LIGAND PHARMACEUTICALS INC
Form 10-Q
May 09, 2018
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

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x Quarterly Report Pursuant to Section 13 or 15 (d) of the Securities Exchange Act of 1934
For the quarterly period ended March 31, 2018
or
o Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the Transition Period From _____ to _____ .
Commission File Number: 001-33093

LIGAND PHARMACEUTICALS INCORPORATED
(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	77-0160744 (I.R.S. Employer Identification No.)
3911 Sorrento Valley Boulevard, Suite 110 San Diego, CA (Address of principal executive offices)	92121 (Zip Code)

(858) 550-7500
(Registrant's Telephone Number, Including Area Code)

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 x No o
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 x No o
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one)

Large Accelerated Filer	x	Accelerated Filer	o
Non-Accelerated Filer	o (Do not check if a smaller reporting company)	Smaller Reporting Company	o
Emerging Growth Company	o		

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. o

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes o No x
As of April 20, 2018, the registrant had 21,301,400 shares of common stock outstanding.

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LIGAND PHARMACEUTICALS INCORPORATED
QUARTERLY REPORT

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GLOSSARY OF TERMS AND ABBREVIATIONS

Abbreviation	Definition
2019 Convertible Senior Notes	$245.0 million aggregate principal amount of convertible senior unsecured notes due 2019
ANDA	Abbreviated New Drug Application
Amgen	Amgen, Inc.
ASC	Accounting Standards Codification
ASU	Accounting Standards Update
Aziyo	Aziyo Med, LLC
CEO	Chief Executive Officer
Company	Ligand Pharmaceuticals Incorporated, including subsidiaries
CorMatrix	CorMatrix Cardiovascular, Inc.
CVR	Contingent value right
Crystal	Crystal Bioscience, Inc.
CyDex	CyDex Pharmaceuticals, Inc.
ESPP	Employee Stock Purchase Plan, as amended and restated
FASB	Financial Accounting Standards Board
FDA	Food and Drug Administration
GAAP	Generally accepted accounting principles in the United States
GRA	Glucagon receptor antagonist
Hovione	Hovione Farmaciencia
IPR&D	In-Process Research and Development
Ligand	Ligand Pharmaceuticals Incorporated, including subsidiaries
Metabasis	Metabasis Therapeutics, Inc.
NOLs	Net Operating Losses
Novartis	Novartis AG
OMT	OMT, Inc. or Open Monoclonal Technology, Inc.
Orange Book	Publication identifying drug products approved by the FDA based on safety and effectiveness
Q1 2018	The Company's fiscal quarter ended March 31, 2018
Q1 2017	The Company's fiscal quarter ended March 31, 2017
Retrophin	Retrophin Inc.
Roivant	Roivant Sciences GMBH
SEC	Securities and Exchange Commission
Selexis	Selexis, SA
Viking	Viking Therapeutics

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PART I. FINANCIAL INFORMATION
ITEM 1. FINANCIAL STATEMENTS
LIGAND PHARMACEUTICALS INCORPORATED
CONDENSED CONSOLIDATED BALANCE SHEETS
(Unaudited, in thousands, except share data)

	March 31, 2018	December 31, 2017
ASSETS		
Current assets:		
Cash and cash equivalents	$51,024	$ 20,620
Short-term investments	213,329	181,041
Investment in Viking	27,535	—
Accounts receivable, net	37,108	25,596
Note receivable from Viking	3,877	3,877
Inventory	10,531	4,373
Other current assets	5,647	1,514
Total current assets	349,051	237,021
Deferred income taxes	69,368	84,422
Investment in Viking	—	6,438
Intangible assets, net	225,306	228,584
Goodwill	85,961	85,959
Commercial license rights, net	19,969	19,526
Property and equipment, net	4,119	4,212
Other assets	894	4,859
Total assets	$754,668	$ 671,021
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$3,407	$ 2,259
Accrued liabilities	8,480	7,377
Current contingent liabilities	7,545	4,703
2019 convertible senior notes, net	227,547	224,529
Total current liabilities	246,979	238,868
Long-term contingent liabilities	6,376	9,258
Long-term deferred revenue, net	3,000	3,525
Other long-term liabilities	1,135	723
Total liabilities	257,490	252,374
Commitments and contingencies		
Equity component of currently redeemable convertible notes (Note 3)	16,078	18,859
Stockholders' equity:		
Common stock, $0.001 par value; 33,333,333 shares authorized; 21,301,980 and 21,148,665 shares issued and outstanding at March 31, 2018 and December 31, 2017, respectively	21	21
Additional paid-in capital	808,765	798,205
Accumulated other comprehensive (loss) income	(286)	2,486
Accumulated deficit	(327,400)	(400,924)
Total stockholders' equity	481,100	399,788
Total liabilities and stockholders' equity	$754,668	$ 671,021

See accompanying notes.

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LIGAND PHARMACEUTICALS INCORPORATED
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)
(in thousands, except per share amounts)

	Three months ended March 31,	
	2018	2017
Revenues:		
Royalties	$20,820	$24,230
Material sales	4,391	1,121
License fees, milestones and other revenues	30,946	3,916
Total revenues	56,157	29,267
Operating costs and expenses:		
Cost of sales [1]	788	341
Amortization of intangibles	3,278	2,715
Research and development	7,407	8,673
General and administrative	7,643	7,322
Total operating costs and expenses	19,116	19,051
Income from operations	37,041	10,216
Other (expense) income:		
Interest expense, net	(2,605)	(2,941)
Increase in contingent liabilities	(960)	(140)
Gain (loss) from Viking	21,097	(1,083)
Other income, net	739	141
Total other income (expense), net	18,271	(4,023)
Income before income taxes	55,312	6,193
Income tax expense	(10,033)	(1,114)
Net income	$45,279	$5,079
Basic net income per share	$2.13	$0.24
Shares used in basic per share calculations	21,209	20,938
Diluted net income per share	$1.83	$0.22
Shares used in diluted per share calculations	24,800	23,019

(1) Excludes amortization of intangibles.

See accompanying notes.

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LIGAND PHARMACEUTICALS INCORPORATED
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited)
(in thousands)

	Three months ended March 31,	
	2018	2017
Net income:	$45,279	$5,079
Unrealized net gain on available-for-sale securities, net of tax	(149)	(66)
Less: Reclassification of net realized gain included in net income, net of tax	—	428
Comprehensive income	$45,130	$5,441

See accompanying notes.

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LIGAND PHARMACEUTICAL INCORPORATED
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited, in thousands)

	Three months ended March 31,	
	2018	2017 (Revised)
Operating activities		
Net income	$45,279	$5,079
Adjustments to reconcile net income to net cash provided by operating activities:		
Non-cash change in estimated fair value of contingent liabilities	960	140
Depreciation and amortization	3,002	2,979
Amortization of debt discount and issuance fees	3,018	2,838
Stock-based compensation	4,555	6,045
Deferred income taxes	9,862	1,018
Change in fair value of the Viking convertible debt receivable and warrants	(748)	(76)
(Gain) / loss from equity investments	(21,183)	1,083
Changes in operating assets and liabilities:		
Payments to CVR holders and other contingency payments	—	(4,998)
Royalties recorded in retained earnings upon adoption of ASU 606	32,707	—
Accounts receivable	(11,512)	7,643
Inventory	(4,978)	(1,197)
Accounts payable and accrued liabilities	321	(1,963)
Other	(522)	633
Net cash provided by operating activities	60,761	19,224
Investing activities		
Payments to CVR holders and other contingency payments	(1,000)	—
Purchase of short-term investments	(98,957)	(73,352)
Proceeds from sale of short-term investments	12,291	17,719
Proceeds from maturity of short-term investments	54,325	30,052
Other	(240)	(87)
Net cash used in investing activities	(33,581)	(25,668)
Financing activities		
Net proceeds from stock option exercises and ESPP	8,916	355
Taxes paid related to net share settlement of equity awards	(3,797)	(2,022)
Share repurchase	(1,895)	—
Net cash provided by (used in) provided by financing activities	3,224	(1,667)
Net increase (decrease) in cash and cash equivalents	30,404	(8,111)
Cash and cash equivalents at beginning of period	20,620	18,752
Cash and cash equivalents at end of period	$51,024	$10,641
Supplemental disclosure of cash flow information		
Interest paid	$919	$919
Taxes paid	$171	$96

Supplemental schedule of non-cash activity		
Accrued inventory purchases	$1,180	$3,909
Unrealized gain (loss) on AFS investments	$—	$(66)

See accompanying notes

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LIGAND PHARMACEUTICALS INCORPORATED
Notes to Condensed Consolidated Financial Statements
(Unaudited)

1. Basis of Presentation and Summary of Significant Accounting Policies

Basis of Presentation

The Company's condensed consolidated financial statements include the financial statements of Ligand and its wholly-owned subsidiaries. All significant intercompany accounts and transactions have been eliminated in consolidation. We have included all adjustments, consisting only of normal recurring adjustments, which we considered necessary for a fair presentation of our financial results. These unaudited condensed consolidated financial statements and accompanying notes should be read together with the audited consolidated financial statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2017. Interim financial results are not necessarily indicative of the results that may be expected for the full year.

Significant Accounting Policies

The Company describes its significant accounting policies in Note 1 to the financial statements in Item 8 of our Annual Report on Form 10-K for the year ended December 31, 2017.

Use of Estimates

The preparation of condensed consolidated financial statements in conformity with GAAP requires the use of estimates and assumptions that affect the amounts reported in the condensed consolidated financial statements and the accompanying notes. Actual results may differ from those estimates.

Accounting Standards Recently Adopted

Revenue Recognition - In May 2014, the FASB issued new guidance related to revenue recognition, ASU 2014-09, Revenue from Contracts with Customers ("ASC 606"), which outlines a comprehensive revenue recognition model and supersedes most current revenue recognition guidance. The new guidance requires a company to recognize revenue upon transfer of goods or services to a customer at an amount that reflects the expected consideration to be received in exchange for those goods or services. ASC 606 defines a five-step approach for recognizing revenue, which may require a company to use more judgment and make more estimates than under the current guidance. We adopted this new standard as of January 1, 2018, by using the modified-retrospective method.

Financial Instruments - In January 2016, the FASB issued ASU 2016-01, Financial Instruments - Overall ("Subtopic 825-10"), which requires equity investments (other than those accounted for under the equity method or those that result in consolidation) to be measured at fair value, with changes in fair value recognized in net income. We have strategic investments, including Viking, that fall under this guidance update. We have adopted ASU 2016-01 effective January 1, 2018 as a cumulative-effect adjustment and reclassified $2.6 million unrealized gains on equity investments, net of tax, from accumulated other comprehensive income to accumulated deficit on our consolidated balance sheet. Effective January 1, 2018, our results of operations include the changes in fair value of these financial instruments. See Viking subsection below for further information on the Viking investment.

Statement of Cash Flows - In August 2016 the FASB issued ASU No. 2016-15 Statement of Cash Flows (Topic 230), Classification of Certain Cash Receipts and Cash Payments. The new standard clarifies certain aspects of the statement of cash flows, and aims to reduce diversity in practice regarding how certain transactions are classified in

the statement of cash flows. This standard was effective January 1, 2018. The Company adopted ASU No. 2016-15 effective January 1, 2018. We have updated our presentation of Payments to CVR holders and other contingency payments to conform to the standard and have revised our prior year cash flows accordingly.

Accounting Standards Not Yet Adopted

Financial Instruments - In June 2016, the FASB issued ASU No. 2016-13, Financial Instruments - Credit Losses: Measurement of Credit Losses on Financial Instruments, which amends the impairment model by requiring entities to use a forward-looking approach based on expected losses to estimate credit losses on certain types of financial instruments, including

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trade receivables and available for sale debt securities. The ASU is effective for us beginning in the first quarter of 2020, with early adoption permitted. We are currently evaluating the impact of ASU 2016-13 on the consolidated financial statements.

We do not believe that any other recently issued, but not yet effective accounting pronouncements, if adopted, would have a material impact on our consolidated financial statements or disclosures.

Revenue

Our revenue is generated primarily from royalties on sales of products commercialized by the Company's partners, Captisol material sales, license fees and development and regulatory milestone payments.

