall be deemed to have occurred for purposes of the foregoing clause (i).

8. Restrictive Covenants. The Executive and Company agree that the Company is engaged in a highly competitive industry and would suffer irreparable harm and incur substantial damage if Executive were to enter into competition with the Company. Therefore, in order for the Company to protect its legitimate business interests, Executive covenants and agrees as follows:

(a) Executive shall not, at any time during her employment with the Company and for a period of 12 months thereafter, anywhere in the United States, either directly or indirectly: (i) accept employment with or render services to any person or entity that is a business competitor of the Company, or has at any time during Executive’s employment with the Company engaged or attempted to engage in business competition with the Company, in a position, capacity, or function that is similar, in title or substance, whether in whole or in part, to any position, capacity, or function that Executive held with or in which Executive served the Company; or (ii) invest in any person or entity that is a business competitor of the Company, or has at any time during Executive’s employment with the Company engaged or attempted to engage in business competition with the Company, except that Executive may own up to five percent (5%) of any outstanding class of securities of any company registered under Section 12 of the Securities Exchange Act of 1934, as amended;

(b) Executive shall not, at any time during her employment with the Company and for a period of 12 months thereafter, for any reason, on her own behalf or on behalf of any other person or entity: (i) solicit, invite, induce, cause, or encourage to alter or terminate her, her, or its business relationship with the Company any client, customer, supplier, vendor, licensee, licensor, or other person or entity that, at any time during Executive’s employment with the Company, had a business relationship with the Company, or any person or entity whose business the Company was soliciting or attempting to solicit at the time of Executive’s termination, (a) with whom Executive had contact, or for whom Executive performed services, to any extent, during her employment with the Company, and (b) with whom Executive did not have a business relationship prior to her employment with the Company; (ii) solicit, entice, attempt to solicit or

entice, or accept business from any such client, customer, supplier, vendor, licensee, licensor, person, or entity; or (iii) interfere or attempt to interfere with any aspect of the business relationship between the Company and any such client, customer, supplier, vendor, licensee, licensor, person, or entity; and

(c) Executive shall not, at any time during her employment with the Company and for a period of 12 months thereafter, either directly or indirectly, on her own behalf or on behalf of any other person or entity: (i) solicit, invite, induce, cause, or encourage any director, officer, employee, agent, representative, consultant, or contractor of the Company to alter or terminate her, her, or its employment, relationship, or affiliation with the Company; (ii) interfere or attempt to interfere with any aspect of the relationship between the Company and any such director, officer, employee, agent, representative, consultant, or contractor; or (iii) engage, hire, or employ, or cause to be engaged, hired, or employed, in any capacity whatsoever, any such director, officer, employee, agent, representative, consultant, or contractor.

(d) Executive represents, warrants, agrees, and understands that: (i) the covenants and agreements set forth in the Paragraph 8 of the Agreement are reasonable in their geographic scope, temporal duration, and content; (ii) the Company's agreement to employ Executive, and a portion of the compensation to be paid to Executive hereunder, are in consideration for such covenants and Executive's continued compliance therewith; (iii) Executive shall not raise any issue of, nor contest or dispute, the reasonableness of the geographic scope, temporal duration, or content of such covenants and agreements in any proceeding to enforce such covenants and agreements; (iv) the enforcement of any remedy under the Agreement will not prevent Executive from earning a livelihood, because Executive's past work history and abilities are such that Executive can reasonably expect to find work in other areas and lines of business; (v) the covenants and agreements set forth in the Paragraph 8 of the Agreement are essential for the Company's reasonable protection, are designed to protect the Company's legitimate business interests, and are necessary and implemented for legitimate business reasons; and (vi) in entering into the Agreement, the Company has relied upon Executive's representation that he will comply in full with the covenants and agreements set forth in the Paragraph 8 of the Agreement.

9. Confidentiality.

(a) The Employee Proprietary Information and Inventions Agreement between the Company and Executive remains in full effect, is hereby reaffirmed, is attached hereto as Exhibit A and is incorporated by reference as if fully set forth herein.

(b) Protected Disclosures. Executive understands that nothing contained in this Agreement limits Executive's ability to communicate with any federal, state or local governmental agency or commission, including to provide documents or other information, without notice to the Company. Executive also understands that nothing in this Agreement limits Executive's ability to share compensation information concerning Executive or others, except that this does not permit Executive to disclose compensation information concerning others that Executive obtains because Executive's job responsibilities require or allow access to such information.

(c) Defend Trade Secrets Act of 2016. Executive understands that pursuant to the federal Defend Trade Secrets Act of 2016, Executive shall not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that (a) is made (i) in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney; and (ii) solely for the purpose of reporting or investigating a suspected violation of law; or (b) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal.

10. Indemnification.

The Indemnification Agreement between the Company and Executive is attached hereto as Exhibit B and incorporated by reference as if fully set forth herein.

11. Cooperation.

(a) Executive agrees to cooperate on a reasonable basis in the truthful and honest prosecution and/or defense of any claim in which the Company, its affiliates, and/or its subsidiaries may have an interest (subject to reasonable limitations concerning time and place), which may include without limitation making herself available on a mutually agreed, reasonable basis to participate in any proceeding involving the Company, its affiliates, and/or its subsidiaries, allowing himself to be interviewed by representatives of the Company, its affiliates, and/or its subsidiaries without asserting or claiming any privilege against the Company, its affiliates, and/or its subsidiaries, appearing for depositions and testimony without requiring a subpoena and without asserting or claiming any privilege against the Company, its affiliates, and/or its subsidiaries, and producing and/or providing any documents or names of other persons with relevant information without asserting or claiming any privilege against the Company, its affiliates, and/or its subsidiaries; provided that, if such services are required after termination of the Agreement, the Company, its affiliates, and/or its subsidiaries shall provide Executive with reasonable compensation for the time actually expended in such endeavors and shall pay her reasonable expenses incurred at the prior and specific request of the Company, its affiliates, and/or its subsidiaries.

