UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

☒ **Quarterly Report Pursuant to Section 13 or 15 (d) of the Securities Exchange Act of 1934**

For the quarterly period ended June 30, 2020

or

☐ **Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934**

For the Transition Period From _____ to _____ .

Commission File Number: 001-33093

LIGAND PHARMACEUTICALS INCORPORATED

(Exact name of registrant as specified in its charter)

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

(858) 550-7500

(Registrant's Telephone Number, Including Area Code)

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

Title of each class:	Trading symbol:	Name of each exchange on which registered:
Common Stock , par value $0.001 per share	**LGND**	**The Nasdaq Global Market**

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See 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	☒	Accelerated Filer	☐
Non-Accelerated Filer	☐	Smaller Reporting Company	☐
Emerging Growth Company	☐		

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

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

As of August 4, 2020, the registrant had 16,078,143 shares of common stock outstanding.

LIGAND PHARMACEUTICALS INCORPORATED
QUARTERLY REPORT

FORM 10-Q

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GLOSSARY OF TERMS AND ABBREVIATIONS

Abbreviation	Definition
2019 Annual Report	Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on February 27, 2020
2019 Notes	$245.0 million aggregate principal amount of convertible senior unsecured notes due 2019
2023 Notes	$750.0 million aggregate principal amount of convertible senior unsecured notes due 2023
Ab Initio	Ab Initio Biotherapeutics, Inc.
Acrotech Biopharma	Acrotech Biopharma, LLC
Amgen	Amgen, Inc.
ANDA	Abbreviated New Drug Application
ASC	Accounting Standards Codification
ASCO	American Society of Clinical Oncology
ASU	Accounting Standards Update
Aziyo	Aziyo Med, LLC
CE	Captisol-enabled
cGMP	current Good Manufacturing Practices
Company	Ligand Pharmaceuticals Incorporated, including subsidiaries
CorMatrix	CorMatrix Cardiovascular, Inc.
CVR	Contingent value right
Crystal	Crystal Bioscience, Inc.
CStone Pharmaceuticals	CStone Pharmaceuticals (Suzhou) Co., Ltd.
CyDex	CyDex Pharmaceuticals, Inc.
Dianomi Therapeutics	Dianomi Therapeutics, Inc.
ESPP	Employee Stock Purchase Plan, as amended and restated
EUA	Emergency Use Authorization
FASB	Financial Accounting Standards Board
FDA	Food and Drug Administration
GAAP	Generally accepted accounting principles in the United States
Gloria Biosciences	Gloria Biosciences, Co.
Glucagon CVR	The contingent value right issued pursuant to the Glucagan CVR Agreement, dated January 10, 2010 by and between the Company, Meatabasis and the other parties named therein
Gilead	Gilead Sciences, Inc.
GRA	Glucagon receptor antagonist
Icagen	Icagen, Inc.
IPR&D	In-process Research and Development
Ligand	Ligand Pharmaceuticals Incorporated, including subsidiaries
Metabasis	Metabasis Therapeutics, Inc.
NDA	New Drug Application
Pfizer	Pfizer Inc.
Q2 2019	The Company's fiscal quarter ended June 30, 2019
Q2 2020	The Company's fiscal quarter ended June 30, 2020
Roivant	Roivant Sciences GmbH
Roivant License Agreement	License Agreement, dated March 5, 2018, between Ligand and Roivant
Retrophin	Retrophin, Inc.
SBC	Share-based compensation expense
SEC	Securities and Exchange Commission
Selexis	Selexis, SA
sNDA	Supplemental New Drug Application
Teva	Teva Pharmaceuticals USA, Inc., Teva Pharmaceutical Industries Ltd. and Actavis, LLC, collectively
Vernalis	Vernalis plc
Viking	Viking Therapeutics, Inc.
YTD	Year-to-date

PART I - FINANCIAL INFORMATION

ɛm 1. Condensed Consolidated Financial Statements

LIGAND PHARMACEUTICALS INCORPORATED
CONDENSED CONSOLIDATED BALANCE SHEETS
(Unaudited, in thousands, except par value)

	June 30, 2020	December 31, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 115,156	$ 71,543
Short-term investments	694,724	998,324
Accounts receivable, net	41,874	30,387
Inventory	3,702	7,296
Income taxes receivable	2,679	11,361
Other current assets	5,489	4,734
Total current assets	863,624	1,123,645
Deferred income taxes, net	26,411	25,608
Intangible assets, net	215,295	210,448
Goodwill	103,369	95,229
Commercial license and other economic rights, net	10,606	20,090
Property and equipment, net	7,883	7,185
Operating lease right-of-use assets	9,689	10,353
Other assets	6,059	2,357
Total assets	$ 1,242,936	$ 1,494,915
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 6,103	$ 2,420
Accrued liabilities	12,828	9,836
Current contingent liabilities	1,416	2,607
Deferred revenue	8,917	2,139
Total current liabilities	29,264	17,002
2023 convertible senior notes, net	449,672	638,959
Long-term contingent liabilities	10,005	6,335
Deferred income taxes, net	23,340	32,937
Long-term operating lease liabilities	9,181	9,970
Other long-term liabilities	26,471	22,480
Total liabilities	547,933	727,683
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, $0.001 par value; 5,000 shares authorized; zero issued and outstanding at June 30, 2020 and December 31, 2019	—	—
Common stock, $0.001 par value; 60,000 shares authorized; 16,071 and 16,823 shares issued and outstanding at June 30, 2020 and December 31, 2019, respectively	16	17
Additional paid-in capital	304,404	367,326
Accumulated other comprehensive loss	(2,310)	(216)
Retained earnings	392,893	400,105
Total stockholders' equity	695,003	767,232
Total liabilities and stockholders' equity	$ 1,242,936	$ 1,494,915

See accompanying notes to unaudited condensed consolidated financial statements.

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

	Three months ended June 30,		Six months ended June 30,	
	2020	2019	2020	2019
Revenues:				
Royalties	$ 7,181	$ 6,626	$ 13,746	$ 26,164
Captisol	24,468	8,549	45,577	17,508
Service revenue	4,582	4,559	7,939	8,442
Contract revenue	5,189	5,253	7,319	16,357
Total revenues	41,420	24,987	74,581	68,471
Operating costs and expenses:				
Cost of Captisol	7,644	2,405	12,327	6,263
Amortization of intangibles	3,875	3,505	7,410	7,008
Research and development	12,732	12,213	24,623	23,502
General and administrative	10,069	10,994	19,333	22,082
Total operating costs and expenses	34,320	29,117	63,693	58,855
Gain from sale of Promacta license	—	—	—	812,797
Income from operations	7,100	(4,130)	10,888	822,413
Other income (expense):				
Gain (loss) from short-term investments	23,460	(15,061)	(7,281)	4,488
Interest income	1,969	9,285	6,699	15,194
Interest expense	(6,213)	(9,012)	(14,761)	(17,918)
Other income, net	1,803	890	2,159	508
Total other income (loss), net	21,019	(13,898)	(13,184)	2,272
Income (loss) before income taxes	28,119	(18,028)	(2,296)	824,685
Income tax benefit (expense)	(6,033)	3,609	251	(172,767)
Net income (loss)	$ 22,086	$ (14,419)	$ (2,045)	$ 651,918
Basic net income (loss) per share	$ 1.38	$ (0.74)	$ (0.13)	$ 32.60
Shares used in basic per share calculations	16,055	19,558	16,292	20,000
Diluted net income (loss) per share	$ 1.32	$ (0.74)	$ (0.13)	$ 31.34
Shares used in diluted per share calculations	16,694	19,558	16,292	20,799

See accompanying notes to unaudited condensed consolidated financial statements.

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

	Three months ended June 30,		Six months ended June 30,	
	2020	2019	2020	2019
Net income (loss):	$ 22,086	$ (14,419)	$ (2,045)	$ 651,918
Unrealized net gain (loss) on available-for-sale securities, net of tax	2,742	503	(30)	733
Foreign currency translation	(185)	(542)	(2,064)	(251)
Comprehensive income (loss)	$ 24,643	$ (14,458)	$ (4,139)	$ 652,400

See accompanying notes to unaudited condensed consolidated financial statements.