On January 1, 2018, we adopted ASC 606 which amends the guidance for recognition of revenue from contracts with customers by using the modified-retrospective method applied to those contracts that were not completed as of January 1, 2018. The results for the reporting period beginning January 1, 2018, are presented in accordance with the new standard, although comparative information has not been restated and continues to be reported under the accounting standards and policies in effect for those periods. See Note 1, Summary of significant accounting policies, to the consolidated financial statements in our Annual Report on Form 10-K for the year ended December 31, 2017.

Upon adoption, we recorded a net decrease of $25.4 million to Accumulated deficit due to the cumulative impact of adopting the new standard—with the impact related primarily to the acceleration of royalty revenue, net of related deferred tax impact. The adoption of this new standard resulted in lower reported total revenues and operating income in the first quarter of 2018 of $11.9 million compared to what reported amounts would have been under the prior standard. Our accounting policies under the new standard were applied prospectively and are noted below.

Royalties, License Fees and Milestones

We receive royalty revenue on sales by our partners of products covered by patents that we own. We do not have future performance obligations under these license arrangements. We generally satisfy our obligation to grant intellectual property rights on the effective date of the contract. However, we apply the royalty recognition constraint required under the guidance for sales-based royalties which requires a sales-based royalty to be recorded no sooner than the underlying sale. Therefore, royalties on sales of products commercialized by the Company’s partners are recognized in the quarter the product is sold. Our partners generally report sales information to us on a one quarter lag. Thus, we estimate the expected royalty proceeds based on an analysis of historical experience and interim data provided by our partners including their publicly announced sales. Differences between actual and estimated royalty revenues are adjusted for in the period in which they become known, typically the following quarter.

Our contracts with customers often will include future contingent milestone based payments. We include contingent milestone based payments in the estimated transaction price when there is a basis to reasonably estimate the amount of the payment. These estimates are based on historical experience, anticipated results and our best judgment at the time. If the contingent milestone based payment is sales-based we apply the royalty recognition constraint and record revenue when the underlying sale has taken place. Significant judgments must be made in determining the transaction price for our sales of intellectual property. Because of the risk that products in development with our partners will not reach development based milestones or receive regulatory approval, we generally recognize any contingent payments that would be due to us upon or after the development milestone or regulatory approval.

Material Sales

We recognize revenue when control of Captisol material or intellectual property license rights is transferred to our customers in an amount that reflects the consideration we expect to receive from our customers in exchange for those products. This process involves identifying the contract with a customer, determining the performance obligations in the contract, determining the contract price, allocating the contract price to the distinct performance obligations in the contract, and recognizing revenue when the performance obligations have been satisfied. A performance obligation is considered distinct from other obligations in a contract when it provides a benefit to the customer either on its own or together with other resources that are readily available to the customer and is separately identified in the contract. We consider a performance obligation satisfied once we have transferred control of the product, meaning the customer has the ability to use and obtain the benefit of the Captisol material or intellectual property license right. We recognize revenue for satisfied performance obligations only when we determine there are no uncertainties regarding payment terms or transfer of control. Sales tax and other taxes we collect concurrent with revenue-producing activities are excluded from revenue. We expense incremental costs of obtaining a contract

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when incurred if the expected amortization period of the asset that we would have recognized is one year or less or the amount is immaterial. We did not incur any incremental costs of obtaining a contract during the periods reported.

Depending on the terms of the arrangement, we may also defer a portion of the consideration received because we have to satisfy a future obligation. We use an observable price to determine the stand-alone selling price for separate performance obligations or a cost plus margin approach when one is not available. We have elected to recognize the cost for freight and shipping when control over Captisol material has transferred to the customer as an expense in cost of sales.

The timing of revenue recognition, billings and cash collections results in billed accounts receivable, unbilled receivables (contract assets), and customer advances and deposits (contract liabilities) on the Consolidated Balance Sheet. Except for royalty revenue, we generally receive payment at the point we satisfy our obligation or soon after. Therefore, we do not generally carry a contract asset or contract liability balance.

The Company has revenue sharing arrangements whereby certain revenue proceeds are shared with a third party. The revenue standard requires an entity to determine whether it is a principal or an agent in these transactions by evaluating the nature of its promise to the customer. The Company received a $4.6 million milestone payment from a license partner in the first quarter of 2018 of which $3.0 million was paid to a third-party in-licensor. The Company recorded net revenue of $1.6 million as it believes it was an agent in the transaction.

Disaggregation of Revenue

Under ASC 605, the legacy revenue standard, the Company would have reported total royalty revenue of $32.7 million in the first quarter of 2018, disaggregated as follows: Promacta $24.1 million, Kyprolis $6.5 million, Evomela $1.7 million and Other $0.4M. In the first quarter of 2017 royalty revenue continues to be reported in accordance with ASC 605 and was $24.7 million or disaggregated as follows: Promacta $16.7 million, Kyprolis $4.6 million, Evomela, $1.9 million and Other $1.1 million. Royalty revenue was $20.8 million in first quarter of 2018 or disaggregated as follows: Promacta $15.6 million, Kyprolis $3.3 million, Evomela $1.6 million and Other $0.4 million.

The following table represents disaggregation of Material Sales and License fees, milestone and other (in thousands):

	Three months ended March 31,	
	2018	2017
Material Sales		
Captisol	$4,391	$1,121
License fees, milestones and other		
License Fees	$26,955	$2,872
Milestone	2,825	1,008
Other	1,166	36
	$30,946	$3,916

Short-term Investments

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The Company's investments consist of the following at March 31, 2018 and December 31, 2017 (in thousands):

	March 31, 2018				December 31, 2017			
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Estimated fair value	Amortized cost	Gross unrealized gains	Gross unrealized losses	Estimated fair value
Short-term investments								
Bank deposits	$94,855	$ 5	$ (97)	$94,763	$80,095	$ 6	$ (42)	$80,059
Corporate bonds	73,129	—	(216)	72,913	55,335	—	(96)	55,239
Commercial paper	29,977	—	(26)	29,951	27,933	—	(20)	27,913
U.S. Government bonds	11,964	—	(22)	11,942	8,939	—	(10)	8,929
Agency bonds	—	—	—	—	4,991	—	(1)	4,990
Municipal bonds	2,014	—	(12)	2,002	2,028	—	(13)	2,015
Corporate equity securities	181	1,577	—	1,758	207	1,689	—	1,896
	$212,120	$ 1,582	$ (373)	$213,329	$179,528	$ 1,695	$ (182)	$181,041

Inventory

Inventory, which consists of finished goods, is stated at the lower of cost or market value. The Company determines cost using the first-in, first-out method.

Goodwill and Other Identifiable Intangible Assets

Goodwill and other identifiable intangible assets consist of the following (in thousands):

	March 31, 2018	December 31, 2017
Indefinite lived intangible assets		
IPR&D	$2,410	$7,923
Goodwill	85,961	85,959
Definite lived intangible assets		
Complete technology	228,413	222,900
Less: Accumulated amortization	(26,176)	(23,301)
Trade name	2,642	2,642
Less: Accumulated amortization	(949)	(916)
Customer relationships	29,600	29,600
Less: Accumulated amortization	(10,634)	(10,264)
Total goodwill and other identifiable intangible assets, net	$311,267	$314,543

Commercial License Rights

Commercial license rights consist of the following (in thousands):

	March 31, 2018	December 31, 2017
Aziyo and CorMatrix	$17,696	$17,696
Selexis	8,602	8,602

	$26,298	$26,298
Less: accumulated amortization	(6,329)	(6,772)
Total commercial rights, net	$19,969	$19,526

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Commercial license rights represent a portfolio of future milestone and royalty payment rights acquired from Selexis in April 2013 and April 2015 and CorMatrix in May 2016. Individual commercial license rights acquired are carried at allocated cost and approximate fair value. In May 2017, the Company entered into a Royalty Agreement with Aziyo pursuant to which the Company will receive royalties from certain marketed products that Aziyo acquired from CorMatrix.

The Company accounts for the Aziyo commercial license right as a financial asset in accordance with ASC 310 and amortizes the commercial license right using the 'effective interest' method whereby the Company forecasts expected cash flows over the term of the arrangement to arrive at an annualized effective interest. The annual effective interest associated with the forecasted cash flows from the Royalty Agreement with Aziyo as of March 31, 2018 is 26%. Revenue is calculated by multiplying the carrying value of the commercial license right by the effective interest.

We elected a prospective approach to account for changes in estimated cash flows and selected a method for determining when an impairment would be recognized and how to measure that impairment. In circumstances where our new estimate of expected cash flows is greater than previously expected, we will update our yield prospectively. While it has not occurred to date, in circumstances where our new estimate of expected cash flows is less than previously expected and below our original estimated yield we will record impairment. Impairment will be recognized by reducing the financial asset to an amount that represents the present value of our most recent estimate of expected cash flows discounted by the original effective interest rate. In circumstances where our new estimate of expected cash flows is less than previously expected, but not below our original estimated yield, we will update our yield prospectively. The Company accounts for commercial license rights related to developmental pipeline products on a non-accrual basis. These developmental pipeline products are non-commercialized, non-approved products that require FDA or other regulatory approval, and thus have uncertain cash flows. The developmental pipeline products are on a non-accrual basis as the Company is not yet able to forecast future cash flows given their pre-commercial stages of development. The Company will prospectively update its yield model under the effective interest method once the underlying products are commercialized and the Company can reliably forecast expected cash flows. Income will be calculated by multiplying the carrying value of the commercial license right by the effective interest rate.

Viking

The Company's equity ownership interest in Viking decreased in the first quarter of 2018 to approximately 12.4% due to Viking's financing events in February 2018. As a result, in February 2018, the Company has concluded that it does not exert significant influence over Viking and has discontinued accounting for its investment in Viking under the equity method. The market value of the Company's equity investment in Viking was $27.5 million as of March 31, 2018 and as a result the Company recorded an unrealized gain of $21.1 million in Gain (loss) from Viking in its condensed consolidated statement of operations.

The Company also has outstanding warrants to purchase 1.5 million shares of Viking's common stock at an exercise price of $1.50 per share and a convertible note receivable with 2.5% fixed rate interest due from Viking with a maturity date of May 21, 2018. The Company recorded the warrants and note receivable at the fair value of $4.6 million and $3.9 million at March 31, 2018 and $3.8 million and $3.9 million at December 31, 2017, respectively.

The following table presents summarized financial information of Viking (in thousands):

	Three months ended March 31,	
	2018	2017
Condensed Statement of Operations:		

Total revenue	$—	$—
Gross profit	$—	$—
Loss from operations	$4,805	$4,968
Net Loss	$3,551	$5,222

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	March 31, 2018	December 31, 2017
Condensed Balance Sheet:		
Current assets	$78,731	$ 21,852
Noncurrent assets	240	270
	$78,971	$ 22,122
Current liabilities	$6,339	$ 8,657
Noncurrent liabilities	$—	$ —
Stockholder's equity	$72,632	$ 13,465

Accrued Liabilities

Accrued liabilities consist of the following (in thousands):

	March 31, 2018	December 31, 2017
Compensation	$1,455	$ 4,085
Professional fees	497	430
Amounts owed to former licensees	3,417	396
Royalties owed to third parties	1,043	954
Deferred revenue	75	173
Other	1,993	1,339
Total accrued liabilities	$8,480	$ 7,377

Stock-Based Compensation

Stock-based compensation expense for awards to employees and non-employee directors is recognized on a straight-line basis over the vesting period until the last tranche vests. The following table summarizes stock-based compensation expense recorded as components of research and development expenses and general and administrative expenses for the periods indicated (in thousands):

	Three months ended March 31,	
	2018	2017
Stock-based compensation expense as a component of:		
Research and development expenses	$1,767	$3,939
General and administrative expenses	2,788	2,106
	$4,555	$6,045

The fair-value for options that were awarded to employees and directors was estimated at the date of grant using the Black-Scholes option valuation model with the following weighted-average assumptions:

	Three months ended March 31,	
	2018	2017
Risk-free interest rate	2.7%	2.1%

Dividend yield	—	—
Expected volatility	33%	47%
Expected term	5.7	6.9

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Lease Obligations

The Company describes its operating lease obligations in Note 5 to the financial statements in Item 8 of its Annual Report on Form 10-K for the year ended December 31, 2017. There were no significant changes in the Company's operating lease commitments during the first three months of 2018.