(b) Nothing in the provision shall be construed or applied so as to obligate Executive to violate the law or any legal obligation. Further, nothing in the Agreement shall be construed as, or shall interfere with, abridge, limit, restrain, or restrict Executive's right to communicate with any federal, state, or local government agency charged with the enforcement and/or investigation of claims of discrimination, harassment, retaliation, improper wage payments, or any other unlawful employment practices under federal, state, or local law, or to file a charge, claim, or complaint with, or participate in or cooperate with any investigation or proceeding conducted by, any such agency.

12. Remedies.

Executive acknowledges and agrees that the Company's remedy at law for a breach or threatened breach of the provisions of the Agreement would be inadequate and, in recognition of the fact, in the event of a breach or threatened breach by Executive of any provision of the Agreement, it is agreed that, in addition to any available remedy at law, the Company shall be

entitled to, without posting any bond, specific performance, a temporary restraining order, a temporary or permanent injunction, or any other equitable relief or remedy which may then be available; provided, however, nothing herein shall be deemed to relieve the Company of its burden to prove grounds warranting such relief nor preclude Executive from contesting such grounds or facts in support thereof. Nothing herein contained shall be construed as prohibiting the Company from pursuing any other remedies available to it for such breach or threatened breach thereof.

13. Applicable Laws and Consent to Jurisdiction.

The validity, construction, interpretation, and enforceability of the Agreement shall be determined and governed by the laws of the Commonwealth of Massachusetts without giving effect to the principles of conflicts of law. For the purpose of litigating any dispute that arises under the Agreement, the parties hereby consent to exclusive jurisdiction of, and agree that such litigation shall be conducted in, any state or federal court located in the Commonwealth of Massachusetts.

14. Severability.

The provisions of the Agreement are severable and if any one or more provisions are determined to be illegal or otherwise unenforceable, in whole or in part, the remaining provisions shall nevertheless be binding and enforceable. The parties agree that the covenants set forth herein are reasonable. Without limiting the foregoing, it is the intent of the parties that the covenants set forth herein be enforced to the maximum degree permitted by applicable law. As such, the parties ask that if any court of competent jurisdiction were to consider any provisions of the Agreement to be overly broad based on the circumstances at the time enforcement is requested, that such court “blue pencil” the provision and enforce the provision to the full extent that such court deems it to be reasonable in scope.

15. Miscellaneous, Waiver.

Executive further agrees that the Agreement, together with the Exhibits incorporated by reference as if fully set forth herein, sets forth the entire employment agreement between the Company and Executive, supersedes any and all prior agreements between the Company and Executive, and shall not be amended or added to accept in a writing signed by the Company and Executive. Neither e-mail correspondence, text messages, nor any other electronic communications constitutes a writing for purposes of this Paragraph 15. Executive understands that she may not assign her duties and obligations under the Agreement to any other party and that the Company may, at any time and without further action or the consent of the Executive, assign the Agreement to any of its affiliated companies. In entering into and performing under the Agreement, neither the Company nor Executive has relied upon any promises, representations, nor statements except as expressly set forth herein.

16. Counterparts.

The Agreement may be executed in any number of counterparts, each of which shall be deemed an original and all of which taken together shall constitute one and the same agreement.

17. Successors and Assigns.

The Agreement shall be binding on the successors and heirs of Executive and shall inure to the benefit of the successors and assigns of the Company.

18. Compliance with Section 409A of the Internal Revenue Code of 1986, as Amended (Section 409A).

(a) Notwithstanding anything herein to the contrary, to the maximum extent permitted by applicable law, amounts payable to Executive pursuant to Paragraph 7 of the Agreement shall be made in reliance upon Treas. Reg. Section 1.409A-1(b)(9) (Separation Pay Plans) or Treas. Reg. Section 1.409A-1 (b)(4) (Short-Term Deferrals), as applicable. For the purpose, each payment (including each monthly installment) shall be considered a separate and distinct payment, and each payment made in reliance on Treas. Reg. Section 1.409A-1(b)(9) shall only be payable if the Executive's termination of employment constitutes a "separation from service" within the meaning of Treas. Reg. Section 1,409A* 1(h).

(b) Notwithstanding anything contained in the Agreement to the contrary, no amount payable on account of Executive's termination of employment which constitutes a "deferral of compensation" ("Section 409A Deferred Compensation") within the meaning of the Treasury Regulations issued pursuant to Section 409A of the Code (the "Section 409A Regulations") shall be paid unless and until Executive has incurred a "separation from service", and if the 60-day payment period set forth under Paragraphs 7(a) or 7(d) of the Agreement commences in one taxable year and ends in another, then payment under such paragraphs shall not be made until the second taxable year. For purposes of the Agreement, "separation from service" shall have the meaning of such term as defined by the Section 409A Regulations, and each payment shall be considered a separate and distinct payment. Furthermore, if Executive is a "specified employee" within the meaning of the Section 409A Regulations as of the date of Executive's separation from service, no amount that constitutes Section 409A Deferred Compensation which is payable on account of Executive's separation from service shall be paid to Executive before the date (the "Delayed Payment Date") which is first business day of the seventh month after the date of Executive's separation from service or, if earlier, the date of Executive's death following such separation from service. All such amounts that would, but for the Paragraph, become payable prior to the Delayed Payment Date will be accumulated and paid on the Delayed Payment Date.

(c) To the extent that all or any portion of the Company's payment of benefits or reimbursements or in-kind benefits provided to Executive (the "Company-Provided Benefits") would constitute Section 409A Deferred Compensation, then, for the duration of the applicable period during which the Company is required to provide such benefits: (a) the amount of Company-Provided Benefits furnished in any taxable year of Executive shall not affect the amount of Company-Provided Benefits furnished in any other taxable year of Executive; (b) any right of Executive to Company-Provided Benefits shall not be subject to liquidation or exchange for another benefit; and (c) any reimbursement for Company-Provided Benefits to which Executive is entitled shall be paid no later than the last day of Executive's taxable year following the taxable year in which Executive's expense for such Company-Provided Benefits was incurred.