LIGAND PHARMACEUTICALS INCORPORATED
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Unaudited)
(in thousands)

	Common Stock		Additional paid in capital	Accumulated other comprehensive income (loss)	Retained earnings	Total stockholders' equity
	Shares	Amount				
Balance at January 1, 2020	16,823	$ 17	$ 367,326	$ (216)	$ 400,105	$ 767,232
Issuance of common stock under employee stock compensation plans, net	105	—	(1,008)	—	—	(1,008)
Share-based compensation	—	—	5,653	—	—	5,653
Repurchase of common stock	(878)	(1)	(73,286)	—	—	(73,287)
Unrealized net loss on available-for-sale securities, net of deferred tax	—	—	—	(2,772)	—	(2,772)
Foreign currency translation adjustment	—	—	—	(1,879)	—	(1,879)
Reacquisition of equity due to 2023 debt extinguishment, net of tax	—	—	(2,745)	—	—	(2,745)
Cumulative-effect adjustment from adoption of ASU 2016-13, net of tax	—	—	—	—	(5,167)	(5,167)
Net loss	—	—	—	—	(24,131)	(24,131)
Balance at March 31, 2020	16,050	$ 16	$ 295,940	$ (4,867)	$ 370,807	$ 661,896
Issuance of common stock under employee stock compensation plans, net	21	—	1,128	—	—	1,128
Share-based compensation	—	—	7,359	—	—	7,359
Unrealized net gain on available-for-sale securities, net of deferred tax	—	—	—	2,742	—	2,742
Foreign currency translation adjustment	—	—	—	(185)	—	(185)
Adjustment on reacquisition of equity due to 2023 debt extinguishment, net of tax	—	—	(23)	—	—	(23)
Net income	—	—	—	—	22,086	22,086
Balance at June 30, 2020	16,071	$ 16	$ 304,404	$ (2,310)	$ 392,893	$ 695,003

	Common Stock		Additional paid in capital	Accumulated other comprehensive income (loss)	Retained earnings (Accumulated deficit)	Total stockholders' equity
	Shares	Amount				
Balance at January 1, 2019	20,765	$ 21	$ 791,114	$ (1,024)	$ (229,197)	$ 560,914
Issuance of common stock under employee stock compensation plans, net	135	—	(991)	—	—	(991)
Share-based compensation	—	—	5,347	—	—	5,347
Repurchase of common stock	(1,236)	(1)	(151,584)	—	—	(151,585)
Unrealized net gain on available-for-sale securities, net of deferred tax	—	—	—	230	—	230
Foreign currency translation adjustment	—	—	—	291	—	291
Other tax adjustments	—	—	(569)	—	—	(569)
Net income	—	—	—	—	666,337	666,337
Balance at March 31, 2019	19,664	$ 20	$ 643,317	$ (503)	$ 437,140	$ 1,079,974
Issuance of common stock under employee stock compensation plans, net	17	—	740	—	—	740
Share-based compensation	—	—	6,571	—	—	6,571
Repurchase of common stock	(291)	(1)	(33,716)	—	—	(33,717)
Unrealized net gain on available-for-sale securities, net of deferred tax	—	—	—	503	—	503
Foreign currency translation adjustment	—	—	—	(542)	—	(542)
Other tax adjustments	—	—	2,343	—	—	2,343
Net loss	—	—	—	—	(14,419)	(14,419)
Balance at June 30, 2019	19,390	$ 19	$ 619,255	$ (542)	$ 422,721	$ 1,041,453

See accompanying notes to unaudited condensed consolidated financial statements.

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

	Six months ended June 30,	
	2020	**2019**
Cash flows from operating activities:		
Net income (loss)	$ (2,045)	$ 651,918
Adjustments to reconcile net income (loss) to net cash provided by operating activities:		
Gain from sale of Promacta license	—	(812,797)
Change in estimated fair value of contingent liabilities	(371)	984
Depreciation and amortization of intangible assets	7,869	7,699
Amortization of premium (discount) on investments, net	1,198	(6,023)
Amortization of debt discount and issuance fees	12,442	14,999
Amortization of commercial license and other economic rights	2,733	5,452
Gain on debt extinguishment	(659)	—
Share-based compensation	13,012	11,918
Deferred income taxes	(8,890)	55,661
Loss (gain) from short-term investments	7,281	(4,488)
Other	(1,499)	(4,429)
Changes in operating assets and liabilities, net of acquisition:		
Accounts receivable, net	(11,466)	35,591
Inventory	6,977	(4,573)
Accounts payable and accrued liabilities	2,909	(3,764)
Income tax receivable	8,673	47,455
Other economic rights	—	(12,000)
Other	3,140	597
Net cash provided by (used in) operating activities	41,304	(15,800)
Cash flows from investing activities:		
Proceeds from sale of Promacta license	—	812,797
Purchase of short-term investments	(336,726)	(1,281,274)
Proceeds from sale of short-term investments	179,431	43,724
Proceeds from maturity of short-term investments	452,405	791,006
Cash paid for acquisition	(15,140)	—
Other	1,809	(5,673)
Net cash provided by investing activities	281,779	360,580
Cash flows from financing activities:		
Repurchase of 2023 Notes	(203,210)	—
Net proceeds from stock option exercises and ESPP	1,550	2,643
Taxes paid related to net share settlement of equity awards	(1,429)	(2,893)
Share repurchase	(73,287)	(189,917)
Payments to CVR Holders	(1,800)	—
Other	(1,134)	—
Net cash used in financing activities	(279,310)	(190,167)
Effect of exchange rate changes on cash	(160)	7
Net increase in cash, cash equivalents and restricted cash	43,613	154,620
Cash, cash equivalents and restricted cash at beginning of period	72,273	119,780
Cash, cash equivalents and restricted cash at end of period	$ 115,886	$ 274,400
Supplemental disclosure of cash flow information:		
Interest paid	$ 2,531	$ 2,915
Taxes paid	$ —	$ 69,703
Restricted cash in other current assets	$ 730	$ 1,353
Supplemental schedule of non-cash activity:		
Accrued fixed asset purchases	$ 292	$ 54
Accrued inventory purchases	$ 3,553	$ —
Unrealized gain (loss) on AFS investments	$ (38)	$ 938

See accompanying notes to unaudited condensed consolidated financial statements.

Unless the context requires otherwise, references in this report to "Ligand," "we," "us," the "Company," and "our" refer to Ligand Pharmaceuticals Incorporated and its consolidated subsidiaries.

1. Basis of Presentation and Summary of Significant Accounting Policies

Basis of Presentation

Our 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 our 2019 Annual Report. Interim financial results are not necessarily indicative of the results that may be expected for the full year.

Reclassifications

Certain amounts in the prior period condensed consolidated financial statements have been reclassified to conform with the current period presentation. Specifically, effective the first quarter of 2020, we began to present service revenue and contract revenue separately, which were combined in license fees, milestones and other revenues in prior years. As a result, service revenue and contract revenue in the condensed consolidated statements of operations for the three and six months ended June 30, 2019 have been reclassified to conform to the current period presentation. In addition, effective the second quarter of 2020, we began to include our investment in Viking in "short-term investments" in the condensed consolidated balance sheet as of June 30, 2020, and present "gain (loss) from short-term investments" in the condensed consolidated statements of operations for the three and six months ended June 30, 2020 to include both the gain (loss) from investment in Viking and other short-term investments, which was previously included in "other income, net". As a result, the audited consolidated balance sheet as of December 31, 2019 and the condensed consolidated statements of operations for the three and six months ended June 30, 2019 have been reclassified to conform to the current period presentation.

Significant Accounting Policies

We have described our significant accounting policies in *Note 1, Basis of Presentation and Summary of Significant Accounting Policies*, of Notes to Consolidated Financial Statements in our 2019 Annual Report.

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.

Impact of COVID-19 Pandemic

The current COVID-19 worldwide pandemic has presented substantial public health and economic challenges and is affecting our employees and partners, patients, communities and business operations, as well as the U.S. and global economy and financial markets. International and U.S. governmental authorities in impacted regions are taking actions in an effort to slow the spread of COVID-19, including issuing varying forms of "stay-at-home" orders, and restricting business functions outside of one's home. In response, we have restricted in-person access to our executive offices, our administrative employees are mostly working remotely, and we have limited the number of staff in our research and development laboratories and other facilities. The continued spread of the COVID-19 pandemic and the measures taken by the governments of countries have affected, and could continue to affect, our business and the business of our partners, including future disruptions to our supply chain and the manufacture or shipment of drug substance and finished drug product for Captisol, delays by us or our partners in the initiation or enrollment of patients in clinical trials, discontinuations by patients enrolled in clinical trials, difficulties launching or commercializing products and other related activities, which could delay ongoing clinical trials, increase development costs,

reduce royalty revenues and have a material adverse effect on our business, financial condition and results of operations. Several of our partners have reported that their operations have been impacted including delays in research and development programs and deprioritizing clinical trials in favor of treating patients who have contracted the virus or to prevent the spread of the virus. This may lead to clinical trial protocol deviations or to discontinuation of treatment for patients who are currently enrolled in the clinical trials being conducted by us or our partners. In addition, certain of our partners have reported negative impacts on product sales which will impact our royalty revenues.

Some of our partners are working to develop drugs to treat COVID-19. For example, we are supplying Captisol to partners, including Gilead for Veklury® (remdesivir), the first new treatment for COVID-19 available under an EUA and is also being evaluated in multiple ongoing clinical trials and, as a result, we have worked to increase our manufacturing of Captisol to meet this increased demand. We believe our existing production capacity, together with our planned expansion, will provide adequate supply of Captisol and do not expect any significant risk or disruption to our supply chain for the foreseeable future. In addition, certain of our OmniAb and Vernalis partners have initiated antibody discovery programs for the potential treatment of COVID-19.