Income Per Share

Basic income per share is calculated by dividing net income by the weighted-average number of common shares outstanding during the period. Diluted income per share is computed based on the sum of the weighted average number of common shares and potentially dilutive common shares outstanding during the period.

Potentially dilutive common shares consist of shares issuable under 2019 Convertible Senior Notes and the associated warrants, stock options and restricted stock. The 2019 Convertible Senior Notes have a dilutive impact when the average market price of the Company’s common stock exceeds the applicable conversion price of the notes. The warrants have a dilutive effect to the extent the market price per share of common stock exceeds the applicable exercise price of the warrants. Potentially dilutive common shares from stock options and restricted stock are determined using the average share price for each period under the treasury stock method. In addition, proceeds from exercise of stock options and the average amount of unrecognized compensation expense for restricted stock are assumed to be used to repurchase shares. In loss periods, basic net loss per share and diluted net loss per share are identical because the otherwise dilutive potential common shares become anti-dilutive and are therefore excluded.

The following table presents the calculation of weighted average shares used to calculate basic and diluted earnings per share:

	Three months ended March 31,	
	2018	2017
Weighted average shares outstanding:	21,208,793	20,937,627
Dilutive potential common shares:		
Restricted stock	63,959	185,745
Stock options	1,119,611	954,509
2019 Convertible Senior Notes	1,719,099	941,308
Warrants	688,852	—
Shares used to compute diluted income per share	24,800,314	23,019,189
Potentially dilutive shares excluded from calculation due to anti-dilutive effect	148,404	3,711,067

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2. Fair Value Measurements

The following table presents the Company's hierarchy for assets and liabilities measured at fair value.

	March 31, 2018				December 31, 2017			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets:								
Short-term investments[1]	$29,292	$211,572	$—	$240,864	$1,896	$179,145	$—	$181,041
Note receivable Viking [2]	—	—	3,877	3,877	—	—	3,877	3,877
Investment in warrants [3]	4,594	—	—	4,594	3,846	—	—	3,846
Total assets	$33,886	$211,572	$3,877	$249,335	$5,742	$179,145	$3,877	$188,764
Liabilities:								
Current portion of contingent liabilities - Crystal [7]	$—	$—	$3,618	$3,618	$—	$—	$4,618	4,618
Current contingent liabilities-CyDex [4]	—	—	86	86	—	—	86	86
Long-term portion of contingent liabilities - Crystal [7]	—	—	3,783	3,783	—	—	3,783	3,783
Long-term contingent liabilities-CyDex [4]	—	—	1,503	1,503	—	—	1,503	1,503
Long-term contingent liabilities-Metabasis [5]	—	1,089	—	1,089	—	3,971	—	3,971
Liability for amounts owed to former licensees[6]	264	—	—	264	284	—	—	284
Total liabilities	$264	$1,089	$8,990	$10,343	$284	$3,971	$9,990	$14,245

(1) Investments in equity securities, which the Company received from Viking and another licensee as upfront and event-based payments, are classified as level 1 as the fair value is determined using quoted market prices in active markets for the same securities. Short-term investments in marketable debt securities with maturities greater than 90 days are classified as level 2 of the fair value hierarchy, as these investment securities are valued based upon quoted prices for identical or similar instruments in markets that are not active, and model-based valuation techniques for which all significant assumptions are observable in the market.

(2) The fair value of the convertible note receivable approximates the book value since it will mature in May 21, 2018.

(3) Investment in warrants, which the Company received as a result of Viking’s partial repayment of the Viking note receivable and the Company’s purchase of Viking common stock and warrants in April 2016, are classified as level 1 as the fair value is determined using quoted market prices in active markets for the same securities. The change of the fair value is recorded in the other income or expenses in the Company's condensed consolidated statement of operations.

(4) The fair value of the liabilities for CyDex contingent liabilities were determined based on the income approach. To the extent the estimated future income may vary significantly given the long-term nature of the estimate, the Company utilizes a Monte Carlo model. The fair value is subjective and is affected by changes in inputs to the valuation model including management’s estimates of timing and probability of achievement of certain revenue thresholds and developmental and regulatory milestones which may be achieved and affect amounts owed to former license holders. Changes in these assumptions can materially affect the fair value estimate.

(5) The liability for CVRs for Metabasis are determined using quoted prices in a market that is not active for the underlying CVR. At March 31, 2018, the Company has a CVR payable of $3.8 million to the Glucagon CVR holders due on July 2, 2018, which is not included in the fair value disclosure.

(6) The liability for amounts owed to former licensees are determined using quoted market prices in active markets for the underlying investment received from a partner, a portion of which is owed to former licensees.

(7) The fair value of Crystal contingent liabilities was determined using a probability weighted income approach. Most of the contingent payments are based on development or regulatory milestones as defined in the merger agreement with Crystal. The fair value is subjective and is affected by changes in inputs to the valuation model including management's estimates regarding the timing and probability of achievement of certain developmental and regulatory milestones. At March 31, 2018, most of the development and regulatory milestones were estimated to be highly probable of being achieved between 2018 and 2019. Changes in these estimates may materially affect the fair value.

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For the three months ended March 31, 2018, there was no change to the fair value of the contingent liabilities associated with CyDex or Crystal. The Company made a $1.0 million payment to the former shareholders of Crystal in the first quarter of 2018.

The following table represents significant unobservable inputs used in determining the fair value of contingent liabilities assumed in the acquisition of CyDex:

	March 31, 2018	December 31, 2017
Revenue volatility	25%	25%
Average probability of commercialization	12.5%	12.5%
Market price of risk	2.9%	2.9%

Other Fair Value Measurements

2019 Convertible Senior Notes

In August 2014, the Company issued $245.0 million aggregate principal amount of its 2019 Convertible Senior Notes. The Company uses a quoted rate in a market that is not active, which is classified as a Level 2 input, to estimate the current fair value of its 2019 Convertible Senior Notes. The estimated fair value of the 2019 Senior Convertible Notes was $536.1 million as of March 31, 2018. The carrying value of the notes does not reflect the market rate. Additionally, at the time of the convertible notes issuance, the Company entered into convertible bond hedges, which is not required to be measured or disclosed at fair value, to offset the impact of potential dilution to the Company's common stock upon the conversion of the notes. See Note 3 Convertible Senior Notes for additional information about the convertible notes and the bond hedges.

3. Convertible Senior Notes

In August 2014, the Company issued and as of March 31, 2018 had outstanding $245.0 million aggregate principal amount of 2019 Convertible Senior Notes due August 15, 2019. The effective rate of the liability component was estimated to be 5.83%. The 2019 Convertible Senior Notes are convertible into common stock at an initial conversion rate of 13.3251 shares per $1,000 principal amount of convertible notes, subject to adjustment upon certain events, which is equivalent to an initial conversion price of approximately $75.05 per share of common stock. The notes bear cash interest at a rate of 0.75% per year, payable semi-annually.

Holders of the 2019 Convertible Senior Notes may convert the notes at any time prior to the close of business on the business day immediately preceding May 15, 2019, under any of the following circumstances:

(1) during any fiscal quarter (and only during such fiscal quarter) commencing after December 31, 2014, if, for at least 20 trading days (whether or not consecutive) during the 30 consecutive trading day period ending on the last trading day of the immediately preceding fiscal quarter, the last reported sale price of the Company's common stock on such trading day is greater than 130% of the conversion price on such trading day;

(2) during the five business day period immediately following any 10 consecutive trading day period, in which the trading price per $1,000 principal amount of notes was less than 98% of the product of the last reported sale price of the Company's common stock on such trading day and the conversion rate on each such trading day; or

(3) upon the occurrence of certain specified corporate events as specified in the indenture governing the notes.

As of March 31, 2018, the Company's last reported sale price has exceeded the 130% threshold described above and accordingly the Convertible Notes have been classified as a current liability as of March 31, 2018. As a result, the

related unamortized discount of $16.1 million was classified as temporary equity component of currently redeemable convertible notes on the Company's Condensed Consolidated Balance Sheet. The determination of whether or not the Convertible Notes are convertible as described above is made each quarter until maturity, conversion or repurchase. It is possible that the Convertible Notes may not be convertible in future periods, in which case the Convertible Notes would be classified as long-term debt, unless one of the other conversion events described above were to occur.

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On or after May 15, 2019 until the close of business on the second scheduled trading day immediately preceding August 15, 2019, holders of the notes may convert all or a portion of their notes at any time, regardless of the foregoing circumstances. Upon conversion, the Company must deliver cash to settle the principal and may deliver cash or shares of common stock, at its option, to settle any premium due upon conversion.

The 2019 Convertible Senior Notes will have a dilutive effect to the extent the average market price per share of the Company's common stock for a given reporting period exceeds the conversion price of $75.05 per share. As of March 31, 2018, the “if-converted value” exceeded the principal amount of the 2019 Convertible Senior Notes by $294.2 million.

Upon the occurrence of certain circumstances, holders of the 2019 Convertible Senior Notes may redeem all or a portion of their notes, which may require the use of a substantial amount of cash. As of March 31, 2018, we had working capital of $102.1 million, which includes the 2019 Convertible Senior notes that are currently redeemable as of March 31, 2018 but excludes another $16.1 million that is classified as mezzanine equity. The debt may change from current to non-current period over period, primarily as a result of changes in the Company’s stock price. In the event that all the debt was converted, we have three business days following a 50 trading day observation period from the convert date to pay the principal in cash. We have positive operating income and positive cash flow from operations since December 31, 2013 and, accordingly, while there can be no assurance, we believe we have the ability to raise additional capital through an offering using a registration statement on form S-3 or via alternative financing arrangements such as convertible or straight debt.

In March and April 2018, the Company received notices for conversion of $21.8 million in principal of 2019 Convertible Senior Notes.

Convertible Bond Hedge and Warrant Transactions

In August 2014, the Company entered into convertible bond hedges and sold warrants covering 3,264,643 shares of its common stock to minimize the impact of potential dilution to the Company's common stock upon conversion of the 2019 Convertible Senior Notes. The convertible bond hedges have an exercise price of $75.05 per share and are exercisable when and if the 2019 Convertible Senior Notes are converted. If upon conversion of the 2019 Convertible Senior Notes, the price of the Company's common stock is above the exercise price of the convertible bond hedges, the counterparties will deliver shares of common stock and/or cash with an aggregate value approximately equal to the difference between the price of common stock at the conversion date and the exercise price, multiplied by the number of shares of common stock related to the convertible bond hedge transaction being exercised. The convertible bond hedges and warrants described below are separate transactions entered into by the Company and are not part of the terms of the 2019 Convertible Senior Notes. Holders of the 2019 Convertible Senior Notes and warrants will not have any rights with respect to the convertible bond hedges. The Company paid $48.1 million for these convertible bond hedges and recorded the amount as a reduction to additional paid-in capital.

Concurrently with the convertible bond hedge transactions, the Company entered into warrant transactions whereby it sold warrants to acquire approximately 3,264,643 shares of common stock with an exercise price of approximately $125.08 per share, subject to certain adjustments. The warrants have various expiration dates ranging from November 13, 2019 to April 22, 2020. The warrants will have a dilutive effect to the extent the market price per share of common stock exceeds the applicable exercise price of the warrants, as measured under the terms of the warrant transactions. The Company received $11.6 million for these warrants and recorded this amount to additional paid-in capital. The common stock issuable upon exercise of the warrants will be in unregistered shares, and the Company does not have the obligation and does not intend to file any registration statement with the Securities and Exchange Commission registering the issuance of the shares under the warrants.

The following table summarizes information about the equity and liability components of the 2019 Convertible Senior Notes (in thousands).