(d) The Company intends that income provided to Executive pursuant to the Agreement will not be subject to taxation under Section 409A of the Code. The provisions of the Agreement shall be interpreted and construed in favor of satisfying any applicable requirements of Section 409A and the Section 409A Regulations. However, the Company does not guarantee any particular tax effect for income provided to Executive pursuant to the Agreement. In any event, except for the Company's responsibility to withhold applicable income and employment taxes from compensation paid or provided to Executive, the Company shall not be responsible for the payment of any applicable taxes incurred by Executive on compensation paid or provided to Executive pursuant to the Agreement.

19. Limitation on Payments.

(a) In the event that the post-termination payments and other benefits provided for in the Agreement or otherwise payable to Executive (i) constitute "parachute payments" within the meaning of Section 280G of the Code and (ii) but for this Paragraph 19, would be subject to the excise tax imposed by Section 4999 of the Code, then Executive's post-termination payments benefits will be either: (a) delivered in full, or delivered as to such lesser extent which would result in no portion of such post-termination payments or other post-termination benefits being subject to the excise tax under Section 4999 of the Code, whichever of the foregoing amounts, taking into account the applicable federal, state and local income taxes and the excise tax imposed by Section 4999 of the Code, results in the receipt by Executive on an after-tax basis, of the greatest amount of post-termination payments or benefits, notwithstanding that all or some portion of such post-termination payments or benefits may be taxable under Section 4999 of the Code. If a reduction in the severance and other benefits constituting "parachute payments" is necessary so that no portion of such post-termination payments or benefits is subject to the excise tax under Section 4999 of the Code, the reduction shall occur in the following order: (i) reduction of the post-termination payments under Paragraph 7; (ii) reduction of other cash payments, if any; (iii) cancellation of accelerated vesting of equity awards; and (iv) reduction of continued employee benefits. In the event that acceleration of vesting of equity award compensation is to be reduced, such acceleration of vesting shall be cancelled in the reverse order of the date of grant of Executive's equity awards. If two or more equity awards are granted on the same date, each award will be reduced on a pro-rata basis. In no event shall the Executive have any discretion with respect to the ordering of payment reductions.

(b) Unless the Company and Executive otherwise agree in writing, any determination required under this Paragraph 19 will be made in writing by an independent firm immediately prior to Change of Control (the "Firm"), whose determination will be conclusive and binding upon Executive and the Company. For purposes of making the calculations required by the Paragraph 19, the Firm may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of Sections 280G and 4999 of the Code. The Company and Executive will furnish to the Firm such information and documents as the Firm may reasonably request in order to make a determination. The Company will bear all costs the Firm may reasonably incur in connection with any calculations contemplated by this Paragraph 19.

20. Notices.

Any notice required or permitted hereunder shall be in writing and shall be sufficiently given if personally delivered or if sent by registered or certified mail, postage prepaid, with return receipt requested, addressed: (a) in the case of the Company, to Juniper Pharmaceuticals, Inc., 33 Arch Street, 31st floor, Boston, MA, 02109, attn.: Chairman of the Board of Directors, and (b) in the case of Executive, to Executive's last known address as reflected in the Company's records, or to such other address as Executive shall designate by written notice to the Company. Any notice given hereunder shall be deemed given at the time of receipt thereof by the person to whom such notice is given.

IN WITNESS WHEREOF, the parties have executed the Agreement as of the dates set forth below.

EXECUTIVE

Juniper Pharmaceuticals, Inc.

/s/ Alicia Secor

Alicia Secor

/s/ James A. Geraghty

James A. Geraghty
Chairman, Board of Directors

Date: November 1, 2017

Date: November 1, 2017

Exhibit A

EMPLOYEE PROPRIETARY INFORMATION AND INVENTIONS AGREEMENT

The Employee Proprietary Information and Inventions Agreement (the "Agreement") is made as of **June 29, 2016**, between **Alicia Secor** (referred to below as I, "My", "Myself, or "Me") and Juniper Pharmaceuticals, Inc., having an office at 33 Arch Street, Suite 3110, Boston, MA, 02110 (referred to below together with its subsidiaries and affiliates as the "Company").

RECITALS

A. The Company is engaged in a continuous program of research, development, production, distribution, and marketing with respect to its present and future business; and

B. I understand that My employment with the Company creates a relationship of confidence and trust between the Company and Me with respect to any information: (a) applicable to the business of the Company, or (b) applicable to the business of any client or customer of the Company, that may be made known to Me by the Company, any client or customer of the Company, or learned by Me during the period of My employment. I understand that the information constitutes a very valuable asset of the Company.

NOW, THEREFORE, in consideration of My employment by the Company and the salary and other employee benefits I will receive from the Company for My service, which in all cases are subject to Section 10 (a) of the Agreement, I hereby agree as follows:

1. **Proprietary Information.** The Company possesses and will come to possess information that has been created, discovered or developed, or has otherwise become known to the Company (including without limitation, information created, discovered, developed or made known by or to Me arising out of My employment by the Company), and/or in which property rights have been assigned or otherwise conveyed to the Company, which information has commercial value in the business in which the Company is engaged. All of the aforementioned information is hereinafter called "Proprietary Information." Any information disclosed to Me or to which I have access (whether I or others originated it) during the time I am employed by the Company, that the Company or I reasonably consider Proprietary Information or that the Company treats as Proprietary Information, will be presumed to be Proprietary Information.

By way of illustration, but not limitation, Proprietary Information includes trade secrets, processes, formulae, data and know-how, improvements, inventions, techniques, marketing plans, strategies, forecasts, customer lists, and finance and business systems.

(a) **Company as Sole Owner.** I agree and acknowledge that all Proprietary Information, and all Inventions (defined below in Section 5(a) of the Agreement), shall be the sole property of the Company and its assigns, and the Company and its assigns shall be the sole owner of all patents and trade secrets and any other rights in connection therewith.