The full extent to which the COVID-19 pandemic will directly or indirectly impact our business, the businesses of our partners, our results of operations and our financial condition will depend on future developments that are highly uncertain and cannot be accurately predicted, including new information that may emerge concerning COVID-19, the actions taken to contain it or treat its impact, including the timing and extent of governments reopening activities, and the economic impact on local, regional, national and international markets.

Accounting Standards Recently Adopted

Credit Losses - In June 2016, the FASB issued ASU 2016-13,*Financial Instruments - Credit Losses: Measurement of Credit Losses on Financial Instruments (Topic 326),* 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 trade receivables and available for sale debt securities. This standard includes our financial instruments, such as accounts receivable, investments that are generally of high credit quality, and commercial license rights. Previously, when credit losses were measured under GAAP, an entity generally only considered past events and current conditions in measuring the incurred loss. The new guidance requires us to identify, analyze, document and support new methodologies for quantifying expected credit loss estimates for our financial instruments, using information such as historical experience and current economic conditions, plus the use of reasonable supportable forecast information. We adopted ASU 2016-13 on January 1, 2020, using a modified retrospective transition method, which requires a cumulative-effect adjustment, if any, to the opening balance sheet of retained earnings to be recognized on the date of adoption with prior periods not restated. The cumulative-effect adjustment, net of tax, recorded on January 1, 2020, is approximately $5.2 million on our unaudited condensed consolidated balance sheet as of January 1, 2020. Results for periods after January 1, 2020 are presented under ASU 2016-13 while prior period amounts continue to be reported under previously applicable accounting standards. See additional disclosure on credit losses under *"Short-term Investments"*, *"Accounts Receivable and Allowance for Credit Losses"* and *"Commercial License and Other Economic Rights"* discussed below.

Goodwill Impairment Testing - In January 2017, the FASB issued ASU 2017-04,*Simplifying the Test for Goodwill Impairment,* which eliminates the requirement to perform a hypothetical purchase price allocation to measure goodwill impairment. Under the new standard the goodwill impairment test is performed by comparing the fair value of a reporting unit with its carrying amount, and recognizing an impairment charge for the amount by which the carrying amount of the reporting unit exceeds its fair value, although it cannot exceed the total amount of goodwill allocated to that reporting unit. We adopted this standard on January 1, 2020, and the adoption did not have a material impact on our condensed consolidated financial statements.

Fair Value Measurement - In August 2018, the FASB issued ASU 2018-13,*Fair Value Measurement: Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement (Topic 820)*, which modifies the disclosure requirements on fair value measurements. We adopted this standard on January 1, 2020, and the adoption did not have a material impact on our condensed consolidated financial statements.

Collaborative Arrangements - In November 2018, the FASB issued ASU 2018-18,*Collaborative Arrangements: Clarifying the Interaction between Topic 808 and Topic 606 (Topic 808)*. The new standard clarifies that certain transactions between participants in a collaborative arrangement should be accounted for under Topic 606,*Revenue from Contracts with Customers*, when the counterparty is a customer for a good or service that is a distinct unit of account. The amendments also preclude entities from presenting consideration from transactions with a collaborator that is not a customer together with revenue recognized from contracts with customers. We adopted this standard on January 1, 2020, and the adoption did not have a material impact on our condensed consolidated financial statements.

Income Taxes - In December 2019, the FASB issued ASU 2019-12,*Simplifying the Accounting for Income Taxes*. The standard is expected to reduce cost and complexity related to accounting for income taxes. The new guidance eliminates certain exceptions and clarifies and amends existing guidance to promote consistent application among reporting entities. This standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020, with early adoption permitted. Depending on the amendment, adoption may be applied on a retrospective, modified retrospective or prospective basis. We adopted this standard on a prospective basis on January 1, 2020, and the adoption did not have a material impact on our condensed consolidated financial statements.

Accounting Standards Not Yet Adopted

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

Revenue

Our revenue is generated primarily from royalties on sales of products commercialized by our partners, Captisol material sales, service revenue, and contract revenue for license fees and development, regulatory and sales based milestone payments.

Royalties, Service Revenue, and Contract Revenue

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 when the underlying sale occurs. Therefore, royalties on sales of products commercialized by our 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.

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

Our contract revenue includes license fees and 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.

Captisol Sales

We recognize revenue when control of Captisol material 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. We have elected to recognize the cost for freight and shipping when or after control over Captisol material has transferred to the customer as an expense in cost of Captisol. Sales tax and other taxes we collect concurrent with revenue-producing activities are excluded from revenue. We expense incremental costs of obtaining a contract 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.

Deferred Revenue

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.

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 condensed consolidated balance sheet. Except for royalty revenue and certain service revenue, we generally receive payment at the point we satisfy our obligation or soon after. Therefore, we do not generally carry a contract asset balance. Any fees billed in advance of being earned are recorded as deferred revenue. During the three and six months ended June 30, 2020, the amount recognized as revenue that was previously deferred was $2.0 million and $2.4 million, respectively. During the three and six months ended June 30, 2019, the amount recognized as revenue that was previously deferred was $2.7 million and $4.1 million, respectively.

Disaggregation of Revenue

The following table represents disaggregation of royalties, Captisol, service revenue and contract revenue (in thousands):

		Three months ended June 30,		Six months ended June 30,	
		2020	**2019**	**2020**	**2019**
Royalties					
	Kyprolis	$ 5,481	$ 4,882	$ 9,886	$ 8,715
	Evomela	1,199	1,144	2,775	2,055
	Other	501	600	1,085	1,201
	Promacta	—	—	—	14,193
		$ 7,181	$ 6,626	$ 13,746	$ 26,164
Captisol		$ 24,468	$ 8,549	$ 45,577	$ 17,508
Service Revenue		$ 4,582	$ 4,559	$ 7,939	$ 8,442
Contract Revenue					
	License Fees	$ 660	$ 1,990	$ 1,635	$ 2,840
	Milestone	3,472	2,497	3,806	12,751
	Other	1,057	766	1,878	766
		$ 5,189	$ 5,253	$ 7,319	$ 16,357
Total		$ 41,420	$ 24,987	$ 74,581	$ 68,471

Short-term Investments

Our investments, excluding investment in Viking, consist of the following at June 30, 2020 and December 31, 2019 (in thousands):

	June 30, 2020				December 31, 2019			
	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	$ 269,114	$ 221	$ (56)	$ 269,279	$ 411,690	$ 188	$ (3)	$ 411,875
Corporate bonds	55,380	125	(94)	55,411	63,818	161	—	63,979
Commercial paper	163,590	134	—	163,724	210,525	43	(16)	210,552
Corporate equity securities	4,506	634	(2,484)	2,656	4,506	416	(1,850)	3,072
Mutual fund	151,223	—	(97)	151,126	250,635	—	(249)	250,386
Warrants	—	177	—	177	—	125	—	125
	$ 643,813	$ 1,291	$ (2,731)	$ 642,373	$ 941,174	$ 933	$ (2,118)	$ 939,989

In addition, as of June 30, 2020 and December 31, 2019, we recorded shares of Viking common stock we own at fair value of $43.5 million and $48.4 million, respectively, in "Short-term investments" in our consolidated balance sheets. We also own warrants to purchase up to 1.5 million shares of Viking's common stock at an exercise price of $1.50 per share. We recorded the warrants in "Short-term investments" in our consolidated balance sheet at fair value of $8.8 million and $9.9 million at June 30, 2020 and December 31, 2019, respectively.

Gain (loss) from short-term investments on our condensed consolidated statements of operations includes both realized and unrealized gain (loss) from our short-term investments in public equity and warrant securities.

For available-for-sale debt securities with unrealized losses, the new credit losses standard (Topic 326) now requires allowances to be recorded instead of reducing the amortized cost of the investment. This standard limits the amount of credit losses to be recognized for available-for-sale debt securities to be the amount by which carrying value exceeds fair value and requires the reversal of previously recognized credit losses if fair value increases. The provisions of the new credit losses standard did not have a material impact on our available-for-sale debt securities during the three and six months ended June 30, 2020.