	March 31, 2018	December 31, 2017
Principal amount outstanding	$245,000	$245,000
Unamortized discount (including unamortized debt issuance cost)	(17,453)	(20,471)
Total current portion of notes payable	$227,547	$224,529

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4. Income Tax

The Company’s effective tax rate may vary from the U.S. federal statutory tax rate due to the change in the mix of earnings in various state jurisdictions with different statutory rates, benefits related to tax credits, and the tax impact of non-deductible expenses, stock award activities and other permanent differences between income before income taxes and taxable income. The effective tax rate for the three months ended March 31, 2018 and 2017 was 18% and 18%, respectively. The variance from the U.S. federal statutory tax rate of 21% in 2018 and 35% in 2017 was primarily attributable to tax deductions related to stock award activities which were recorded as discrete items in the quarter. The release of a valuation allowance relating to our investment in Viking also contributed to the variance from the U.S. federal statutory rate in the first quarter of 2018.

We continue to evaluate the impact of the U.S. Tax Cuts and Jobs Act (Tax Act) and we have not adjusted our provisional tax estimates related to the Tax Act that we recorded in the fourth quarter of 2017. Our accounting remains incomplete as of March 31, 2018 and will be refined and, if necessary, adjusted throughout 2018 as required by SEC Staff Accounting Bulletin No. 118 (SAB 118).

5. Stockholders’ Equity

The Company grants options and awards to employees and non-employee directors pursuant to a stockholder approved stock incentive plan, which is described in further detail in Note 8, Stockholders' Equity, of Notes to Consolidated Financial Statements in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2017.

The following is a summary of the Company’s stock option and restricted stock activity and related information:

	Stock Options		Restricted Stock Awards	
	Shares	Weighted-Average Exercise Price	Shares	Weighted-Average Grant Date Fair Value
Balance as of December 31, 2017	1,876,332	$ 53.17	133,294	$ 91.60
Granted	202,994	159.02	45,203	158.29
Options exercised/RSUs vested	(133,800)	64.73	(53,501)	80.49
Balance as of March 31, 2018	1,945,526	$ 63.43	124,996	$ 120.48

As of March 31, 2018, outstanding options to purchase 1.3 million shares were exercisable with a weighted average exercise price per share of $39.09.

Employee Stock Purchase Plan

The price at which common stock is purchased under the Amended ESPP is equal to 85% of the fair market value of the common stock on the first or last day of the offering period, whichever is lower. As of March 31, 2018, 67,394 shares were available for future purchases under the Amended ESPP.

6. Litigation

The Company records an estimate of a loss when the loss is considered probable and estimable. Where a liability is probable and there is a range of estimated loss and no amount in the range is more likely than any other number in the range, the Company records the minimum estimated liability related to the claim in accordance with FASB ASC Topic 450 Contingencies. As additional information becomes available, the Company assesses the potential liability related to its pending litigation and revises its estimates. Revisions in the Company's estimates of potential liability could materially impact its results of operations.

In November 2017, CyDex, our wholly owned subsidiary, received a paragraph IV certification from Teva Pharmaceuticals USA, Inc., Teva Pharmaceutical Industries Ltd. and Actavis, LLC (collectively “Teva”) alleging that certain of our patents related to Captisol were invalid, unenforceable and/or will not be infringed by Teva’s ANDA related to Spectrum Pharmaceuticals’ NDA for Evomela. On December 20, 2017, CyDex filed a complaint against Teva in the U.S. District Court for the District of Delaware, asserting that Teva’s ANDA would infringe our patents. On March 22, Teva filed an answer and

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counterclaims seeking declarations of non-infringement and invalidity as to each of the asserted patents and on April 12, CyDex filed an answer to Teva’s counterclaims.

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

Caution: This discussion and analysis may contain predictions, estimates and other forward-looking statements that involve a number of risks and uncertainties, including those discussed in Part II, Item 1A:"Risk Factors." This outlook represents our current judgment on the future direction of our business. These statements include those related to our Captisol-related revenues, our Promacta, Kyprolis, and other product royalty revenues, product returns, and product development. Actual events or results may differ materially from our expectations. For example, there can be no assurance that our revenues or expenses will meet any expectations or follow any trend(s), that we will be able to retain our key employees or that we will be able to enter into any strategic partnerships or other transactions. We cannot assure you that we will receive expected Promacta, Kyprolis, Captisol and other product revenues to support our ongoing business or that our internal or partnered pipeline products will progress in their development, gain marketing approval or achieve success in the market. In addition, ongoing or future arbitration, or litigation or disputes with third parties may have a material adverse effect on us. Such risks and uncertainties, and others, could cause actual results to differ materially from any future performance suggested. We undertake no obligation to make any revisions to these forward-looking statements to reflect events or circumstances arising after the date of this quarterly report. This caution is made under the safe harbor provisions of Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act.

Our trademarks, trade names and service marks referenced herein include Ligand. Each other trademark, trade name or service mark appearing in this quarterly report belongs to its owner.

References to "Ligand Pharmaceuticals Incorporated," "Ligand," the "Company," "we" or "our" include Ligand Pharmaceuticals Incorporated and our wholly owned subsidiaries.

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Overview

We are a biopharmaceutical company focused on developing and acquiring technologies that help pharmaceutical companies discover and develop medicines. Over our more than 30 year history, we have employed research technologies such as nuclear receptor assays, high throughput computer screening, formulation science, liver targeted pro-drug technologies and antibody discovery technologies to assist companies in their work toward securing prescription drug approvals. We currently have partnerships and license agreements with over 95 pharmaceutical and biotechnology companies, and over 165 different programs under license with us are currently in various stages of commercialization and development. We have contributed novel research and technologies for approved medicines that treat cancer, osteoporosis, fungal infections and low blood platelets, among others. Our partners have programs currently in clinical development targeting seizure, coma, cancer, diabetes, cardiovascular disease, muscle wasting, liver disease, and kidney disease, among others.

We have over 800 issued patents worldwide. We have assembled our large portfolio of fully-funded programs either by licensing our own proprietary drug development programs, licensing our platform technologies such as Captisol or OmniAb to partners for use with their proprietary programs, or acquiring existing partnered programs from other companies. Fully-funded programs are those for which our partners pay all of the development and commercialization costs. For our internal programs, we generally plan to advance drug candidates through early-stage drug development or clinical proof-of-concept.

Our business model creates value for stockholders by providing a diversified portfolio of biotech and pharmaceutical product revenue streams that are supported by an efficient and low corporate cost structure. Our goal is to offer investors an opportunity to participate in the promise of the biotech industry in a profitable, diversified and lower-risk business than a typical biotech company. Our business model is based on doing what we do best: drug discovery, early-stage drug development, product reformulation and partnering. We partner with other pharmaceutical companies to leverage what they do best (late-stage development, regulatory management and commercialization) to ultimately generate our revenue. We believe that focusing on discovery and early-stage drug development while benefiting from our partners' development and commercialization expertise will reduce our internal expenses and allow us to have a larger number of drug candidates progress to later stages of drug development.

Our revenue consists of three primary elements: royalties from commercialized products, license and milestone payments and sale of Captisol material. In addition to discovering and developing our own proprietary drugs, we selectively pursue acquisitions to bring in new assets, pipelines, and technologies to aid in generating additional potential new revenue streams.

Portfolio Program Updates

Promacta®/Revolade®

- Novartis reported first quarter 2018 net sales of Promacta/Revolade (eltrombopag) of $257 million, an $82 million or 47% increase over the same period in 2017.
- Novartis announced that the U.S. Food and Drug Administration (FDA) granted Breakthrough Therapy designation to Promacta for use in combination with standard immunosuppressive therapy for the treatment of patients with severe aplastic anemia as a first-line therapy.

Kyprolis® (carfilzomib), an Amgen Product Utilizing Captisol

- On April 24, 2018, Amgen reported first quarter net sales of Kyprolis of $222 million, a $32 million or 17% increase over the same period in 2017. On May 9, 2018, Ono Pharmaceutical Company is expected to report Kyprolis sales in

Japan for the most recent quarter.

- On January 17, 2018, Amgen announced that the FDA approved the supplemental New Drug Application to add overall survival (OS) data from the Phase 3 head-to-head ENDEAVOR trial to the Prescribing Information for Kyprolis.
- On January 30, 2018, Amgen announced that the Committee for Medicinal Products for Human Use of the European Medicines Agency (CHMP) adopted a positive opinion recommending a label variation for Kyprolis to include updated OS data from the Phase 3 head-to-head ENDEAVOR trial in patients with relapsed or refractory multiple myeloma.
- On April 30, 2018, Amgen announced that the CHMP adopted a positive opinion recommending a label variation for Kyprolis to include the final overall survival (OS) data from the Phase 3 ASPIRE trial.

New Licensing Deals

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- Ligand announced the signing of a license agreement granting Roivant Sciences exclusive global rights to develop and commercialize LGD-6972 (now named RVT-1502), Ligand's glucagon receptor antagonist (GRA). Under the terms of the agreement, Ligand received a $20 million upfront license fee, and is eligible to receive up to an additional $528.8 million of milestone payments and tiered royalties ranging from low double digits to the mid-teens, with the top tier applying to annual net sales above $3 billion. Roivant is responsible for all costs related to the program.
- Ligand announced worldwide license agreements with venBio Partners, Ferring Pharmaceuticals and Glenmark Pharmaceuticals to use the OmniAb platform technologies to discover fully human antibodies. The agreement with venBio permits the venture capital firm's portfolio companies to enter into worldwide OmniAb platform agreements under previously agreed-upon terms. Ligand is eligible to receive annual access payments, milestone payments and royalties on future net sales of any antibodies discovered under these licenses.

Additional Pipeline and Partner Developments

- Sage Therapeutics announced the submission of a New Drug Application to the FDA for an intravenous (IV) formulation of brexanolone for the treatment of postpartum depression.
- Retrophin announced first patient enrollment in the Phase 3 DUPLEX Study evaluating the long-term nephroprotective potential of sparsentan for the treatment of focal segmental glomerulosclerosis. Topline data from the 36-week interim efficacy endpoint analysis are expected in the second half of 2020.
- Retrophin announced that the company received regulatory feedback from both the FDA and European Medicines Agency (EMA) on the development pathway for sparsentan in IgA nephropathy and that a single registration-enabling Phase 3 clinical trial is expected to be initiated in the fourth quarter of 2018
- Melinta Therapeutics announced the U.S. launch of the Captisol-enabled IV formulation of Baxdela for the treatment of adult patients with acute bacterial skin and skin structure infections caused by designated susceptible bacteria.
- Melinta Therapeutics announced that The Menarini Group and Eurofarma Laboratórios submitted regulatory applications for delafloxacin (Baxdela in the U.S.) in the European Union and Argentina, respectively.
- CASI Pharmaceuticals announced a $50 million private placement to prepare for commercialization in China, including potentially for EVOMELA, which has a regulatory application outstanding under priority review with an Expert Advisory Committee review date of April 25-26, 2018.
- Aldeyra Therapeutics announced enrollment of the first patient in a Phase 3 clinical trial of topical ocular reproxalap for the treatment of allergic conjunctivitis and also enrollment of the first patient in a Phase 2b clinical trial of reproxalap for the treatment of dry eye disease.
- Aldeyra Therapeutics presented the results of a Phase 2a dry eye disease clinical trial of topical ocular reproxalap at the Association for Research in Vision and Ophthalmology 2018 Annual Meeting.
- Exelixis announced that its partner Daiichi Sankyo had submitted a regulatory application for esaxerenone (CS-3150) in patients with hypertension to the Japanese Pharmaceutical and Medical Devices Agency.
- Takeda Pharmaceuticals highlighted the Phase 3 initiation of pevonedistat and its TAK-020 program during its presentation at the JP Morgan 36th Annual Healthcare Conference.
- Merrimack Pharmaceuticals announced it had dosed the first patient in its Phase 2 SHERBOC study of MM-121 (seribantumab) in patients with heregulin-positive, hormone receptor-positive and HER2-negative post-menopausal metastatic breast cancer.
- Viking Therapeutics announced the pricing of a $63.3 million public offering of common stock (including over-allotment exercise) with proceeds to fund continued development of VK5211, VK2809 and VK0214.
- Opthea announced commencing a Phase 1b/2a trial evaluating the safety and efficacy of OPT-302 in patients with center-involved diabetic macular edema.
- Syros Pharmaceuticals announced new preclinical data showing that Captisol-enabled SY-1365, a first-in-class selective cyclin-dependent kinase 7 inhibitor currently in a Phase 1 trial in patients with advanced solid tumors, demonstrated potent anti-tumor activity in multiple models of heavily pretreated ovarian cancer.