(b) **Assignment of Rights: Obligation of Confidentiality.** I hereby assign to the Company any rights I may have or acquire in all Proprietary Information. At all times during My employment by the Company and at all times after termination of such employment, I will

keep in confidence and trust all Proprietary Information and, except as I may be authorized to make disclosure in the ordinary course of performing My duties as an employee of the Company, I will not disclose, sell, use, lecture upon or publish any Proprietary Information or anything relating to it without the prior written consent of the Company.

2. Retention of Rights. Notwithstanding any other provision hereof, nothing in the Agreement shall be construed as, or shall interfere with, abridge, limit, restrain, or restrict My right: (i) to engage in any activity or conduct protected by Section 7 or any other provision of the National Labor Relations Act; or (ii) to communicate with any federal, state, or local government agency charged with the enforcement and/or investigation of claims of discrimination, harassment, retaliation, improper wage payments, or any other unlawful employment practices under federal, state, or local law, or to file a charge, claim, or complaint with, or participate in or cooperate with any investigation or proceeding conducted by, any such agency.

3. Other Proprietary Rights. All documents, data, records, apparatus, equipment, chemicals, molecules, organisms, and other physical property, whether or not pertaining to Proprietary Information, furnished to Me by the Company or produced by Me or others in connection with My employment shall be and remain the sole property of the Company and shall be returned promptly to the Company as and when requested by the Company. Should the Company not so request, I shall return and deliver all such property upon termination of My employment by Me or the Company for any reason and I will not take with Me any such property or any reproduction of such property upon such termination.

4. No Solicitation. I agree that for a period of one (1) year following termination of My employment, I will not solicit or in any manner encourage any employee of the Company to leave the Company's employ.

5. Obligations Regarding Inventions.

(a) I will promptly disclose to the Company, or any persons designated by it, and will not use Myself or disclose to anyone else at any time during or after My employment without the prior written consent of the Company, all improvements, inventions, formulae, processes, techniques, know-how and data (whether or not they can be patented, trademarked or copyrighted), made, conceived, reduced to practice or learned by Me, either alone or jointly with others, during the period of my employment, which are related to or useful in the business of the Company, or which the Company would be interested in, or result from tasks assigned to Me by the Company, or result from use of any premises owned, leased or contracted for by the Company (all said improvements, inventions, formulae, processes, techniques, know-how, and data initiated or developed during My employment shall be collectively hereinafter called "Inventions"); such disclosure shall continue after termination of My employment with the Company with respect to any Invention, which in all cases are subject to Section 5(c) of the Agreement.

(b) Company Sole Owner of Patent Rights. I will promptly and fully disclose the existence and describe the nature of any such Invention to the Company in writing and without request. I agree that all Inventions shall be the sole property of the Company and its assigns, and the Company and its assigns shall be the sole owner of all patents, copyrights, trade

secrets, and other intellectual property rights (collectively, "Patent Rights") in connection therewith. I will, with respect to any such Invention, keep current, accurate and complete records that will belong to the Company and will be kept stored on the Company premises while I am employed by the Company and shall be turned over to the Company immediately upon termination of My employment.

(c) Assignment of Inventions and Patent Rights; Duty to Cooperate. I hereby assign to the Company any rights I may have or acquire in all Inventions. I further agree as to all Inventions and Proprietary Information to assist the Company in every proper way (but at the Company's expense) to obtain and from time to time enforce Patent Rights regarding the Inventions or Proprietary Information in any and all countries, and to that end I will execute all documents for use in applying for and obtaining such patents or copyrights thereon and enforcing same, as the Company may desire, together with any assignments thereof to the Company or entities or persons designated by it. I agree further that these obligations to assist the Company in obtaining and enforcing Patent Rights in any and all countries shall continue beyond the termination of My employment, in return for which assistance after termination the Company shall compensate Me at a reasonable rate for time actually spent by Me at the Company's request on such assistance.

6. Prior Inventions List. [Please initial one of the following two entries.]

As a matter of record, I have attached hereto a complete list of all inventions or improvements relevant to the subject matter of My employment by the Company which have been made or conceived or first reduced to practice by Me alone or jointly with others prior to My employment by the Company which I desire to remove from the operation of the Agreement; and I warrant that such list is complete.

AMS No such list is attached to the Agreement, and I represent that I have made no such inventions or improvements prior to or My employment by the Company.

7. No Breach of Confidentiality. I represent that My performance of all terms of the Agreement and that My employment by the Company does not and will not breach any obligation of confidentiality that I have to others, which existed prior to My employment by the Company. I have not brought or used, and will not bring with Me to the Company or use any equipment, supplies, facility or trade secret information of any former employer or any other person, which information is not generally available to the public, unless I have obtained written authorization for their possession and use, and promptly provided such written authorization to the Company. I have not entered into, and I agree I will not enter into, any agreement either written or oral in conflict with the Agreement.

8. Injunctive Relief. I acknowledge and agree that the Company's remedy at law for a breach or threatened breach of any of the provisions of the Agreement would be inadequate and, in recognition of that fact, in the event of any such breach or threatened breach, I agree that, in addition to its remedy at law, the Company shall be entitled to equitable relief in the form of specific performance, a temporary restraining order, a temporary or permanent injunction or any other equitable remedy that may then be available. Nothing herein contained shall be construed

as prohibiting the Company from pursuing any other remedies available to it for such breach or threatened breach.

9. Not Debarred. I warrant and represent that I have never been, and am not currently an individual who has been, debarred by the United States Food and Drug Administration (“FDA”) pursuant to 21 U.S.C. § 335a(a) or (b) (“Debarred Individual”) from providing services in any capacity to a person that has an approved or pending drug product application. I further warrant and represent that I have no knowledge of any FDA investigations of, or debarment proceedings against, Me or any person or entity with which I am, or have been, associated, and I will immediately notify the Company if I become aware of any such investigations or proceedings during the term of My employment with the Company.