The following table summarizes our available-for-sale debt securities by contractual maturity (in thousands):

	June 30, 2020	
	Amortized Cost	Fair Value
Within one year	$ 414,505	$ 414,905
After one year through five years	73,579	73,509
After five years	—	—
Total	$ 488,084	$ 488,414

The following table summarizes our available-for-sale debt securities in an unrealized loss position (in thousands):

	Less than 12 months		12 months or greater		Total	
	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value	Gross Unrealized Losses	Estimated Fair Value
June 30, 2020						
Bank deposits	$ (56)	$ 30,015	$ —	$ —	$ (56)	$ 30,015
Corporate bonds	(94)	16,022	—	—	(94)	16,022
Total	$ (150)	$ 46,037	$ —	$ —	$ (150)	$ 46,037
December 31, 2019						
Bank deposits	$ (3)	$ 58,584	$ —	$ —	$ (3)	$ 58,584
Commercial paper	(16)	79,363	—	—	(16)	79,363
Total	$ (19)	$ 137,947	$ —	$ —	$ (19)	$ 137,947

Our investment policy is capital preservation and we only invested in U.S.-dollar denominated investments. We held a total of 7 positions which were in an unrealized loss position as of June 30, 2020. We believe that we will collect the principal and interest due on our debt securities that have an amortized cost in excess of fair value. The unrealized losses are largely due to changes in interest rates and not to unfavorable changes in the credit quality associated with these securities that impacted our assessment on collectability of principal and interest. We do not intend to sell these securities nor do we believe that we will be required to sell these securities before the recovery of the amortized cost basis. Accordingly, no credit losses were recognized for the three and six months ended June 30, 2020.

Accounts Receivable and Allowance for Credit Losses

Our accounts receivable arise primarily from sales on credit to customers. We establish an allowance for credit losses to present the net amount of accounts receivable expected to be collected. The allowance is determined by using the loss-rate method, which requires an estimation of loss rates based upon historical loss experience adjusted for factors that are relevant to determining the expected collectability of accounts receivable. Some of these factors include macroeconomic conditions that correlate with historical loss experience, delinquency trends, aging behavior of receivables and credit and liquidity quality indicators for industry groups, customer classes or individual customers. During the three and six months ended June 30, 2020, we considered the current and expected future economic and market conditions including, but not limited to, the anticipated unfavorable impacts of the surrounding novel coronavirus (COVID-19) pandemic on our business and recorded an additional $0.1 million and $0.3 million, of allowance for credit losses, respectively, as of June 30, 2020.

Inventory

Inventory, which consists of finished goods, is stated at the lower of cost or net realizable value. We determine cost using the first-in, first-out method or the specific identification method.

Goodwill and Other Identifiable Intangible Assets

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

	June 30, 2020	December 31, 2019
Goodwill	$ 103,369	$ 95,229
Definite lived intangible assets		
Complete technology	244,513	242,813
Less: accumulated amortization [(1)]	(57,053)	(50,203)
Trade name	2,642	2,642
Less: accumulated amortization	(1,246)	(1,180)
Customer relationships	40,700	29,600
Less: accumulated amortization	(14,261)	(13,224)
Total goodwill and other identifiable intangible assets, net	$ 318,664	$ 305,677

(1) accumulated amortization for complete technology includes immaterial amount of foreign currency translation adjustments for the complete technology acquired from the Vernalis acquisition.

Commercial License and Other Economic Rights

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

	June 30, 2020			December 31, 2019		
	Gross	Adjustments[(1)]	Net	Gross	Adjustments[(2)]	Net
Aziyo and CorMatrix	$ 17,696	$ (9,698)	**$ 7,998**	$ 17,696	$ (5,500)	**$ 12,196**
Palvella	10,000	(10,000)	—	10,000	(7,492)	**2,508**
Selexis and Dianomi	10,602	(7,994)	**2,608**	10,602	(5,216)	**5,386**
Total	$ 38,298	$ (27,692)	**$ 10,606**	$ 38,298	$ (18,208)	**$ 20,090**

(1) Amounts represent accumulated amortization to principal or research and development expenses of $ 21.7 million and credit loss adjustments of $ 6.0 million as of June 30, 2020.
(2) Amounts represent accumulated amortization to principal or research and development expenses as of December 31, 2019.

Commercial license and other economics rights represent a portfolio of future milestone and royalty payment rights acquired from Selexis in April 2013 and April 2015, CorMatrix in May 2016, Palvella in December 2018 and Dianomi in January 2019. Commercial license rights acquired are accounted for as financial assets and other economic rights are accounted for as funded research and developments as further discussed below.

In May 2017, we entered into a Royalty Agreement with Aziyo pursuant to which we will receive royalties from certain marketed products that Aziyo acquired from CorMatrix. We account for the Aziyo commercial license right as a financial asset, and in accordance with ASC 310, *Receivables*, we amortize the commercial license right using the effective interest method whereby we forecast 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 June 30, 2020 is 23%. Revenue is calculated by multiplying the carrying value of the commercial license right by the effective interest.

In December 2018, we entered into a development funding and royalties agreement with Palvella. Pursuant to the agreement, we may receive up to $8.0 million of milestone payments upon the achievement by Palvella of certain corporate, financing and regulatory milestones for PTX-022, a product candidate being developed to treat pachyonychia congentia. In addition to the milestone payments, Palvella will pay us tiered royalties from 5.0% to 9.8% based on any aggregate annual worldwide net sales of any PTX-022 products, subject to Palvella's right to reduce the royalty rates by making payments in certain circumstances. We paid Palvella an upfront payment of $10.0 million, which Palvella is required to use to fund the development of PTX-022. We are not obligated to provide additional funding to Palvella for the development or commercialization of PTX-022. We determined the economic rights related to Palvella should be characterized as a funded research and development arrangement, thus we account for it in accordance with ASC 730-20, *Research and Development Arrangements*, and reduce our asset as the funds are expended by Palvella. As of June 30, 2020, the fund has been fully expended by Palvella and our cost basis for the asset has been reduced to zero, we will recognize milestones and royalties as revenue when earned. During the three and six months ended June 30, 2020, we recorded a $3.0 million milestone from Palvella under contract revenue in our condensed consolidated statement of operations.

We recorded a $5.5 million pre-tax reserve for credit losses upon adoption of the new credit losses on January 1, 2020. We estimated the credit losses at the individual asset level by considering the performance against the programs, the company operating performance and the macroeconomic forecast. In addition, we have judgmentally applied credit loss risk factors to the future expected payments with consideration given to the timing of the payment. Given the higher inherent credit risk associated with longer term receivables, we applied a lower risk factor to the earlier years and progressively higher risk factors to the later years. During the six months ended June 30, 2020, we further considered the current and expected future economic and market conditions surrounding novel coronavirus (COVID-19) pandemic and recorded an additional $0.5 million reserve for credit losses in other expense, net, in our condensed consolidated statement of operations.

See further detail described in *Note 1, Basis of Presentation and Summary of Significant Accounting Policies*, of Notes to Consolidated Financial Statements in our 2019 Annual Report.

Accrued Liabilities

Accrued liabilities consist of the following (in thousands):

	June 30, 2020	December 31, 2019
Compensation	$ 3,457	$ 1,986
Professional fees	964	1,135
Amounts owed to former licensees	413	381
Royalties owed to third parties	1,038	—
Return reserve	2,899	3,027
Current operating lease liabilities	1,728	1,242
Accrued interest	471	690
Other	1,858	1,375
Total accrued liabilities	$ 12,828	$ 9,836

Share-Based Compensation

Share-based compensation expense for awards to employees and non-employee directors is a non-cash expense and is recognized on a straight-line basis over the vesting period until the last tranche vests. The following table summarizes share-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 June 30,		Six months ended June 30,	
	2020	2019	2020	2019
SBC - Research and development expenses	$ 3,019	$ 2,528	$ 5,416	$ 4,655
SBC - General and administrative expenses	4,340	4,043	7,596	7,263
	$ 7,359	$ 6,571	$ 13,012	$ 11,918

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 June 30,		Six months ended June 30,	
	2020	2019	2020	2019
Risk-free interest rate	0.4%	1.9%	1.1%	2.4%
Dividend yield	—	—	—	—
Expected volatility	69%	40%	55%	43%
Expected term	5.1	5.9	4.8	5.2

Net Income (loss) Per Share

Basic net income (loss) per share is calculated by dividing net income (loss) by the weighted-average number of common shares outstanding during the period. Diluted net 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.

For the six months ended June 30, 2020, all of the0.6 million weighted average shares of outstanding equity awards as of June 30, 2020 were anti-dilutive due to the net loss for the period.