Aptevo Therapeutics announced that it had submitted an Investigational New Drug application to the FDA to evaluate APVO436 in a Phase 1 clinical study for the treatment of patients with relapsed or refractory acute myeloid leukemia or myelodysplastic syndrome.

- Aptevo Therapeutics presented new data for APVO436 at the American Association for Cancer Research (AACR) 2018 Annual Meeting.
- OmniAb partner Ferring Pharmaceuticals announced it is expanding its capabilities in biologics by constructing a new CHF30 million biotech center and manufacturing site.
- Arcus Biosciences presented a poster on OmniAb-derived GLS-010 (AB122) at the AACR 2018 Annual Meeting.

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- Nucorion Pharmaceuticals presented preclinical data for its novel liver-targeting prodrug technology program, NCO-1010, for the potential treatment of hepatitis B at the European Association for the Study of the Liver's International Liver Congress.

Internal Research and Development

- Ligand announced initiation of an internally funded program to develop through proof-of-concept contrast agents with reduced renal toxicity for diagnostic imaging procedures. This development program will leverage Ligand's Captisol technology, as well as intellectual property obtained through its acquisition of Verrow Pharmaceuticals for $2 million in cash plus earn outs.
- Ligand presented a poster at the National Lipid Association's 2018 Scientific Sessions showing that Ligand's LTP Technology significantly improves liver targeting of the statin rosuvastatin (Crestor®), and may potentially be an effective strategy to increase the therapeutic index of statins and reduce statin intolerance.
- A paper by Ligand scientists entitled "Chickens with humanized immunoglobulin genes generate antibodies with high affinity and broad epitope coverage to conserved targets" was published in the journal MAbs, highlighting the use of OmniChicken in antibody drug discovery.

Results of Operations

Revenue

(Dollars in thousands)	Q1 2018	Q1 2017	Change	% Change
Royalties	$20,820	$24,230	$(3,410)	(14)%
Material sales	4,391	1,121	3,270	292 %
License fees, milestones and other revenue	30,946	3,916	27,030	690 %
Total revenue	$56,157	$29,267	$26,890	92 %

Q1 2018 vs. Q1 2017

Total revenue increased $26.9 million, or 92%, to $56.2 million in Q1 2018 compared to $29.3 million in Q1 2017 primarily driven by $20.0 million received from Roivant upon entering into the GRA license agreement to develop and commercialize LGD-6972. Material sales also contributed to the increase and was due primarily to timing of customer purchases of Captisol for use in clinical trials and in commercialized products.

The Company adopted ASC 606, the new revenue standard, in the first quarter of 2018 and now recognizes royalties on sales of products commercialized by the Company's partners in the quarter the product is sold as opposed to on a one-quarter lag as previously recognized under ASC 605. The results for the reporting periods beginning after January 1, 2018, are presented in accordance with the new standard, although comparative information has not been restated and continues to be reported under the accounting standards and policies in effect for those periods. The adoption of this new standard resulted in lower reported royalty revenue of $11.9 million compared to what reported amounts would have been under the old standard.

Royalty revenue is a function of our partners' product sales and the applicable royalty rate. Promacta and Kyprolis royalty rates are under a tiered royalty rate structure with the highest tier being 9.4% and 3.0%, respectively. Evomela has a fixed royalty rate of 20%.

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The following table represents royalty revenue by program under the new (ASC 606) and prior (ASC 605) revenue standard:

(in millions)	Q1 2018 Estimated Partner Product Sales	Effective Royalty Rate	Q1 2018 Royalty Revenue under ASC 606	Q4 2017 Partner Product Sales	Effective Royalty Rate	Q1 2018 Royalty Revenue under ASC 605[1]	Q4 2016 Partner Products Sales	Effective Royalty Rate	Q1 2017 Royalty Revenue under ASC 605
Promacta	$ 257.0	6.07 %	$ 15.6	$ 255.3	9.44 %	$ 24.1	$ 177.0	9.44 %	$ 16.7
Kyprolis	234.0	1.41 %	3.3	227.0	2.86 %	6.5	187.4	2.45 %	4.6
Evomela	8.0	20.00 %	1.6	8.0	20.00 %	1.6	9.4	20.00 %	1.9
Other	42.0	0.71 %	0.3	41.0	1.22 %	0.5	45.0	2.22 %	1.0
Total	$ 541.0		$ 20.8	$ 373.8		$ 32.7	$ 418.8		$ 24.2

[1] Upon adoption of the new revenue standard, we recorded a net decrease of $25.4 million to Accumulated deficit due to the cumulative impact of adopting the new standard—with the impact related primarily to $32.7 million acceleration of royalty proceeds from Q4 2017 product sales, net of $7.3 million related deferred tax impact.

Operating Costs and Expenses

(Dollars in thousands)	Q1 2018	% of Revenue	Q1 2017	% of Revenue
Costs of sales	$788		$341	
Amortization of intangibles	3,278		2,715	
Research and development	7,407		8,673	
General and administrative	7,643		7,322	
Total operating costs and expenses	$19,116	34%	$19,051	65%

Q1 2018 vs. Q1 2017

Total operating costs and expenses as a percentage of total revenue decreased in Q1 2018 compared to Q1 2017. Total revenue for Q1 2018 increased $26.9 million or 92% while total operating costs and expenses for that quarter increased $0.1 million. Costs of sales increased due to higher material sales. Amortization of intangibles increased primarily as a result of the Crystal acquisition in the fourth quarter of 2017. Research and development expenses decreased due to timing of internal development costs and a decrease in stock-based compensation. General and administrative expenses increased primarily due to an increase in headcount related expenses including stock-based compensation.

Other Income (Expense)

(Dollars in thousands)	Q1 2018	Q1 2017	Change
Interest expense, net	$(2,605)	$(2,941)	$336
Increase in contingent liabilities	(960)	(140)	(820)
Gain (loss) from Viking	21,097	(1,083)	22,180
Other income, net	739	141	598
Total other expense, net	$18,271	$(4,023)	$22,294

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Interest expense, net consisted primarily of accretion of discount on our 2019 Convertible Senior Notes. Increase in contingent liabilities primarily relates to the increase in fair value of certain CVRs associated with our Metabasis acquisition. The increase in gain (loss) from Viking is a result of a $21.2 million unrealized gain recorded in Q1 2018 as the Company discontinued accounting for its ownership interest in Viking's under the equity method and now accounts for Viking as an available for sale security with changes in the fair value of Viking common stock recorded as unrealized gain (loss) from Viking. Other income, net consists primarily of short term investment transactions and the change in fair market value of Viking warrants.

Income Tax Expense

(Dollars in thousands)	Q1 2018	Q1 2017	Change
Income before income taxes	$55,312	$6,193	$49,119
Income tax expense	(10,033)	(1,114)	(8,919)
Income from operations	$45,279	$5,079	$40,200
Effective tax rate	18.1 %	18.0 %	

We compute our income tax provision by applying the estimated annual effective tax rate to income or loss from recurring operations and adding the effects of any discrete income tax items specific to the period. Our effective tax rate for the first quarter of 2018 was approximately 18%. Excluding discrete tax items primarily related to stock-based compensation tax benefits and valuation allowance adjustments, our tax rate for the period was 23% and did not differ significantly from the federal statutory rate of 21%. Our effective tax rate for the first quarter of 2017 was approximately 18%. Excluding discrete tax items primarily related to share-based compensation tax benefits, our effective tax rate for the period was 37% and did not differ significantly from the federal statutory rate of 35%.

Liquidity and Capital Resources

We have financed our operations through offerings of our equity securities, issuance of convertible notes, product sales and the subsequent sales of our commercial assets, royalties, collaborative research and development and other revenue, and operating lease transactions.

We had net income of $45.3 million for the quarter ended March 31, 2018. As of March 31, 2018, our cash, cash equivalents and marketable securities totaled $291.9 million, and we had working capital of $102.1 million. We believe that our currently available funds, cash generated from operations as well as existing sources of and access to financing will be sufficient to fund our anticipated operating, capital requirements and debt service requirement. We expect to build cash in future months as we continue to generate significant cash flow from royalty, license and milestone revenue and Captisol material sales primarily driven by continued increases in Promacta and Kyprolis sales, recent product approvals and regulatory developments, as well as revenue from anticipated new licenses and milestones. In addition, we anticipate that our liquidity needs can be met through other sources, including sales of marketable securities, borrowings through commercial paper and/or syndicated credit facilities and access to other domestic and foreign debt and equity markets.

While we believe in the viability of our strategy to generate sufficient operating cash flow and in our ability to raise additional funds, there can be no assurances to that effect.

Investments

We invest our excess cash principally in U.S. government debt securities, municipal debt securities, investment-grade corporate debt securities and certificates of deposit. We have established guidelines relative to diversification and maturities that maintain safety and liquidity. These guidelines are periodically reviewed and modified to take advantage of trends in yields and interest rates. Additionally, we own certain equity securities as a result of milestones

and license fees received from licensees as well as warrants to purchase Viking common stock.

Borrowings and Other Liabilities

2019 Convertible Senior Notes

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We have convertible debt outstanding as of March 31, 2018 related to our 2019 Convertible Senior Notes. In August 2014, we issued $245.0 million aggregate principal amount of convertible senior unsecured notes. The 2019 Convertible Senior Notes are convertible into common stock upon satisfaction of certain conditions. Interest of 0.75% per year is payable semi-annually on August 15th and February 15th through the maturity of the notes in August 2019.

In March and April 2018, the Company received notices for conversion of $21.8 million in principal of 2019 Convertible Senior Notes.

Repurchases of Common Stock

In September 2015, our Board of Directors authorized us to repurchase up to $200.0 million of our common stock from time to time over a period of up to three years. We repurchased 13,000 shares of common stock during Q1 2018. As of March 31, 2018, $191.6 million remains available for repurchase under the authorized program.

Contingent Liabilities

Metabasis

In connection with the acquisition of Metabasis in January 2010, we entered into four CVR agreements with Metabasis shareholders. The CVRs entitle the holders to cash payments upon the sale or licensing of certain assets and upon the achievement of specified milestones. See footnote 2, Fair Value Measurements.

Leases and Off-Balance Sheet Arrangements

We lease our office facilities under operating lease arrangements with varying terms through April 2023. The agreements provide for increases in annual rents based on changes in the Consumer Price Index or fixed percentage increases of 3.0%. We had no off-balance sheet arrangements at March 31, 2018 and December 31, 2017.

Cash Flows

(Dollars in thousands)	Q1 2018	Q1 2017 Revised
Net cash provided by (used in):		
Operating activities	$60,761	$19,224
Investing activities	(33,581)	(25,668)
Financing activities	3,224	(1,667)
Net increase (decrease) in cash and cash equivalents	$30,404	$(8,111)

During Q1 2018 and 2017, we generated cash from operations and from issuance of common stock under employee stock plans. During the same period we used cash for investing activities, including payments to CVR holders and net purchases of short term investments. We used $1.9 million to repurchase our common stock in Q1 2018.

Critical Accounting Policies

Certain of our policies require the application of management judgment in making estimates and assumptions that affect the amounts reported in our consolidated financial statements and the disclosures made in the accompanying notes. Those estimates and assumptions are based on historical experience and various other factors deemed applicable and reasonable under the circumstances. The use of judgment in determining such estimates and assumptions is by nature, subject to a degree of uncertainty. Accordingly, actual results could differ materially from the estimates made.

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ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to market risk from interest rates and equity prices which could affect our results of operations, financial condition and cash flows. We manage our exposure to these market risks through our regular operating and financing activities.

Investment Portfolio Risk
At March 31, 2018, our investment portfolio included investments in available-for-sale securities of $213.3 million. These securities are subject to market risk and may decline in value based on market conditions. Due to the short-term duration of our investment portfolio and low risk profile of our investments, a 10% increase in interest rates would not have material effect on the fair value of our portfolio.