10. Miscellaneous Provisions.

(a) Employment. Nothing in the Agreement shall alter My “at will” employee status or be construed to create a specific term of employment or a promise of continued employment. Either I or the Company may terminate the employment relationship for any reason at any time, with or without notice.

(b) Enforceability. If one or more of the provisions contained in the Agreement shall, for any reason, be held to be excessively broad as to scope, activity, subject or otherwise, so as to be unenforceable at law, such provision or provisions shall be construed by the appropriate judicial body by limiting or reducing it or them, so as to be enforceable to the maximum extent compatible with then applicable law. If any provision of the Agreement shall be declared invalid, illegal or unenforceable, such provision shall be severed and all remaining provisions shall continue in full force and effect.

(c) Assignment. The Agreement is not assignable by Me without the written consent of the Company, which consent may be withheld for any reason or no reason. In light of the very personal and critical nature of the Agreement, I recognize that it is unlikely such consent would ever be granted.

(d) Entire Agreement. The Agreement contains the entire agreement between Me and the Company with respect to the subject matter of the Agreement. The Agreement may be amended only by a written instrument signed by Me and the Company.

(e) Effective Date. The Agreement shall be effective as of the first day of My employment by the Company, as affirmed or reaffirmed by my signature below.

(f) Binding Effect. The Agreement shall be binding upon Me, My heirs, executors, assigns and administrators and shall inure to the benefit of the Company, its successors and assigns.

(g) Governing Law. The Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts without regard to its rules on conflicts of law.

Exhibit B

INDEMNIFICATION AGREEMENT

The Agreement (“Agreement”) is made and entered into as of the ___ day of June, 2016, by and between Juniper Pharmaceuticals, Inc., a Delaware corporation (the “Corporation”) and Alicia Secor (“Indemnitee”).

WHEREAS the Board of Directors (the “Board”) has determined that the best interests of the Corporation require that persons serving as directors of, and in other capacities for, the Corporation receive better protection from the risk of claims and actions against them arising out of their service to and activities on behalf of the Corporation; and

WHEREAS, the Agreement is a supplement to and in furtherance of Article VI of the amended and restated by-laws of the Corporation, any rights granted by the Certification of Incorporation of the Corporation and any resolutions adopted pursuant thereto and shall not be deemed to be a substitute therefore nor to diminish or abrogate any rights of the Indemnitee thereunder; and

WHEREAS, Indemnitee is willing to serve, continue to serve and take on additional service for or on behalf of the Corporation on the condition that Indemnitee be indemnified according to the terms of the Agreement;

NOW, THEREFORE, in consideration of the premises and the covenants contained herein, the Corporation and Indemnitee do hereby covenant and agree as follows:

Section 1. Definitions.

For purposes of the Agreement:

(a) “Change in Control” shall be deemed to have occurred if (a) there shall have consummated (i) any consolidation or merger of Corporation in which Corporation is not the continuing or surviving entity or pursuant to which shares of Corporation’s common stock would be converted to cash, securities or other property, other than a merger of Corporation in which the holders of Corporation’s common stock immediately prior to the merger have the same proportionate ownership of common stock of the surviving entity immediately after the merger, or (ii) any sale, lease, exchange or transfer (in one transaction or a series of related transactions) of all, or substantially all, of the assets of the Corporation; or (b) the stockholders of the Corporation approve a plan or proposal for the liquidation or dissolution of the Corporation; or (c) any person (as that term is used in Sections 13(d) and 14(d)(z) of the Securities and Exchange Act, as amended (the “Exchange Act”)) shall become a beneficial owner (within the meaning of Rule 13d-2 under the Exchange Act) of 40% or more of Corporation’s outstanding common stock; or (d) during any period of two consecutive years, individuals who at the beginning of such period constitute the entire Board shall cease for any reason to constitute a majority thereof unless the election, or the nomination for election by Corporation’s stockholders, of each new director was approved by a vote of at least 50% of the directors eligible to vote who were directors at the beginning of the period.

(b) “Disinterested Director” means a director of the Corporation who is not and was not a party to the Proceeding in respect of which indemnification is sought by Indemnitee.

(c) “Effective Date” means the date first written above.

(d) “Expenses” mean all reasonable attorneys’ fees, retainers, court costs, transcript costs, fees of experts, witness fees, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees and all other disbursements and expenses of the type customarily incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, or being or preparing to be a witness in a Proceeding.

(e) “Independent Counsel” means a law firm, or a member of a law firm, that is experienced in matters of corporation law and neither presently is, nor in the past five years has been, retained to represent: (i) the Corporation or Indemnitee in any other matter material to either such party, or (ii) any other party to the Proceeding giving rise to a claim for indemnification hereunder. Notwithstanding the foregoing, the term “Independent Counsel” shall not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Corporation or Indemnitee in an action to determine Indemnitee’s rights under the Agreement.

(f) “Proceeding” means an action, suit, arbitration, alternate dispute resolution mechanism, investigation, administrative hearing or any other proceeding, whether civil, criminal, administrative or investigative, except one initiated by an Indemnitee pursuant to Section 11 of the Agreement to enforce Indemnitee’s rights under the Agreement.

Section 2. Service by Indemnitee.

Indemnitee agrees to serve as an officer or director of the Corporation, and, at its request, as a director, officer, employee, agent or fiduciary of certain other corporations and entities.

Indemnitee may at any time and for any reason resign from any such position (subject to any other contractual obligation or any obligation imposed by operation of law).

Section 3. Indemnification - General.

The Corporation shall indemnify, and advance Expenses to, Indemnitee as provided in the Agreement to the fullest extent permitted by applicable law in effect on the date hereof and to such greater extent as applicable law may thereafter from time to time permit. The rights of indemnitee provided under the preceding sentence shall include, but shall not be limited to, the rights set forth in the other Sections of the Agreement.

Section 4. Proceeding Other Than Proceedings by or in the Right of the Corporation.

Indemnitee shall be entitled to the rights of indemnification provided in the Section if, by reason of Indemnitee’s employment or service as an officer or director, Indemnitee is, or is threatened to be made, a party to any threatened, pending or completed Proceeding, other than a Proceeding brought by or in the right of the Corporation to procure a judgment in its favor.