For the three months ended June 30, 2019, all of the0.8 million weighted average shares of outstanding equity awards as of June 30, 2019 were anti-dilutive due to the net loss for the period

Potentially dilutive common shares consist of shares issuable under the 2023 Notes, stock options and restricted stock. The 2023 Notes have a dilutive impact when the average market price of our common stock exceeds the applicable conversion price of the respective notes. It is our intent and policy to settle conversions through combination settlement, which involves payment in cash equal to the principal portion and delivery of shares of common stock for the excess of the conversion value over the principal portion. 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, the following amounts are assumed to be used to repurchase shares: proceeds from exercise of stock options and the average amount of unrecognized compensation expense for the awards. See *Note 4 - Convertible Senior Notes* and *Note 6 - Stockholders' Equity.*

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

	Three months ended June 30,		Six months ended June 30,	
	2020	2019	2020	2019
Weighted average shares outstanding:	16,055	19,558	16,292	20,000
Dilutive potential common shares:				
Restricted stock	40	—	—	38
Stock options	599	—	—	761
Shares used to compute diluted income per share	16,694	19,558	16,292	20,799
Potentially dilutive shares excluded from calculation due to anti-dilutive effect	7,832	7,457	8,988	7,243

2. Fair Value Measurements

Assets and Liabilities Measured on a Recurring Basis

The following table presents the hierarchy for our assets and liabilities measured at fair value (in thousands):

	June 30, 2020				December 31, 2019			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets:								
Short-term investments, excluding Viking[1]	$ 2,655	$ 639,541	$ 177	$ 642,373	$ 3,073	$ 936,791	$ 125	$ 939,989
Investment in Viking common stock	43,535	—	—	43,535	48,425	—	—	48,425
Investment in Viking warrants [2]	8,816	—	—	8,816	9,910	—	—	9,910
Total assets	$ 55,006	$ 639,541	$ 177	$ 694,724	$ 61,408	$ 936,791	$ 125	$ 998,324
Liabilities:								
Crystal contingent liabilities[3]	$ —	$ —	$ 859	$ 859	$ —	$ —	$ 2,659	$ 2,659
CyDex contingent liabilities	—	—	413	413	—	—	348	348
Metabasis contingent liabilities[4]	—	5,349	—	5,349	—	5,935	—	5,935
Icagen contingent liabilities[5]	—	—	4,800	4,800	—	—	—	—
Amounts owed to former licensor	107	—	—	107	75	—	—	75
Total liabilities	$ 107	$ 5,349	$ 6,072	$ 11,528	$ 75	$ 5,935	$ 3,007	$ 9,017

1. Excluding our investment in Viking, our short-term investments in marketable debt and equity securities are classified as available-for-sale securities based on management's intentions and are at 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. Short-term investments in mutual funds are valued at their net asset value (NAV) on the last day of the period. We have classified marketable securities with original maturities of greater than one year as short-term investments based upon our ability and intent to use any and all of those marketable securities to satisfy the liquidity needs of our current operations. In addition, we have investment in warrants resulting from Seelos Therapeutics Inc. milestone payments that were settled in shares during the first quarter of 2019 and are at level 3 of the fair value hierarchy, based on black scholes value estimated by management on the last day of the period.

2. Investment in warrants, which we received as a result of Viking's partial repayment of the Viking note receivable and our 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 "Gain (loss) from short-term investments" in our condensed consolidated statement of operations.

3. 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. Changes in these estimates may materially affect the fair value. During the first quarter of 2020, we paid a $1.8 million contingent liability on development milestones to former Crystal shareholders.

4. In connection with our acquisition of Metabasis in January 2010, we issued Metabasis stockholders four tradable CVRs, one CVR from each of four respective series of CVR, for each Metabasis share. The CVRs entitle Metabasis stockholders to cash payments as frequently as every six months as cash is received by us from proceeds from the sale or partnering of any of the Metabasis drug development programs, among other triggering events. The liability for the CVRs is determined using quoted prices in a market that is not active for the underlying CVR. The carrying amount of the liability may fluctuate significantly based upon quoted market prices and actual amounts paid under the agreements may be materially different than the carrying amount of the liability. Several of the Metabasis drug development programs have been outlicensed to Viking, including VK2809. VK2809 is a novel selective TR-β agonist with potential in multiple indications, including hypercholesterolemia, dyslipidemia, NASH, and X-ALD. Under the terms of the agreement with Viking, we may be entitled to up to $375 million of development, regulatory and commercial milestones and tiered royalties on potential future sales including a $10 million payment upon initiation of a Phase 3 clinical trial.

5. The fair value of Icagen contingent liabilities was determined using a probability weighted income approach. Most of the contingent payments are based on certain revenue milestones as defined in the asset purchase agreement with Icagen. 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. Changes in these estimates may materially affect the fair value.

Assets Measured on a Non-Recurring Basis

We apply fair value techniques on a non-recurring basis associated with valuing potential impairment losses related to our goodwill, indefinite-lived intangible assets and long-lived assets.

We evaluate goodwill and indefinite-lived intangible assets annually for impairment and whenever circumstances occur indicating that goodwill might be impaired. We determine the fair value of our reporting unit based on a combination of inputs, including the market capitalization of Ligand, as well as Level 3 inputs such as discounted cash flows, which are not observable from the market, directly or indirectly. We determine the fair value of our indefinite-lived intangible assets using the income approach based on Level 3 inputs.

There were no triggering events identified and no indication of impairment of our goodwill, indefinite-lived intangible assets, or long-lived assets during the three and six months ended June 30, 2020.

3. Business Combination

As set forth below, we completedtwo acquisitions from January 1, 2019 through June 30, 2020, and both were accounted for as business combinations. We applied the acquisition method of accounting. Accordingly, we record the tangible and intangible assets acquired and liabilities assumed at their estimated fair values as of the applicable date of acquisition. For each acquisition, we did not incur any material acquisition related costs.

Icagen Acquisition

On April 1, 2020, we acquired the core assets, including its partnered programs and ion channel technology from Icagen and certain of its affiliates.

The purchase price of $19.9 million included $15.1 million cash consideration paid upon acquisition, and a contingent earn-out payment of up to $25.0 million of cash payments based on certain revenue milestones with an estimated fair value of $4.8 million. The fair value of the earn-out liability was determined using a probability weighted income approach incorporating the estimated future cash flows from expected future milestones. These cash flows were then discounted to present value using a discount rate based on the market participants' cost of debt reflective of Icagen. Refer to *Note 2, Fair Value Measurement*, for further discussion. The liability will be periodically assessed based on events and circumstances related to the underlying milestones, and any change in fair value will be recorded in our consolidated statements of operations. The carrying amount of the liability may fluctuate significantly and actual amount paid may be materially different than the carrying amount of the

liability. There was no change in the fair value of the continent liabilities during the second quarter of 2020. As the acquisition is not considered significant, pro forma information has not been provided. The results of Icagen have been included in our results of operations since the date of acquisition.

The preliminary allocation of the purchase price consisted of (1) $1.8 million of fair value of tangible assets acquired, (2) $(0.8) million of liabilities assumed, (3) $12.8 million of acquired intangibles, (4) $(3.7) million of deferred revenue in connection with assumed performance obligations under a collaboration agreement, (5) $0.8 million of deferred tax asset associated with the deferred revenue, and (6) $9.0 million of goodwill, the majority of which is deductible for tax purposes.

Acquired intangibles include $11.1 million of customer relationships and $1.7 million of core technology. The fair values of the customer relationships were based on a discounted cash flow analysis incorporating the estimated future cash flows from these relationships during the contractual term. These cash flows were then discounted to present value using a discount rate of 17%. The fair value of the customer relationships is being amortized on a straight-line basis over the weighted average estimated useful life of 9.6 years The fair value of the core technology was based on the discounted cash flow method that estimated the present value of the potential royalties, milestones, and collaboration revenue streams derived from the licensing of the related technologies. These projected cash flows were discounted to present value using a discount rate of 17%. The fair value of the core technology is being amortized on a straight-line basis over the estimated useful life of 10 years. The total acquired intangibles are being amortized on a straight-line basis over the estimated useful life of 9.7 years.

The estimated fair values of assets acquired and liabilities assumed, including deferred tax assets and liabilities, and purchased intangibles are provisional. The accounting for these amounts falls within the measurement period and therefore we may adjust these provisional amounts to reflect new information obtained about facts and circumstances that existed as of the acquisition date.

Ab Initio Acquisition

On July 23, 2019, we acquired privately-held Ab Initio Biotherapeutics, Inc., an antigen-discovery company located in South San Francisco, California.

The purchase price of $12.0 million included $11.84 million cash consideration paid upon acquisition, net of cash acquired, and $0.15 million cash holdback for potential indemnification claims. As the acquisition is not considered significant, pro forma information has not been provided. The results of Ab Initio have been included in our results of operations since the date of acquisition.

The preliminary allocation of the purchase price consisted of (1) $0.03 million of fair value of tangible assets acquired, (2) $(0.08) million of liabilities assumed, (3) $7.4 million of acquired technologies, (4) $(1.6) million of deferred tax liability in connection with the acquired intangibles, and (5) $6.3 million of goodwill, none of which is deductible for tax purposes. The fair value of the core technology was based on the discounted cash flow method that estimated the present value of the potential royalties, milestones, and collaboration revenue streams derived from the licensing of the related technologies. These projected cash flows were discounted to present value using a discount rate of 12%. The fair value of the core technology is being amortized on a straight-line basis over the weighted average estimated useful life of the approximately 20 years.

The estimated fair values of deferred tax assets and liabilities are provisional. The accounting for these amounts falls within the measurement period and therefore we may adjust these provisional amounts to reflect new information obtained about facts and circumstances that existed as of the acquisition date.