Equity Price Risk

Our 2019 Convertible Senior Notes include conversion and settlement provisions that are based on the price of our common stock at conversion or maturity of the notes, as applicable. The minimum amount of cash we may be required to pay is $245.0 million, but will ultimately be determined by the price of our common stock. The fair values of our 2019 Convertible Senior Notes are dependent on the price and volatility of our common stock and will generally increase or decrease as the market price of our common stock changes. In order to minimize the impact of potential dilution to our common stock upon the conversion of the 2019 Convertible Senior Notes, we entered into convertible bond hedges covering 3,264,643 shares of our common stock. Concurrently with entering into the convertible bond hedge transactions, we entered into warrant transactions whereby we sold warrants with an exercise price of approximately $125.08 per share, subject to adjustment. Throughout the term of the 2019 Convertible Senior Notes, the notes may have a dilutive effect on our earnings per share to the extent the stock price exceeds the conversion price of the notes. Additionally, the warrants may have a dilutive effect on our earnings per share to the extent the stock price exceeds the strike price of the warrants.

Foreign currency risk

Through our licensing and business operations, we are exposed to foreign currency risk. Foreign currency exposures arise from transactions denominated in a currency other than the functional currency and from foreign denominated revenues and profit translated into U.S. dollars. Our collaborative partners sell our products worldwide in currencies other than the U.S. dollar. Because of this, our revenues from royalty payments are subject to risk from changes in exchange rates.

We purchase Captisol from Hovione, located in Lisbon, Portugal. Payments to Hovione are denominated and paid in U.S. dollars, however the unit price of Captisol contains an adjustment factor which is based on the sharing of foreign currency risk between the two parties. The effect of an immediate 10% change in foreign exchange rates would not have a material impact on our financial condition, results of operations or cash flows. We do not currently hedge our exposures to foreign currency fluctuations.

Interest rate risk
We are exposed to market risk involving rising interest rates. To the extent interest rates rise, our interest costs could increase. An increase in interest costs of 10% would not have a material impact on our financial condition, results of operations or cash flows.

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ITEM 4. CONTROLS AND PROCEDURES

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as such term is defined in Rules 13a15(e) and 15d-15(e) under the Exchange Act. Based upon and as of the date of that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed by us in reports we file or submit pursuant to the Exchange Act is (1) recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and (2) accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Our disclosure controls were designed to provide reasonable assurance that the controls and procedures would meet their objectives. Our management, including the Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls will prevent all error and all fraud. A control system, no matter how well designed and operated, can provide only reasonable assurance of achieving the designed control objectives and management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected. These inherent limitations include the realities that judgments in decision making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusions of two or more people, or by management override of the control. Because of the inherent limitations in a cost-effective, maturing control system, misstatements due to error or fraud may occur and not be detected.

During the fiscal quarter ended March 31, 2018, we implemented certain internal controls over financial reporting in connection with our adoption of ASC 606. There have not been any other changes in our internal control over financial reporting (as defined in Rule 13a-15(f) and 15d-15(f) under the Exchange Act) during the quarter of the fiscal year to which this report relates that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

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PART II. OTHER INFORMATION

ITEM 1. Legal Proceedings

From time to time we are subject to various lawsuits and claims with respect to matters arising out of the normal course of our business. Due to the uncertainty of the ultimate outcome of these matters, the impact on future financial results is not subject to reasonable estimates.

In November 2017, CyDex, our wholly owned subsidiary, received a paragraph IV certification from Teva Pharmaceuticals USA, Inc., Teva Pharmaceutical Industries Ltd. and Actavis, LLC (collectively “Teva”) alleging that certain of our patents related to Captisol were invalid, unenforceable and/or will not be infringed by Teva’s ANDA related to Spectrum Pharmaceuticals’ NDA for Evomela. On December 20, 2017, CyDex filed a complaint against Teva in the U.S. District Court for the District of Delaware, asserting that Teva’s ANDA would infringe our patents. On March 22, Teva filed an answer and counterclaims seeking declarations of non-infringement and invalidity as to each of the asserted patents and on April 12, CyDex filed an answer to Teva’s counterclaims.

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ITEM 1A. RISK FACTORS

The following is a summary description of some of the many risks we face in our business. You should carefully review these risks in evaluating our business, including the businesses of our subsidiaries. You should also consider the other information described in this report. The risk factors set forth below with an asterisk (*) next to the title are new risk factors or risk factors containing material changes from the risk factors previously disclosed in Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2017, as filed with the SEC on March 1, 2018:

Future revenue based on Promacta, Kyprolis and Evomela, as well as sales of our other products, may be lower than expected.

Novartis is obligated to pay us royalties on its sales of Promacta, and we receive revenue from Amgen based on both sales of Kyprolis and purchases of Captisol material for clinical and commercial uses. These payments are expected to be a substantial portion of our ongoing revenues for some time. In addition, we receive revenues based on sales of Evomela and other products. Any setback that may occur with respect to any of our partners' products, and in particular Promacta or Kyprolis, could significantly impair our operating results and/or reduce our revenue and the market price of our stock. Setbacks for the products could include problems with shipping, distribution, manufacturing, product safety, marketing, government regulation or reimbursement, licenses and approvals, intellectual property rights, competition with existing or new products and physician or patient acceptance of the products, as well as higher than expected total rebates, returns, discounts, or unfavorable exchange rates. These products also are or may become subject to generic competition.

Future revenue from sales of Captisol material to our license partners may be lower than expected.

Revenues from sales of Captisol material to our collaborative partners represent a significant portion of our current revenues. Any setback that may occur with respect to Captisol could significantly impair our operating results and/or reduce the market price of our stock. Setbacks for Captisol could include problems with shipping, distribution, manufacturing, product safety, marketing, government regulation or reimbursement, licenses and approvals, intellectual property rights, competition with existing or new products and physician or patient acceptance of the products using Captisol.

If products or product candidates incorporating Captisol material were to cause any unexpected adverse events, the perception of Captisol safety could be seriously harmed. If this were to occur, we may not be able to sell Captisol unless and until we are able to demonstrate that the adverse event was unrelated to Captisol, which we may not be able to do. Further, the FDA could require us to submit additional information for regulatory review or approval, including data from extensive safety testing or clinical testing of products using Captisol. This would be expensive and it may delay the marketing of Captisol-enabled products and receipt of revenue related to those products, which could significantly impair our operating results and/or reduce the market price of our stock.

We obtain Captisol from a sole source supplier, and if this supplier were to cease to be able, for any reason, to supply Captisol to us in the amounts we require, or decline to supply Captisol to us, we would be required to seek an alternative source, which could potentially take a considerable length of time and impact our revenue and customer relationships. We maintain inventory of Captisol, which has a five year shelf life, at three geographically dispersed storage locations in the United States and Europe. If we were to encounter problems maintaining our inventory, such as natural disasters, at one or more of these locations, it could lead to supply interruptions. While we believe we maintain adequate inventory of Captisol to meet our current and expected future partner needs, our estimates and projections for Captisol demand may be wrong and any supply interruptions could materially adversely impact our operating results.

We currently depend on our arrangements with our partners and licensees to sell products using our Captisol technology. These agreements generally provide that our partners may terminate the agreements at will. If our partners discontinue sales of products using Captisol, fail to obtain regulatory approval for products using Captisol, fail to satisfy their obligations under their agreements with us, or choose to utilize a generic form of Captisol should it become available, or if we are unable to establish new licensing and marketing relationships, our financial results and growth prospects would be materially affected. Furthermore, we maintain significant accounts receivable balances with certain customers purchasing Captisol materials, which may result in the concentration of credit risk. We generally do not require any collateral from our customers to secure payment of these accounts receivable. If any of our major customers were to default in the payment of their obligations to us, our business, operating results and cash flows could be adversely affected.

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Further, under most of our Captisol outlicenses, the amount of royalties we receive will be reduced or will cease when the relevant patent expires. Our low-chloride patents and foreign equivalents are not expected to expire until 2033, our high purity patents and foreign equivalents, are not expected to expire until 2029 and our morphology patents and foreign equivalents, are not expected to expire until 2025, but the initially filed patents relating to Captisol expired starting in 2010 in the United States and in 2016 in most countries outside the United States. If our other intellectual property rights are not sufficient to prevent a generic form of Captisol from coming to market and if in such case our partners choose to terminate their agreements with us, our Captisol revenue may decrease significantly.

Third party intellectual property may prevent us or our partners from developing our potential products; our and our partners' intellectual property may not prevent competition; and any intellectual property issues may be expensive and time consuming to resolve.

The manufacture, use or sale of our potential products or our licensees' products or potential products may infringe the patent rights of others. If others obtain patents with conflicting claims, we may be required to obtain licenses to those patents or to develop or obtain alternative technology. We may not be able to obtain any such licenses on acceptable terms, or at all. Any failure to obtain such licenses could delay or prevent us from pursuing the development or commercialization of our potential products.

Generally, our success will depend on our ability and the ability of our partners to obtain and maintain patents and other intellectual property rights for our and their potential products. Our patent position is uncertain and involves complex legal and technical questions for which legal principles are unresolved. Even if we or our partners do obtain patents, such patents may not adequately protect the technology we own or have licensed.

We permit our partners to list our patents that cover their branded products in the Orange Book. If a third party files an NDA or ANDA for a generic drug product that relies in whole or in part on studies contained in our partner's NDA for their branded product, the third party will have the option to certify to the FDA that, in the opinion of that third party, the patents listed in the Orange Book for our partner's branded product are invalid, unenforceable, or will not be infringed by the manufacture, use or sale of the third party's generic drug product. A third party certification that a new product will not infringe Orange Book-listed patents, or that such patents are invalid, is called a paragraph IV patent certification. If the third party submits a paragraph IV patent certification to the FDA, a notice of the paragraph IV patent certification must be sent to the NDA owner and the owner of the patents that are subject to the paragraph IV patent certification notice once the third-party's NDA or ANDA is accepted for filing by the FDA. A lawsuit may then be initiated to defend the patents identified in the notice. The filing of a patent infringement lawsuit within 45 days of the receipt of notice of a paragraph IV patent certification automatically prevents the FDA from approving the generic NDA or ANDA until the earlier of the expiration of a 30-month period, the expiration of the patents, the entry of a settlement order stating that the patents are invalid or not infringed, a decision in the infringement case that is favorable to the NDA or ANDA applicant, or such shorter or longer period as the court may order. If a patent infringement lawsuit is not initiated within the required 45-day period, the third-party's NDA or ANDA will not be subject to the 30-month stay.

Several third-parties have challenged, and additional third parties may challenge, the patents covering our partner's branded products, including Promacta, Kyprolis and Evomela, which could result in the invalidation or unenforceability of some or all of the relevant patent claims. We may from time to time become party to litigation or other proceedings as a result of Paragraph IV certifications. For example, in November 2017, CyDex, our wholly owned subsidiary, received a paragraph IV certification from Teva Pharmaceuticals USA, Inc., Teva Pharmaceutical Industries Ltd. and Actavis, LLC (collectively "Teva") alleging that certain of our patents related to Captisol were invalid, unenforceable and/or will not be infringed by Teva's ANDA related to Spectrum Pharmaceuticals' NDA for Evomela. On December 20, 2017, CyDex filed a complaint against Teva in the U.S. District Court for the District of Delaware, asserting that Teva's ANDA would infringe our patents. On March 22, Teva filed an answer and

counterclaims seeking declarations of non-infringement and invalidity as to each of the asserted patents and on April 12, CyDex filed an answer to Teva's counterclaims.

Litigation or other proceedings to enforce or defend intellectual property rights are often very complex in nature, may be very expensive and time-consuming, may divert our management's attention from our core business, and may result in unfavorable results that could adversely impact our ability to prevent third parties from competing with our partner's products. Any adverse outcome of such litigation could result in one or more or our patents being held invalid or unenforceable, which could adversely affect our ability to successfully execute our business strategy and negatively impact our financial condition and results of operations. However, given the unpredictability inherent in litigation, we cannot predict or guarantee the outcome

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of these matters or any other litigation. Regardless of how these matters are ultimately resolved, these matters may be costly, time-consuming and distracting to our management, which could have a material adverse effect on our business.