Pursuant to the Section, Indemnitee shall be indemnified against Expenses, judgments, penalties, fines and amounts paid in settlement, actually and reasonable incurred by Indemnitee or on Indemnitee's behalf in connection with any such Proceeding if Indemnitee acted in good faith and in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the Corporation, and, with respect to any criminal Proceeding, had no reasonable cause to believe Indemnitee's conduct was unlawful.

Section 5. Proceedings by or in the Right of the Corporation.

Indemnitee shall be entitled to the rights of indemnification provided in the Section if, by reason of her status as an employee or director of the Corporation, Indemnitee is, or is threatened to be made, a party to any threatened, pending or completed Proceeding brought by or in the right of the Corporation to procure a judgment in its favor. Pursuant to the Section, Indemnitee shall be indemnified against Expenses, judgments, penalties, fines and amounts paid in settlement, actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection with any such Proceeding if Indemnitee acted in good faith and in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the Corporation.

Notwithstanding the foregoing, no indemnification against such Expenses shall be made in respect of any claim, issue or matter in any such Proceeding as to which Indemnitee shall have been adjudged to be liable to the Corporation if applicable law prohibits such indemnification unless the Court of Chancery of the State of Delaware, or the court in which such Proceeding shall have been brought or is pending, shall determine that indemnification against Expenses may nevertheless be made by the Corporation.

Section 6. Indemnification for Expenses of a Party Who is Wholly or Partly Successful.

Notwithstanding any other provision of the Agreement, to the extent that Indemnitee is, by reason of Indemnitee's employment or service as an officer or director, a party to and is successful, on the merits or otherwise, in any Proceeding, Indemnitee shall be indemnified against all Expenses actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection therewith. If Indemnitee is not wholly successful in such Proceeding but is successful, on the merits or otherwise, as to one or more but less than all claims, issues or matters in such Proceeding, the Corporation shall indemnify Indemnitee against all Expenses actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection with each successfully resolved claim, issue or matter. For the purposes of the Section and without limiting the foregoing, the termination of any claim, issue or matter in any such Proceeding by dismissal, with or without prejudice, shall be deemed to be a successful result as to such claim, issue or matter.

Section 7. Indemnification for Expenses of a Witness.

Notwithstanding any other provision of the Agreement, to the extent that Indemnitee is, by reason of indemnitee's employment or service as an officer or director, a witness in any Proceeding, Indemnitee shall be indemnified against all Expenses actually and reasonably incurred by Indemnitee or on Indemnitee's behalf in connection therewith.

Section 8. Advancement of Expenses.

The Corporation shall advance all Expenses incurred by or on behalf of Indemnitee in connection with any Proceeding within thirty (30) days after the receipt by the Corporation of a statement or statement from Indemnitee requesting such advance or advances from time to time, whether prior to or after final disposition of such Proceeding. Such statement or statements shall reasonably evidence the Expenses incurred by Indemnitee and shall include or be preceded or accompanied by an undertaking by or on behalf of Indemnitee to repay any Expenses advanced if it shall ultimately be determined that Indemnitee is not entitled to be indemnified against such Expenses.

Section 9. Procedure for Determination of Entitlement to Indemnification.

(a) To obtain indemnification under the Agreement in connection with any Proceeding, and for the duration thereof, Indemnitee shall submit to the Corporation a written request, including therein or therewith such documentation and information as is reasonably available to Indemnitee and is reasonably necessary to determine whether and to what extent Indemnitee is entitled to indemnification. The Secretary of the Corporation shall, promptly upon receipt of any such request for indemnification, advise the board in writing that Indemnitee has requested indemnification.

(b) Upon written request by Indemnitee for indemnification pursuant to Section 9(a) hereof, a determination, if required by applicable law, with respect to Indemnitee's entitlement thereto shall be made in such case: (i) if a Change in Control shall have occurred, by Independent Counsel (unless Indemnitee shall request that such determination be made by the Board or the stockholders in the manner provided for in clauses (ii) or (iii) or the Section 9(b)) in written opinion to the Board, a copy of which shall be delivered to Indemnitee; (ii) if a Change of Control shall not have occurred, (A) by the Board by a majority vote of a quorum consisting of Disinterested Directors, or (B) if a quorum of the Board consisting of Disinterested Directors is not obtainable, or even if such quorum is obtainable, if such quorum of Disinterested Directors so directs, either (x) by Independent Counsel in a written opinion to the Board, a copy of which shall be delivered to Indemnitee, or (y) by the stockholders of the Corporation, as determined by such quorum of Disinterested Directors, or a quorum of the Board, as the case may be; or (iii) as provided in Section 10(b) of the Agreement. If it is so determined that Indemnitee is entitled to indemnification, payment to Indemnitee shall be made within thirty (30) days after such determination. Indemnitee shall cooperate with the persons or entity making such determination with respect to Indemnitee's entitlement to indemnification, including providing to such persons or entity upon request any documentation or information which is not privileged or otherwise protected from disclosure and which is reasonably available to Indemnitee and reasonably necessary to such determination. Any costs or expenses (including attorneys' fees and disbursements) incurred by Indemnitee in so cooperating with the persons or entity making such determination shall be borne by the Corporation (irrespective of the determination as to Indemnitee's entitlement to indemnification) and the Corporation hereby indemnifies and agrees to hold Indemnitee harmless therefrom.