4. Convertible Senior Notes

0.75% Convertible Senior Notes due 2023

In May 2018, we issued $750.0 million aggregate principal amount of 0.75% convertible senior notes. The net proceeds from the offering, after deducting the initial purchasers' discount and offering expenses, were approximately $733.1 million. The 2023 Notes will be convertible into cash, shares of common stock, or a combination of cash and shares of common stock, at our election, based on an initial conversion rate, subject to adjustment, of 4.0244 shares per $1,000 principal amount of the 2023 Notes which represents an initial conversion price of approximately $248.48 per share.

Holders of the 2023 Notes may convert the notes at any time prior to the close of business on the business day immediately preceding November 15, 2022, under any of the following circumstances:

(1) during any fiscal quarter (and only during such fiscal quarter) commencing after September 30, 2018, 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 our 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 our 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.

The notes will have a dilutive effect to the extent the average market price per share of common stock for a given reporting period exceeds the conversion price of $248.48. As of June 30, 2020, the "if-converted value" did not exceed the principal amount of the 2023 Notes. In connection with the issuance of the 2023 Notes, we incurred $16.9 million of issuance costs, which primarily consisted of underwriting, legal and other professional fees. The portion of these costs allocated to the liability component totaling $13.7 million is amortized to interest expense using the effective interest method over the five year expected life of the 2023 Notes. It is our intent and policy to settle conversions through combination settlement, which essentially involves payment in cash equal to the principal portion and delivery of shares of common stock for the excess of the conversion value over the principal portion.

In March 2020, we repurchased $234.4 million in principal of the 2023 Notes for $203.8 million in cash, including accrued interest of $0.6 million. We accounted for the repurchase as a debt extinguishment, which resulted (1) a gain of $0.7 million reflected in other income (expense), net, in our condensed consolidated statement of operations for the six months ended June 30, 2020; (2) a $32.7 million reduction in debt discount, and (3) a $2.7 million reduction to additional paid in capital, net of tax, related to the reacquisition of the equity component in our condensed consolidated balance sheet as of June 30, 2020. After the repurchases, approximately $515.6 million in principal amount of the 2023 Notes remain outstanding.

Convertible Bond Hedge and Warrant Transactions

In conjunction with the 2023 Notes, in May 2018, we entered into convertible bond hedges and sold warrants covering 3,018,327 shares of our common stock to minimize the impact of potential dilution to our common stock and/or offset the cash payments we are required to make in excess of the principal amount upon conversion of the 2023 Notes. The convertible bond hedges have an exercise price of $248.48 per share and are exercisable when and if the 2023 Notes are converted. We paid $140.3 million for these convertible bond hedges. If upon conversion of the 2023 Notes, the price of our 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 us and are not part of the terms of the 2023 Notes. Holders of the 2023 Notes and warrants will not have any rights with respect to the convertible bond hedges.

Concurrently with the convertible bond hedge transactions, we entered into warrant transactions whereby we sold warrants covering approximately 3,018,327 shares of common stock with an exercise price of approximately $315.38 per share, subject to certain adjustments. We received $90.0 million for these warrants. The warrants have various expiration dates ranging from August 15, 2023 to February 6, 2024. 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 common stock issuable upon exercise of the warrants will be in unregistered shares, and we do not have the obligation and do not intend to file any registration statement with the SEC registering the issuance of the shares under the warrants.

In April 2020, in connection with the repurchases of $234.4 million in principal of the 2023 Notes for $203.8 million in cash, including accrued interest of $0.6 million, during the quarter ended March 31, 2020, we entered into amendments with Barclays Bank PLC, Deutsche Bank AG, London Branch, and Goldman Sachs & Co. LLC to the convertible note hedges transactions we initially entered into in connection with the issuance of the 2023 Notes. The amendments provide that the options under the convertible note hedges corresponding to such repurchased 2023 Notes will remain outstanding notwithstanding such repurchase.

The following table summarizes information about the 2023 Notes (in thousands):

	June 30, 2020	December 31, 2019
Principal amount of the 2023 Notes outstanding	$ 515,560	$ 750,000
Unamortized discount (including unamortized debt issuance cost)	(65,888)	(111,041)
Total long-term portion of notes payable	$ 449,672	$ 638,959
Carrying value of equity component of the 2023 Notes	$ 60,181	$ 101,422
Fair value of the 2023 Notes outstanding (Level 2)	$ 452,167	$ 647,280

5. Income Tax

Our 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 and six months ended June 30, 2020 was 21.5% and 10.9%, respectively. The variances from the U.S. federal statutory tax rate of 21% for the three and six months ended June 30, 2020 were primarily attributable to the mix of earnings in the jurisdictions with lower statutory rates than the U.S. offset by tax deductions related to stock award activities and tax deductions related to foreign derived intangible income tax credits. The effective tax rate for the three and six months ended June 30, 2019 was 20.0% and 20.9%, respectively. The variances from the U.S. federal statutory tax rate of 21% for the three months ended June 30, 2019 were primarily attributable to the mix of earnings in the jurisdictions with lower statutory tax rates than the U.S..

6. Stockholders' Equity

We grant 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 9, Stockholders' Equity*, of Notes to Consolidated Financial Statements in our 2019 Annual Report.

The following is a summary of our 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, 2019	1,956,379	$ 77.54	147,259	$ 125.11
Granted	458,750	$ 89.43	101,156	$ 89.25
Options exercised/RSUs vested	(93,570)	$ 19.19	(49,749)	$ 122.14
Forfeited	(3,500)	$ 68.28	—	$ —
Balance as of June 30, 2020	2,318,059	$ 82.26	198,666	$ 107.59

As of June 30, 2020, outstanding options to purchase 1.5 million shares were exercisable with a weighted average exercise price per share of $69.79.

Employee Stock Purchase Plan

The price at which common stock is purchased under the Amended Employee Stock Purchase Plan, or 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 June 30, 2020, 56,079 shares were available for future purchases under the ESPP.

Share Repurchases

During the first quarter of 2020, we repurchased $73.3 million of our common stock under our stock repurchase programs as discussed below. We did not have any share repurchases during the second quarter of 2020.

On September 11, 2019, our Board of Directors approved a stock repurchase program authorizing, but not obligating, the repurchase of up to $300.0 million of our common stock from time to time over the next three years. We expect to acquire shares primarily through open-market transactions and may enter into Rule 10b5-1 trading plans, to facilitate open-market repurchases. The timing and amount of repurchase transactions will be determined by management based on our evaluation of

market conditions, share price, legal requirements and other factors. Authorization to repurchase $253.5 million of our common stock remained available as of June 30, 2020.

7. Commitment and Contingencies: Legal Proceedings

We record 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, we record the minimum estimated liability related to the claim in accordance with ASC 450, *Contingencies.* As additional information becomes available, we assess the potential liability related to our pending litigation and revises our estimates. Revisions in our estimates of potential liability could materially impact our results of operations.

In November 2017, CyDex, our wholly-owned subsidiary, received a Paragraph IV certification Notice Letter from Teva stating that Teva had submitted an ANDA to the FDA, seeking approval to manufacture, offer to sell, and sell a generic version of EVOMELA® prior to the expiration of any of U.S. Patent Nos. 8,410,077 ("the '077 patent"); 9,200,088 ("the '088 patent"), or 9,493,582 ("the '582 patent"), and alleging that these patents, each of which relates to Captisol®, are invalid, unenforceable, and/or will not be infringed by Teva's ANDA product. On December 20, 2017, CyDex filed a complaint against Teva in the U.S. District Court for the District of Delaware, asserting that the filing of Teva's ANDA constitutes infringement of each of the '077 patent, the '088 patent, and the '582 patent. On March 22, 2018, Teva filed an answer and counterclaims seeking declarations of non-infringement and invalidity as to each of the asserted patents and, on April 12, 2018, CyDex filed an answer to Teva's counterclaims. On October 31, 2019, CyDex, Teva, and Acrotech Biopharma L.L.C. (the holder of the NDA for EVOMELA®) entered into a Confidential Settlement Agreement, settling this patent litigation. As a result of the settlement, Teva will be permitted to market a generic version of EVOMELA® in the United States on June 1, 2026 or earlier under certain circumstances. The terms of the settlement agreement are otherwise confidential.

On April 9, 2019, CyDex received a Paragraph IV certification Notice Letter from Alembic Global Holdings SA ("Alembic") stating that Alembic had submitted an ANDA to the FDA, seeking approval to manufacture, offer to sell, and sell a generic version of EVOMELA® prior to the expiration of any of the '077 patent; the '088 patent, the '582 patent, or U.S. Patent No. 10,040,872 ("the '872 patent"), and alleging that these patents, each of which relates to Captisol®, are invalid, unenforceable, and/or would not be infringed by Alembic's ANDA product. On May 23, 2019, CyDex filed a complaint against Alembic, Alembic Pharmaceuticals, Ltd., and Alembic Pharmaceuticals, Inc. in the U.S. District Court for the District of Delaware, asserting that the filing of Alembic's ANDA constitutes infringement of each of the '088 patent and the '582 patent. On July 29, 2019, Alembic filed an answer and counterclaims seeking declarations of non-infringement and invalidity as to each of the asserted patents and, on August 19, 2019, CyDex filed an answer to Alembic's counterclaims. On April 7, 2020, the Court ordered that the Scheduling Order be amended such that, *inter alia*, the fact discovery cut off was set for November 2, 2020, the close of expect discovery was set for March 22, 2021, and that May 17, 2021 would remain the first day of a five-to-six-day bench trial.