In addition, periodic maintenance fees, renewal fees, annuity fees and various other governmental fees on patents and or applications will be due to the U.S. and various foreign patent offices at various points over the lifetime of our and our licensees' patents and/or applications. We have systems in place to remind us to pay these fees, and we rely on our outside patent annuity service to pay these fees when due. Additionally, the U.S. and various foreign patent offices require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. We employ reputable law firms and other professionals to help us comply, and in many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with rules applicable to the particular jurisdiction. However, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. If such an event were to occur, it could have a material adverse effect on our business.

Any conflicts with the patent rights of others could significantly reduce the coverage of our patents or limit our ability to obtain meaningful patent protection. For example, our European patent related to Agglomerated forms of Captisol was limited during an opposition proceeding, and the rejection of our European patent application related to High Purity Captisol was upheld on appeal. In addition, any determination that our patent rights are invalid may result in early termination of our agreements with our license partners and could adversely affect our ability to enter into new license agreements. We also rely on unpatented trade secrets and know-how to protect and maintain our competitive position. We require our employees, consultants, licensees and others to sign confidentiality agreements when they begin their relationship with us. These agreements may be breached, and we may not have adequate remedies for any breach. In addition, our competitors may independently discover our trade secrets.

We may also need to initiate litigation, which could be time-consuming and expensive, to enforce our proprietary rights or to determine the scope and validity of others' rights. If this occurs, a court may find our patents or those of our licensors invalid or may find that we have infringed on a competitor's rights. In addition, if any of our competitors have filed patent applications in the United States which claim technology we also have invented, the United States Patent and Trademark Office may require us to participate in expensive interference proceedings to determine who has the right to a patent for the technology.

The occurrence of any of the foregoing problems could be time-consuming and expensive and could adversely affect our financial position, liquidity and results of operations.

We rely heavily on licensee relationships, and any disputes or litigation with our partners or termination or breach of any of the related agreements could reduce the financial resources available to us, including milestone payments and future royalty revenues.

Our existing collaborations may not continue or be successful, and we may be unable to enter into future collaborative arrangements to develop and commercialize our unpartnered assets. Generally, our current collaborative partners also have the right to terminate their collaborations at will or under specified circumstances. If any of our collaborative partners breach or terminate their agreements with us or otherwise fail to conduct their collaborative activities successfully (for example, by not making required payments when due, or at all), our product development under these agreements will be delayed or terminated. Disputes or litigation may also arise with our collaborators (with us and/or with one or more third parties), including those over ownership rights to intellectual property, know-how or technologies developed with our collaborators. For example, we are asserting our rights to receive payment against one of our collaborative partners which could harm our relationship with such partner. Such disputes or litigation

could adversely affect our rights to one or more of our product candidates and could delay, interrupt or terminate the collaborative research, development and commercialization of certain potential products, create uncertainty as to ownership rights of intellectual property, or could result in litigation or arbitration. In addition, a significant downturn or deterioration in the business or financial condition of our collaborators or partners could result in a loss of expected revenue and our expected returns on investment. The occurrence of any of these problems could be time-consuming and expensive and could adversely affect our business.

Our product candidates, and the product candidates of our partners, face significant development and regulatory hurdles prior to partnering and/or marketing which could delay or prevent licensing, sales-based royalties and/or milestone revenue.

Before we or our partners obtain the approvals necessary to sell any of our unpartnered assets or partnered programs, we must show through preclinical studies and human testing that each potential product is safe and effective. We and/or our

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partners have a number of partnered programs and unpartnered assets moving toward or currently awaiting regulatory action. Failure to show any product's safety and effectiveness could delay or prevent regulatory approval of a product and could adversely affect our business. The drug development and clinical trials process is complex and uncertain. For example, the results of preclinical studies and initial clinical trials may not necessarily predict the results from later large-scale clinical trials. In addition, clinical trials may not demonstrate a product's safety and effectiveness to the satisfaction of the regulatory authorities. A number of companies have suffered significant setbacks in advanced clinical trials or in seeking regulatory approvals, despite promising results in earlier trials. The FDA may also require additional clinical trials after regulatory approvals are received. Such additional trials may be expensive and time-consuming, and failure to successfully conduct those trials could jeopardize continued commercialization of a product.

The speed at which we and our partners complete our scientific studies and clinical trials depends on many factors, including, but not limited to, the ability to obtain adequate supplies of the products to be tested and patient enrollment. Patient enrollment is a function of many factors, including the size of the patient population, the proximity of patients to clinical sites, the eligibility criteria for the trial and other potential drug candidates being studied. Delays in patient enrollment for our or our partners' trials may result in increased costs and longer development times. In addition, our partners have rights to control product development and clinical programs for products developed under our collaborations. As a result, these partners may conduct these programs more slowly or in a different manner than expected. Moreover, even if clinical trials are completed, we or our partners still may not apply for FDA or foreign regulatory approval in a timely manner or the FDA or foreign regulatory authority still may not grant approval.

Our drug discovery, early-stage drug development, and product reformulation programs may require substantial additional capital to complete successfully. Our partner's drug development programs may require substantial additional capital to complete successfully, arising from costs to: conduct research, preclinical testing and human studies; establish pilot scale and commercial scale manufacturing processes and facilities; and establish and develop quality control, regulatory, marketing, sales and administrative capabilities to support these programs. While we expect to fund our research and development activities from cash generated from operations to the extent possible, if we are unable to do so, we may need to complete additional equity or debt financings or seek other external means of financing. These financings could depress our stock price. If additional funds are required to support our operations and we are unable to obtain them on terms favorable to us, we may be required to cease or reduce further development or commercialization of our products, to sell some or all of our technology or assets or to merge with another entity.

Our OmniAb antibody platform faces specific risks, including the fact that no drug using antibodies from the platform has yet advanced to late stage clinical trials.

None of our collaboration partners using our OmniAb antibody platform have tested drugs based on the platform in late stage clinical trials and, therefore, none of our OmniAb collaboration partners' drugs have received FDA approval. If one of our OmniAb collaboration partners' drug candidates fails during preclinical studies or clinical trials, our other OmniAb collaboration partners may decide to abandon drugs using antibodies generated from the OmniAb platform, whether or not attributable to the platform. All of our OmniAb collaboration partners may terminate their programs at any time without penalty. In addition, our OmniRat and OmniFlic platforms, which we consider the most promising, are covered by two patents within the U.S. and two patents in the European Union and are subject to the same risks as our patent portfolio discussed above, including the risk that our patents may infringe on third party patent rights or that our patents may be invalidated. Further, we face significant competition from other companies selling human antibody-generating rodents, especially mice which compete with our OmniMouse platform, including the VelocImmune mouse, the AlivaMab mouse, the Trianni mouse and the Kymouse. Many of our competitors have greater financial, technical and human resources than we do and may be better equipped to develop, manufacture and market competing antibody platforms.

If plaintiffs bring product liability lawsuits against us or our partners, we or our partners may incur substantial liabilities and may be required to limit commercialization of our approved products and product candidates.

As is common in our industry, our partners and we face an inherent risk of product liability as a result of the clinical testing of our product candidates in clinical trials and face an even greater risk for commercialized products. Although we are not currently a party to product liability litigation, if we are sued, we may be held liable if any product or product candidate we develop causes injury or is found otherwise unsuitable during product testing, manufacturing, marketing or sale. Regardless of merit or eventual outcome, liability claims may result in decreased demand for any product candidates, partnered products or products that we may develop, injury to our reputation, discontinuation of clinical trials, costs to defend litigation, substantial monetary awards to clinical trial participants or patients, loss of revenue and product recall or withdrawal from the market and the inability to commercialize any products that we develop. We have product liability insurance that covers our clinical trials

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up to a $10.0 million annual limit. Our insurance coverage may not be sufficient to cover all of our product liability related expenses or losses and may not cover us for any expenses or losses we may suffer. If we are sued for any injury caused by our product candidates, partnered products or any future products, our liability could exceed our total assets.

Market acceptance and sales of any approved product will depend significantly on the availability and adequacy of coverage and reimbursement from third-party payors and may be affected by existing and future healthcare reform measures.

Sales of the products we license to our collaboration partners and the royalties we receive will depend in large part on the extent to which coverage and reimbursement is available from government and health administration authorities, private health maintenance organizations and health insurers, and other healthcare payors. Significant uncertainty exists as to the reimbursement status of healthcare products. Healthcare payors, including Medicare, are challenging the prices charged for medical products and services. Government and other healthcare payors are increasingly attempting to contain healthcare costs by limiting both coverage and the level of reimbursement for medical products. Even if a product is approved by the FDA, insurance coverage may not be available, and reimbursement levels may be inadequate, to cover the costs associated with the research, development, marketing and sale of the product. If government and other healthcare payors do not provide adequate coverage and reimbursement levels for any product, market acceptance and any sales could be reduced.

From time to time, legislation is implemented to reign in rising healthcare expenditures. By way of example, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or collectively, the ACA, was enacted, which included a number of provisions affecting the pharmaceutical industry, including, among other things, annual, non-deductible fees on any entity that manufactures or imports some types of branded prescription drugs and increases in Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program. Since its enactment, there have been judicial and Congressional challenges to certain aspects of the ACA, and we expect there will be additional challenges and amendments to the ACA in the future.

Other legislative changes have been proposed and adopted since the ACA was enacted, including aggregate reductions of Medicare payments to providers of 2% per fiscal year and reduced payments to several types of Medicare providers. Moreover, there has recently been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed bills designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drug products. Individual states in the United States have also become increasingly active in implementing regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. We cannot predict whether other legislative changes will be adopted, if any, or how such changes would affect our operations or financial condition.

We and our collaboration partners may be subject to federal and state healthcare laws, including fraud and abuse, false claims, physician payment transparency and health information privacy and security laws. Our operations and those of our collaboration partners are subject to various federal and state fraud and abuse laws, including, without limitation, anti-kickback, false claims and physician payment transparency statutes. These laws may impact, among other things, financial arrangements with physicians, sales, marketing and education programs and the manner in any of those activities are implemented. In addition, we may be subject to federal and state patient privacy regulations. If our operations or those of our collaboration partners are found to be in violation of any of those laws or any other applicable governmental regulations, we or our collaboration partners may be subject to penalties, including civil and

criminal penalties, damages, fines, imprisonment, exclusion from government healthcare programs or the curtailment or restructuring of operations, any of which could adversely affect our ability to operate our business and our financial condition.

Any difficulties from strategic acquisitions could adversely affect our stock price, operating results and results of operations.

We may acquire companies, businesses and products that complement or augment our existing business. We may not be able to integrate any acquired business successfully or operate any acquired business profitably. Integrating any newly acquired business could be expensive and time-consuming. Integration efforts often take a significant amount of time, place a significant strain on managerial, operational and financial resources and could prove to be more difficult or expensive than we predict. The diversion of our management's attention and any delay or difficulties encountered in connection with any future acquisitions we may consummate could result in the disruption of our on-going business or inconsistencies in standards and controls that could negatively affect our ability to maintain third-party relationships. Moreover, we may need to raise additional funds through

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public or private debt or equity financing, or issue additional shares, to acquire any businesses or products, which may result in dilution for stockholders or the incurrence of indebtedness.

As part of our efforts to acquire companies, business or product candidates or to enter into other significant transactions, we conduct business, legal and financial due diligence with the goal of identifying and evaluating material risks involved in the transaction. Despite our efforts, we ultimately may be unsuccessful in ascertaining or evaluating all such risks and, as a result, might not realize the intended advantages of the transaction. If we fail to realize the expected benefits from acquisitions we may consummate in the future or have consummated in the past, whether as a result of unidentified risks, integration difficulties, regulatory setbacks, litigation with current or former employees and other events, our business, results of operations and financial condition could be adversely affected. If we acquire product candidates, we will also need to make certain assumptions about, among other things, development costs, the likelihood of receiving regulatory approval and the market for such product candidates. Our assumptions may prove to be incorrect, which could cause us to fail to realize the anticipated benefits of these transactions.