(c) If required, Independent Counsel shall be selected as follows: (i) if a Change of Control shall not have occurred, Independent Counsel shall be selected by the Board by a

majority vote of a quorum consisting of Disinterested Directors and the Corporation shall give written notice to Indemnitee advising Indemnitee of the identity of Independent Counsel so selected; or (ii) if a Change of Control shall have occurred, Independent Counsel shall be selected by Indemnitee (unless Indemnitee shall request that such selection be made by the Board, in which event (i) shall apply), and Indemnitee shall give written notice to the Corporation advising it of the identity of Independent Counsel so selected. In either event, Indemnitee or the Corporation, as the case may be, may, within seven (7) days after such written notice of selection shall have been given, deliver to the Corporation or to Indemnitee, as the case may be, a written objection to such selection. Such objection may be asserted only on the ground that Independent Counsel so selected does not meet the requirements of "Independent Counsel" as defined in Section 1 of the Agreement, and the objection shall set forth with particularity the factual basis of such assertion. If such written objection is made, Independent Counsel so selected may not serve as Independent Counsel unless and until a court has determined that such objection is without merit. If, within twenty (20) days after submission by Indemnitee of a written request for indemnification pursuant to Section 9(a) hereof, no Independent Counsel shall have been selected and not objected to, either the Corporation or Indemnitee may petition the Court of Chancery of the State of Delaware, or any court in the Commonwealth of Massachusetts in which such petition would be cognizable, for resolution of any objection which shall have been made by the Corporation or Indemnitee to the other's selection of Independent Counsel and/or for the appointment as Independent Counsel of a person selected by such court or by such other person as such court shall designate, and the person with respect to whom an objection is so resolved or the person so appointed shall act as Independent Counsel under Section 9(b) hereof. The Corporation shall pay any and all reasonable fees and expenses incurred by such Independent Counsel in connection with its actions pursuant to the Agreement, and the Corporation shall pay all reasonable fees and expenses incident to the procedures of the Section 9(c) regardless of the manner in which such Independent Counsel was selected or appointed. Upon the due commencement date of any judicial proceeding pursuant to Section 1 l(a)(iii) of the Agreement, Independent Counsel shall be discharged and relieved of any further responsibility in such capacity (subject to the applicable standards of professional conduct then prevailing).

Section 10. Presumptions and Effects of Certain Proceedings.

(a) If a Change in Control shall have occurred, in making a determination with respect to entitlement to indemnification hereunder, the person or persons or entity making such determination shall presume that Indemnitee is entitled to indemnification under the Agreement if Indemnitee has submitted a request for indemnification in accordance with Section 9(a) of the Agreement, and the Corporation shall have the burden of proof to overcome that presumption in connection with the making by any person, persons or entity of any determination contrary to that presumption.

(b) The person or entity empowered or selected under Section 9 of the Agreement shall make the determination of whether Indemnitee is entitled to indemnification as soon as practicable after receipt by the Corporation of the request therefore.

(c) The termination of any Proceeding or of any claim, issue or matter therein, by judgment, order, settlement or conviction, or upon a plea of nolo contendere or its equivalent,

shall not (except as otherwise expressly provided in the Agreement) of itself adversely affect the right of Indemnitee to indemnification or create a presumption that Indemnitee did not act in good faith and in a manner which Indemnitee reasonably believed to be in or not opposed to the best interests of the Corporation or, with respect to any criminal Proceeding, that Indemnitee had reasonable cause to believe that Indemnitee's conduct was unlawful.

Section 11. Remedies of indemnitee.

(a) In the event that (i) a determination is made pursuant to Section 9 or 10 of the Agreement that Indemnitee is not entitled to indemnification under the Agreement, (ii) advancement of Expenses is not timely made pursuant to Section 8 of the Agreement, (iii) the determination of entitlement to indemnification is made by Independent Counsel pursuant to Section 9 of the Agreement and such determination shall not have been made and delivered in a written opinion within ninety (90) days after receipt by the Corporation of the request for indemnification, or (iv) payment of indemnification is not made within thirty (30) days after such determination has been made that Indemnitee is entitled to indemnification or such determination is deemed to have been made pursuant to Sections 9 or 10 of the Agreement, Indemnitee shall be entitled to an adjudication in an appropriate court of the State of Delaware or the Commonwealth of Massachusetts, of Indemnitee's entitlement to such indemnification or advancement of Expenses. Indemnitee shall commence such proceeding seeking an adjudication or an award within one hundred eighty (180) days following the date on which Indemnitee first has the right to commence such proceeding pursuant to the Section 11(a).

(b) In the event that a determination shall have been made pursuant to Section 9 of the Agreement that Indemnitee is not entitled to indemnification, any judicial proceeding commenced pursuant to the Section shall be conducted in all respects as a de novo trial and Indemnitee shall not be prejudiced by any reason of that adverse determination. If a Change of Control shall have occurred, in any judicial proceeding commenced pursuant to the Section the Corporation shall have the burden of proving that Indemnitee is not entitled to indemnification or advancement of Expenses, as the case may be.

(c) If a determination shall have been made or deemed to have been made pursuant to Section 9 or 10 of the Agreement that Indemnitee is entitled to indemnification, the Corporation shall be bound by such determination in any judicial proceeding commenced pursuant to the Section, absent (i) a misstatement by Indemnitee or Indemnitee's representative of a material fact, or an omission of any material fact necessary to make Indemnitee's or Indemnitee's representative's statement not materially misleading, in connection with the request for indemnification, or (ii) prohibition of such indemnification under applicable law.

(d) The Corporation shall be precluded from asserting in any judicial proceeding commenced pursuant to the Section that the procedures and presumptions of the Agreement are not valid, binding and enforceable and shall stipulate in any such court that the Corporation is bound by all the provisions of the Agreement.

(e) In the event that Indemnitee, pursuant to the Section, seeks a judicial adjudication of indemnitee's rights under, or to recover damages for breach of, the Agreement, Indemnitee shall be entitled to recover from the Corporation and shall be indemnified by the Corporation

against, any and all expenses (of the kinds described in the definition of Expenses) actually and reasonably incurred by Indemnitee in such judicial adjudication, but only if indemnitee prevails therein. If it shall be determined that Indemnitee is entitled to receive part but not all of the indemnification or advancement of expenses sought, the expenses incurred by Indemnitee in connection with such judicial adjudication shall be appropriately prorated.

Section 12. Non-Exclusivity; Survival of Rights; Insurance Subrogation.