On September 16, 2019, CyDex received a Paragraph IV certification Notice Letter from Lupin Ltd. ("Lupin") stating that Lupin had submitted an ANDA to the FDA, seeking approval to manufacture, offer to sell, and sell a generic version of EVOMELA® prior to the expiration of any of the '077 patent; the '088 patent, the '582 patent, or the '872 patent, and alleging that these patents, each of which relates to Captisol®, are invalid, unenforceable, and/or would not be infringed by Lupin's ANDA product. CyDex filed a complaint on October 29, 2019, alleging patent infringement against Lupin. Lupin filed an answer on December 11, 2019 and counterclaimed for declaratory judgments of invalidity and non-infringement as to all four patents and CyDex filed its answer to Lupin's counterclaims on January 2, 2020. The Court's scheduling order sets close of discovery on May 7, 2021 and a five day bench trial starting on December 13, 2021.

On October 31, 2019, we received three civil complaints filed in the US District Court for the Northern District of Ohio on behalf of several Indian tribes. The Northern District of Ohio is the Court that the Judicial Panel on Multi-District Litigation ("JPML") has assigned more than one thousand civil cases which have been designated as a Multi-District Litigation ("MDL") and captioned In Re: National Prescription Opiate Litigation. The allegations in these complaints focus on the activities of defendants other than the company and no individualized factual allegations have been advanced against us in any of the three complaints. We reject all claims raised in the complaints and intend to vigorously defend these matters.

8. Leases

We lease certain office facilities and equipment primarily under various operating leases. Our leases have remaining contractual terms up to seven years, some of which include options to extend the leases for up to seven years. Our lease agreements do not

contain any material residual value guarantees, material restrictive covenants, or material termination options. Our operating lease costs are primarily related to facility leases for administration offices and research and development facilities, and our finance leases are immaterial.

Lease assets and lease liabilities are recognized at the commencement of an arrangement where it is determined at inception that a lease exists. Lease assets represent the right to use an underlying asset for the lease term, and lease liabilities represent the obligation to make lease payments arising from the lease. These assets and liabilities are initially recognized based on the present value of lease payments over the lease term calculated using our incremental borrowing rate generally applicable to the location of the lease asset, unless the implicit rate is readily determinable. Lease assets also include any upfront lease payments made and lease incentives. Lease terms include options to extend or terminate the lease when it is reasonably certain that those options will be exercised. For leases with a term of 12 months or less, we elected to not recognize lease assets and lease liabilities and expense the leases over a straight-line basis for the term of those leases.

In addition to base rent, certain of our operating leases require variable payments, such as insurance and common area maintenance. These variable lease costs, other than those dependent upon an index or rate, are expensed when the obligation for those payments is incurred. Leases with an initial term of 12 months or less are not recorded on the balance sheet, and the expense for these short-term leases and for operating leases is recognized on a straight-line basis over the lease term.

The depreciable life of lease assets and leasehold improvements is limited by the expected lease term, unless there is a transfer of title or purchase option reasonably certain of exercise.

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 and manufacturing capacity, our Kyprolis, and other product royalty revenues, the impact of COVID-19, 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 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.

Overview

We are a revenue generating biopharmaceutical company focused on developing and acquiring technologies that help pharmaceutical companies discover and develop medicines. We employ research technologies such as antibody discovery technologies, structure-based drug design, formulation science and liver targeted pro-drug technologies to assist companies in their work toward securing prescription drug and biologic approvals. We currently have partnerships and license agreements with over 120 pharmaceutical and biotechnology companies. Over 200 different programs are in various stages of commercialization and development and fully funded by our collaboration partners and licensees. We have contributed novel research and technologies for approved medicines that treat cancer, osteoporosis, fungal infections and postpartum depression, among others. Our collaboration partners and licensees have programs currently in clinical development targeting cancer, seizure, diabetes, cardiovascular disease, muscle wasting, liver disease, and kidney disease, among others. We have over 1,200 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, which we refer to as “shots on goal,” 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 and then seek partners to continue development and potential commercialization.

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 four primary elements: royalties from commercialized products, sale of Captisol material, service revenue for contracted R&D services performed for our customers over time, and contract revenue from license, milestone and other payments. 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.

Impact of COVID-19 Pandemic

Please see impact of COVID-19 pandemic described in Item 1. Condensed Consolidated Financial Statements - *Note 1,* "*Basis of Presentation and Summary of Significant Accounting Policies*". For additional information on the various risks posed by COVID-19 pandemic, please read *Item 1A. Risk Factors* included in this report.

Portfolio Program Updates

Captisol® Business Updates

Our Captisol business achieved its largest quarterly sales ever in the second quarter of 2020 and shipped Captisol to over 40 partners for R&D and commercial use during the quarter. We are the sole supplier of Captisol globally, and our Captisol network is currently served by cGMP manufacturing plants in two European countries and five distribution facilities around the globe, all of which have remained fully operational during the COVID-19 pandemic. Anticipating substantial continued demand for Captisol, we announced to our customers in June that we are investing up to $60 million to significantly expand annual manufacturing capacity for Captisol. In recent years annual production capacities have been approximately 60 metric tons (MT). The currently planned and in process investments are projected to increase our annual Captisol production capacity to approximately 500 MT and expand sites for the final manufacturing step to additional geographies including the United States.

Gilead is an important Ligand partner given the need for Captisol to solubilize remdesivir (Veklury®), an anti-viral agent made available as the first new treatment for severe COVID-19 in the U.S. under an EUA granted on May 1, 2020. The drug has now been authorized or approved for use in numerous countries around the world. Gilead announced the formation of a consortium of generic pharmaceutical companies to manufacture remdesivir for the developing world. We have supplied, established initial agreements or are in supply discussions with those companies, and are prepared to meet the Captisol needs of all companies manufacturing remdesivir.

As we ramp up production of Captisol, we have also made the decision to conduct a potentially pivotal trial for CE-Iohexol that we believe could serve as the basis for registration of the product candidate. CE-Iohexol is an iodine-based contrast agent for hospital-based imaging procedures. We expect to initiate the trial by the end of this year. The market for iodinated contrast agents is substantial, with approximately 20 million imaging procedures per year in the U.S., representing an estimated $1.5 billion in sales. The objective of the CE-Iohexol trial will be to demonstrate a reduction in the incidence of contrast-induced acute kidney injury and an equivalent image quality compared to GE's Omnipaque®.

OmniAb® Platform Updates

OmniAb is our three species antibody platform for the discovery of mono- and bi-specific therapeutic human antibodies. As of the second quarter of 2020, there were more than 80 OmniAb-related Shots on Goal in our partnered portfolio, representing over 40% of our pipeline. OmniAb users have filed or been issued more than 35 U.S. and international patents or patent applications claiming OmniAb-derived antibodies as the primary invention, including Celgene, Genmab, Janssen, Merck KGaA, Roche and others. There are 47 active or recently completed clinical trials that include an OmniAb-derived antibody including a number of new clinical trial starts in the first half of 2020 at all phases of development. Multiple partners reported clinical or regulatory progression of OmniAb-derived antibodies in the second quarter of 2020 including Immunovant, Inc., CStone Pharmaceuticals, Arcus Biosciences, Inc., Harbour BioMed and Gloria Biosciences, who submitted a marketing application for OmniAb-derived zimberelimab. At the ASCO annual meeting in June 2020, clinical data from OmniAb programs were highlighted by Genentech, Inc., Janssen Pharmaceuticals, Inc. and Gloria Biosciences. Additionally, three Ligand partners (Takeda Pharmaceutical Company Limited, Immunoprecise Antibodies Ltd and Aldevron, LLC) are currently pursuing development of therapeutic antibodies that were discovered with OmniAb for the treatment of COVID-19. We continue to innovate and invest in the OmniAb platform with internal R&D efforts, academic collaborations and through corporate acquisitions.

Other Business Updates

We completed the acquisition of the core assets of Icagen's North Carolina operations, adding two significant partnered programs – one each with Roche and the Cystic Fibrosis Foundation – proprietary ion channel screening and assay platforms, x-ray fluorescence capabilities, custom screening technologies and six preclinical internal programs. In addition, following the completion of the transaction, we expanded the collaboration with Roche adding a second major partnered program to the

collaboration. Also during the second quarter of 2020, Vernalis expanded its oncology research collaboration with Servier to jointly identify and enable new therapeutic targets, extending to a new three-year research collaboration.