In addition, we will likely experience significant charges to earnings in connection with our efforts, if any, to consummate acquisitions. For transactions that are ultimately not consummated, these charges may include fees and expenses for investment bankers, attorneys, accountants and other advisors in connection with our efforts. Even if our efforts are successful, we may incur, as part of a transaction, substantial charges for closure costs associated with elimination of duplicate operations and facilities and acquired IPR&D charges. In either case, the incurrence of these charges could adversely affect our results of operations for particular quarterly or annual periods.

Changes or modifications in financial accounting standards, including those related to revenue recognition, may harm our results of operations.

From time to time, the FASB either alone or jointly with other organizations, promulgates new accounting principles that could have an adverse impact on our results of operations. For example, in May 2014, FASB issued a new accounting standard for revenue recognition-Accounting Standards Codification Topic 606, Revenue from Contracts with Customers, or ASC 606-that supersedes most current revenue recognition guidance. The new guidance requires a company to recognize revenue upon transfer of goods or services to a customer at an amount that reflects the expected consideration to be received in exchange for those goods or services. The new guidance is effective in the first quarter of 2018.

This standard has a material impact on our consolidated financial statements by accelerating the timing of revenue recognition for revenues related to royalties, and potentially certain contingent milestone based payments. Our practice has been to book royalties one quarter after our partners report sales of the underlying product. Now, under ASC 606, Ligand estimates and books royalties in the same quarter that our partners report the sale of the underlying product. As a result, we now book royalties one quarter earlier compared to our past practice. We rely on our partners' earning releases and other information from our partners to determine the sales of our partners' products and to estimate the related royalty revenues. If our partners report incorrect sales, or if our partners delay reporting of their earnings release, our royalty estimates may need to be revised and/or our financial reporting may be delayed.

Any difficulties in implementing this guidance could cause us to fail to meet our financial reporting obligations, which could result in regulatory discipline and harm investors' confidence in us. Finally, if we were to change our critical accounting estimates, including those related to the recognition of license revenue and other revenue sources, our operating results could be significantly affected.

Uncertainties in the interpretation and application of the 2017 Tax Cuts and Jobs Act could materially affect our tax obligations and effective tax rate.

The 2017 Tax Cuts and Jobs Act (the Tax Act) was enacted on December 22, 2017, and significantly affected U.S. tax law by changing how the U.S. imposes income tax on corporations, including by reducing the U.S. corporate income tax rate. The U.S. Department of Treasury has broad authority to issue regulations and interpretative guidance that may significantly impact how we will apply the law and impact our results of operations in the period issued.

The Tax Act requires certain complex computations not previously provided in U.S. tax law. As such, the application of accounting guidance for such items is currently uncertain. Further, compliance with the Tax Act and the accounting for such provisions require accumulation of certain information not previously required or regularly produced. As a result, we have provided a provisional estimate on the effect of the Tax Act in our financial statements. As additional regulatory guidance is issued by the applicable taxing authorities, as accounting treatment is clarified, as we perform additional analysis on the

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application of the law, and as we refine estimates in calculating the effect, our final analysis, which will be recorded in the period completed, may be different from our current provisional amounts, which could materially affect our tax obligations and effective tax rate.

Our ability to use our net operating loss carryforwards and certain other tax attributes to offset future taxable income may be subject to certain limitations.

As of December 31, 2017 we had U.S. federal and state net operating loss carryforwards (NOLs) of approximately $388 million and $127 million, respectively, which expire through 2036, if not utilized. As of December 31, 2017, we had federal and California research and development tax credit carryforwards of approximately $24 million and $21 million, respectively. The federal research and development tax credit carryforwards expire in various years through 2036, if not utilized. The California research and development credit will carry forward indefinitely. Under Sections 382 and 383 of Internal Revenue Code of 1986, as amended (Code) if a corporation undergoes an “ownership change,” the corporation’s ability to use its pre-change NOLs and other pre-change tax attributes, such as research tax credits, to offset its future post-change income and taxes may be limited. In general, an “ownership change” occurs if there is a cumulative change in our ownership by “5% shareholders” that exceeds 50 percentage points over a rolling three-year period. Similar rules may apply under state tax laws. We believe we have experienced certain ownership changes in the past and have reduced our deferred tax assets related to NOLs and research and development tax credit carryforwards accordingly. In the event that it is determined that we have in the past experienced additional ownership changes, or if we experience one or more ownership changes as a result future transactions in our stock, then we may be further limited in our ability to use our NOLs and other tax assets to reduce taxes owed on the net taxable income that we earn in the event that we attain profitability. Furthermore, under recently enacted U.S. tax legislation, although the treatment of tax losses generated before December 31, 2017 has generally not changed, tax losses generated in calendar year 2018 and beyond may only offset 80% of our taxable income. This change may require us to pay federal income taxes in future years despite generating a loss for federal income tax purposes in prior years. Any such limitations on the ability to use our NOLs and other tax assets could adversely impact our business, financial condition and operating results.

We rely on information technology and any failure, inadequacy, interruption or security lapse of that technology, including any cyber security incidents, could harm our ability to operate our business effectively.

Our business is increasingly dependent on critical, complex and interdependent information technology systems, including internet-based systems, to support business processes as well as internal and external communications. Despite the implementation of security measures, our internal computer systems and those of our partners are vulnerable to damage from cyber-attacks, computer viruses, security breaches, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. System failures, accidents or security breaches could cause interruptions in our operations, could lead to the loss of trade secrets or other intellectual property, could lead to the public exposure of personal information of our employees and others, and could result in a material disruption of our clinical and commercialization activities and business operations, in addition to possibly requiring substantial expenditures to remedy. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and our business and financial condition could be harmed.

The occurrence of a catastrophic disaster could damage our facilities beyond insurance limits or we could lose key data which could cause us to curtail or cease operations.

We are vulnerable to damage and/or loss of vital data from natural disasters, such as earthquakes, tornadoes, power loss, fire, floods and similar events, as well as from accidental loss or destruction. If any disaster were to occur, our ability to operate our business could be seriously impaired. We have property, liability, and business interruption

insurance which may not be adequate to cover our losses resulting from disasters or other similar significant business interruptions, and we do not plan to purchase additional insurance to cover such losses due to the cost of obtaining such coverage. Any significant losses that are not recoverable under our insurance policies could seriously impair our business, financial condition and prospects.

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We sold the 2019 Convertible Senior Notes, which may impact our financial results, result in the dilution of existing stockholders, create downward pressure on the price of our common stock, and restrict our ability to take advantage of future opportunities.

In August of 2014, we sold $245.0 million aggregate principal amount of 0.75% Convertible Senior Notes due 2019, or the 2019 Convertible Senior Notes. We will be required to pay interest on the 2019 Convertible Senior Notes until they come due or are converted, and the payment of that interest will reduce our net income. The sale of the 2019 Convertible Senior Notes may also affect our earnings per share figures, as accounting procedures require that we include in our calculation of earnings per share the number of shares of our common stock into which the 2019 Convertible Senior Notes are convertible. The 2019 Convertible Senior Notes may be converted, under the conditions and at the premium specified in the 2019 Convertible Senior Notes, into cash and shares of our common stock, if any (subject to our right to pay cash in lieu of all or a portion of such shares). If shares of our common stock are issued to the holders of the 2019 Convertible Senior Notes upon conversion, there will be dilution to our shareholders' equity and the market price of our shares may decrease due to the additional selling pressure in the market. Any downward pressure on the price of our common stock caused by the sale or potential sale of shares issuable upon conversion of the 2019 Convertible Notes could also encourage short sales by third parties, creating additional selling pressure on our stock. Upon the occurrence of certain circumstances, holders of the 2019 Convertible Senior Notes may require us to purchase all or a portion of their notes for cash, which may require the use of a substantial amount of cash. If such cash is not available, we may be required to sell other assets or enter into alternate financing arrangements at terms that may or may not be desirable. The existence of the 2019 Convertible Senior Notes and the obligations that we incurred by issuing them may restrict our ability to take advantage of certain future opportunities, such as engaging in future debt or equity financing activities.

As of May 8, 2018, the Company has received notices for conversion of $21.8 million in principal of 2019 Convertible Senior Notes.

Impairment charges pertaining to goodwill, identifiable intangible assets or other long-lived assets from our mergers and acquisitions could have an adverse impact on our results of operations and the market value of our common stock.

The total purchase price pertaining to our acquisitions in recent years of CyDex, Metabasis, Pharmacopeia, Neurogen and OMT have been allocated to net tangible assets, identifiable intangible assets, in-process research and development and goodwill. To the extent the value of goodwill or identifiable intangible assets or other long-lived assets become impaired, we will be required to incur material charges relating to the impairment. Any impairment charges could have a material adverse impact on our results of operations and the market value of our common stock.

Our charter documents and concentration of ownership may hinder or prevent change of control transactions.

Provisions contained in our certificate of incorporation and bylaws may discourage transactions involving an actual or potential change in our ownership. In addition, our Board of Directors may issue shares of common or preferred stock without any further action by the stockholders. Our directors and certain of our institutional investors collectively beneficially own a significant portion of our outstanding common stock. Such provisions and issuances may have the effect of delaying or preventing a change in our ownership. If changes in our ownership are discouraged, delayed or prevented, it would be more difficult for our current Board of Directors to be removed and replaced, even if you or our other stockholders believe that such actions are in the best interests of us and our stockholders.

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Our stock price has been volatile and could experience a sudden decline in value.

The market prices for securities of biotechnology and pharmaceutical companies have historically been highly volatile, and the market has recently experienced significant price and volume fluctuations that are unrelated to the operating performance of particular companies. Continued volatility in the overall capital markets could reduce the market price of our common stock in spite of our operating performance. Further, high stock price volatility could result in higher stock-based compensation expense.

Our common stock has experienced significant price and volume fluctuations and may continue to experience volatility in the future. Many factors may have a significant impact on the market price of our common stock, including, but not limited to, the following factors: results of or delays in our preclinical studies and clinical trials; the success of our collaboration agreements; publicity regarding actual or potential medical results relating to products under development by us or others; announcements of technological innovations or new commercial products by us or others; developments in patent or other proprietary rights by us or others; comments or opinions by securities analysts or major stockholders or changed securities analysts' reports or recommendations; future sales or shorting of our common stock by existing stockholders; regulatory developments or changes in regulatory guidance; litigation or threats of litigation; economic and other external factors or other disaster or crises; the departure of any of our officers, directors or key employees; period-to-period fluctuations in financial results; and price and volume fluctuations in the overall stock market.

Our results of operations and liquidity needs could be materially negatively affected by market fluctuations and economic downturn.

Our results of operations could be materially negatively affected by economic conditions generally, both in the United States and elsewhere around the world. Concerns over inflation, energy costs, geopolitical issues, the availability and cost of credit, and the U.S. financial markets have in the past contributed to, and may continue in the future contributed to, increased volatility and diminished expectations for the economy and the markets. Domestic and international equity markets periodically experience heightened volatility and turmoil. These events may have an adverse effect on us. In the event of a market downturn, our results of operations could be adversely affected by those factors in many ways, including making it more difficult for us to raise funds if necessary, and our stock price may further decline. We cannot provide assurance that our investments are not subject to adverse changes in market value. If our investments experience adverse changes in market value, we may have less capital to fund our operations.

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ITEM 5. Other Information

ITEM 6. EXHIBITS

The Exhibit Index to this Quarterly Report on Form 10-Q is incorporated herein 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.

Date: May 9, 2018 By: /s/ Matthew Korenberg
Matthew Korenberg
Executive Vice President, Finance and Chief Financial Officer
Duly Authorized Officer and Principal Financial Officer

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EXHIBIT INDEX

Exhibit Number	Description
31.1	Certification by Principal Executive Officer, Pursuant to Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification by Principal Financial Officer, Pursuant to Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certifications by Principal Executive Officer and Principal Financial Officer, Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
10.1	Amendment No. 5 to Sublicense Agreement, dated March 20, 2018, among the Company, Pharmacopeia, LLC and Retrophin, Inc.
10.2	License Agreement, dated March 5, 2018, by and between the Company and Roivant Sciences GmbH†
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

† Confidential treatment has been requested for portions of this exhibit. These portions have been omitted and submitted separately to the Securities and Exchange Commission.