(a) The rights of indemnification and to receive advancement of Expenses as provided by the Agreement shall not be deemed exclusive of any other rights to which Indemnitee may at any time be entitled under applicable law, the certificate of incorporation or by-laws of the Corporation, any agreement, a vote of stockholders or resolution of directors or otherwise. No amendment, alteration or repeal of the Agreement or any provision hereof shall be effective as to Indemnitee with respect to any action taken or omitted by such Indemnitee in Indemnitee's employment or service as an officer or director prior to such amendment, alteration or repeal.

(b) To the extent that the Corporation maintains an insurance policy or policies providing liability insurance for directors, officers, employees, agents or fiduciaries of the Corporation or of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise which such person serves at the request of the Corporation, Indemnitee shall be covered by such policy or policies in accordance with its or their terms to the maximum extent of the coverage available for any such director, officer, employee, agent or fiduciary under such policy or policies.

(c) In the event of any payment under the Agreement, the Corporation shall be subrogated to the extent of such payment to all of the rights of recovery of Indemnitee who shall execute all papers required and take all action necessary to secure such rights, including execution of such documents as are necessary to enable the Corporation to bring suit to enforce such rights.

(d) The Corporation shall not be liable under the Agreement to make any payment of amounts otherwise indemnifiable hereunder if and to the extent that Indemnitee has otherwise actually received such payment under any insurance policy, contract, agreement or otherwise.

Section 13. Duration of Agreement.

The Agreement shall continue until and terminate upon the later of: (a) ten (10) years after the date that Indemnitee shall have ceased to serve as a director, officer, employee, agent or fiduciary of the Corporation or of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise which Indemnitee served at the request of the Corporation; (b) the final termination of all pending Proceedings in respect of which Indemnitee is granted rights of indemnification or advancement of Expenses hereunder and of any proceeding commenced by Indemnitee pursuant to Section 11 of the Agreement. The Agreement shall be binding upon the Corporation and its successors and assigns and shall inure to the benefit of Indemnitee and Indemnitee's heirs.

Section 14. Severability.

If any provision or provisions of the Agreement shall be held to be invalid, illegal or unenforceable for any reason whatsoever: (a) the validity, legality and enforceability of the remaining provisions of the Agreement (including, without limitation, each portion of any Section of the Agreement containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal unenforceable) shall not in any way be affected or impaired thereby; and (b) to the fullest extent possible, the provisions of the Agreement (including, without limitation, each portion of any Section of the Agreement containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) shall be construed so as to give effect to the intent manifested by the provision held invalid, illegal or unenforceable.

Section 15. Exception to Right of Indemnification or Advancement of Expenses.

Except as provided in Section 11(e), Indemnitee shall not be entitled to indemnification or advancement of Expenses under the Agreement with respect to any Proceeding, or any claim therein, brought or made by Indemnitee against the Corporation. For the purposes of the Section 15, a Proceeding in the right of the Corporation shall not be deemed to constitute a Proceeding brought or made by the Corporation.

Section 16. Identical Counterparts.

The Agreement may be executed in one or more counterparts, each of which shall for all purposes be deemed to be an original but all of which together shall constitute one and the same Agreement. Only one such counterpart signed by the party against whom enforceability is sought needs to be produced to evidence the existence of the Agreement.

Section 17. Headings.

The headings of the paragraphs of the Agreement are inserted for convenience only and shall not be deemed to constitute part of the Agreement or to affect the construction thereof.

Section 18. Modification and Waiver.

No supplement, modification or amendment to the Agreement shall be binding unless executed in writing by both of the parties hereto. No waiver of any of the provisions of the Agreement shall be deemed or shall constitute a waiver of any other provisions hereof (whether or not similar) nor shall such waiver constitute a continuing waiver.

Section 19. Notice by Indemnitee.

Indemnitee agrees promptly to notify the Corporation in writing upon being served with any summons, citation, subpoena, complaint, indictment, information or other document relating to any Proceeding or matter which may be subject to indemnification or advancement of Expenses covered hereunder.

Signed on June 29, 2016 in Boston, MA

I, Jim Geraghty, Chairman of the Board of Directors, certify that the Board of Directors has authorized the Corporation to enter into the Agreement by a resolution adopted at a meeting of the Board held on June ____, 2016.

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**Certification Pursuant to Rule 13a-14(a)/15d-14(a)
of the Securities Exchange Act of 1934**

I, Alicia Secor, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Juniper Pharmaceuticals, 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 and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of 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.

/s/ Alicia Secor

Alicia Secor
President and Chief Executive Officer
(Principal Executive Officer)
DATE: November 2, 2017

**Certification Pursuant to Rule 13a-14(a)/15d-14(a)
of the Securities Exchange Act of 1934**

I, Jeffrey E. Young, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Juniper Pharmaceuticals, 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 and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of 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.

/s/ Jeffrey E. Young
Jeffrey E. Young
Senior Vice President, Finance, Chief Financial Officer and
Treasurer
(Principal Financial and Accounting Officer)
DATE: November 2, 2017

**Certification Pursuant to
18 U.S.C. Section 1350
as Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002**

In connection with the Quarterly Report of Juniper Pharmaceuticals, Inc. (the "Company") on Form 10-Q for the period ended September 30, 2017 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Alicia Secor, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

/s/ Alicia Secor

Alicia Secor

President and Chief Executive Officer

(Principal Executive Officer)

Date: November 2, 2017

**Certification Pursuant to
18 U.S.C. Section 1350
as Adopted Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002**

In connection with the Quarterly Report of Juniper Pharmaceuticals, Inc. (the "Company") on Form 10-Q for the period ended September 30, 2017 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Jeffrey E. Young, Senior Vice President, Finance, Chief Financial Officer and Treasurer of the Company, certify, pursuant to 18 U.S.C. section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

/s/ Jeffrey E. Young
Jeffrey E. Young
Senior Vice President, Finance, Chief Financial Officer and
Treasurer
(Principal Financial and Accounting Officer)
DATE: November 2, 2017