Several partners also had significant regulatory, financing and business updates during the second quarter of 2020 including Verona Pharma confirming with the FDA its Phase 3 plans for its nebulized ensifentrine.

Results of Operations

Revenue

(Dollars in thousands)	Q2 2020	Q2 2019	Change	% Change	YTD 2020	YTD 2019	Change	% Change
Royalties	**$ 7,181**	$ 6,626	$ 555	8 %	**$ 13,746**	$ 26,164	$ (12,418)	(47) %
Captisol	**24,468**	8,549	15,919	186 %	**45,577**	17,508	28,069	160 %
Service revenue	**4,582**	4,559	23	1 %	**7,939**	8,442	(503)	(6) %
Contract revenue	**5,189**	5,253	(64)	(1) %	**7,319**	16,357	(9,038)	(55) %
Total revenue	**$ 41,420**	$ 24,987	$ 16,433	66 %	**$ 74,581**	$ 68,471	$ 6,110	9 %

Royalty revenue is a function of our partners' product sales and the applicable royalty rate. Kyprolis royalty rates are under a tiered royalty rate structure with the highest tier being 3.0%. Evomela has a fixed royalty rate of 20%. On March 6, 2019, we sold all of our rights, title and interest in and to the Promacta license to Royalty Pharma; therefore, the royalty revenue for Promacta only reflected the revenue prior to the sale. Subsequent to March 6, 2019, we no longer recognize revenue related to Promacta. Effective the first quarter of 2020, we began to present service revenue and contract revenue separately, which were combined in license fees, milestones and other revenues in prior years. Service revenue includes revenue generated from our Vernalis, Icagen and OmniChicken businesses as we collaborate with partners on early stage discovery and development work. Contract revenue includes license fees and development, regulatory and sales based milestone payments.

The following tables represent royalty revenue by program:

(in millions)	Q2 2020 Estimated Partner Product Sales	Effective Royalty Rate	Q2 2020 Royalty Revenue	Q2 2019 Partner Product Sales	Effective Royalty Rate	Q2 2019 Royalty Revenue
Kyprolis	**$ 269.1**	**2.0 %**	**$ 5.5**	$ 252.0	1.9 %	$ 4.9
Evomela	**6.0**	**20.0 %**	**1.2**	5.7	20.0 %	1.1
Other	**40.8**	**1.2 %**	**0.5**	44.2	1.4 %	0.6
Total	**$ 315.9**		**$ 7.2**	$ 301.9		$ 6.6

(in millions)	YTD 2020 Estimated Partner Product Sales	Effective Royalty Rate	YTD 2020 Royalty Revenue	YTD 2019 Partner Product Sales	Effective Royalty Rate	YTD 2019 Royalty Revenue
Kyprolis	**$ 555.1**	**1.8 %**	**$ 9.9**	$ 499.0	1.7 %	$ 8.7
Evomela	**13.9**	**20.0 %**	**2.8**	10.2	20.0 %	2.1
Other	**86.6**	**1.3 %**	**1.1**	92.1	1.3 %	1.2
Promacta	**N/A**	**N/A**	**N/A**	225.1	6.3 %	14.2
Total	**$ 655.6**		**$ 13.7**	$ 826.4		$ 26.2

Q2 2020 vs. Q2 2019

Total revenue increased by $16.4 million, or 66%, to $41.4 million in Q2 2020 compared to $25.0 million in Q2 2019 mainly driven by an increase in Captisol material sales during Q2 2020 attributable to an increased demand from Gilead for remdesivir as a first new treatment for COVID-19 available under an EUA as well as approval in Japan for patients with severe COVID-19. See additional remdesivir updates in the *Portfolio Program Update*s section above.

YTD 2020 vs. YTD 2019

Total revenue increased by $6.1 million, or 9%, to $74.6 million in the first half of 2020 compared to $68.5 million in the same period last year mainly driven by an increase in Captisol material sales during the first half of 2020 attributable to an increased demand from Gilead for remdesivir as mentioned above. The increases were partially offset by our no longer recognizing royalties related to Promacta since the sale of Promacta in March 2019 and the decreased contract revenue due to the disruption from COVID-19 as some partners delay starting clinical trials or paused patient enrollment in ongoing trials.

Operating Costs and Expenses

(Dollars in thousands)	Q2 2020	% of Revenue	Q2 2019	% of Revenue	YTD 2020	% of Revenue	YTD 2019	% of Revenue
Costs of Captisol	**$ 7,644**		$ 2,405		12,327		6,263	
Amortization of intangibles	**3,875**		3,505		7,410		7,008	
Research and development	**12,732**		12,213		24,623		23,502	
General and administrative	**10,069**		10,994		19,333		22,082	
Total operating costs and expenses	**$ 34,320**	83%	$ 29,117	117%	**$ 63,693**	85%	$ 58,855	86%

Q2 2020 vs. Q2 2019

Total operating costs and expenses increased by $5.2 million or 18%. Cost of Captisol increased primarily due to higher Captisol sales during Q2 2020 as mentioned above.

YTD 2020 vs. YTD 2019

Total operating costs and expenses increased by $4.8 million or 8%. Cost of Captisol increased primarily due to higher Captisol sales during the first half of 2020 as mentioned above. The increases were partially offset by lower legal, marketing and travel expenses during the first half of 2020 as compared to the same period last year.

Other Income (Expense)

(Dollars in thousands)	Q2 2020	Q2 2019	Change	YTD 2020	YTD 2019	Change
Gain (loss) from short-term investments	**$ 23,460**	$ (15,061)	$ 38,521	**$ (7,281)**	$ 4,488	$ (11,769)
Interest income	**1,969**	9,285	(7,316)	**6,699**	15,194	(8,495)
Interest expense	**(6,213)**	(9,012)	2,799	**(14,761)**	(17,918)	3,157
Other income, net	**1,803**	890	913	**2,159**	508	1,651
Total other income (expense), net	**$ 21,019**	$ (13,898)	$ 34,917	**$ (13,184)**	$ 2,272	$ (15,456)

The fluctuation in the gain (loss) from short-term investments is primarily driven by the changes in the fair value of our ownership in Viking common stock and warrants and a $4.0 million unrealized gain in other equity investments.

Interest income consists primarily of interest earned on our short-term investments. The decreases over the prior periods were due to the decrease in our short-term investment balance resulting from the proceeds used in share repurchases, the 2023 Notes repurchase during the first quarter of 2020 and the acquisition of Icagen during the second quarter of 2020.

Interest expense includes the 0.75% coupon cash interest expense in addition to the non-cash accretion of discount (including the amortization of debt issuance cost) on our 2023 Notes for the three and six months ended June 30, 2020. The decreases over the prior periods were primarily due to lower average debt outstanding balance during the current periods as compared to the prior periods. The 2019 Notes were paid off upon the maturity date in August 2019. In March 2020, we repurchased $234.4 million in principal of the 2023 Notes for $203.8 million in cash, including accrued interest of $0.6 million. See *Note 4 - Convertible Senior Notes.*

Other income, net, for the three and six months ended June 30, 2020 increased as compared to the same period last year. The increases werеprimarily due to a $1.9 million gain on an asset sale during the three and six months ended June 30, 2020.

Income Tax Benefit (Expense)

(Dollars in thousands)	Q2 2020	Q2 2019	Change	YTD 2020	YTD 2019	Change
Income (loss) before income taxes	**$ 28,119**	$ (18,028)	$ 46,147	**$ (2,296)**	$ 824,685	$ (826,981)
Income tax benefit (expense)	**(6,033)**	3,609	(9,642)	**251**	(172,767)	173,018
Income (loss) from operations	**$ 22,086**	$ (14,419)	$ 36,505	**$ (2,045)**	$ 651,918	$ (653,963)
Effective tax rate	21.5 %	20.0 %		10.9 %	20.9 %	

We compute our income tax provision by applying the estimated annual effective tax rate to income from operations and adding the effects of any discrete income tax items specific to the period. The effective tax rate for the three and six months ended June 30, 2020 was 21.5% and 10.9%, respectively. The variances from the U.S. federal statutory tax rate of 21% for the three and six months ended June 30, 2020 were primarily attributable to the mix of earnings in the jurisdictions with lower statutory rates than the U.S. offset by tax deductions related to stock award activities and tax deductions related to foreign derived intangible income tax credits. The effective tax rate for the three and six months ended June 30, 2019 was 20.0% and 20.9%, respectively. The variances from the U.S. federal statutory tax rate of 21% for the three months ended June 30, 2019 were primarily attributable to the mix of earnings in the jurisdictions with lower statutory tax rates than the U.S.

Liquidity and Capital Resources

As of June 30, 2020, our cash, cash equivalents, and marketable securities totaled $809.9 million, which were decreased by $260.0 million from the end of last year, due to factors described in the "*Cash Flow Summary*" below. Our primary source of liquidity, other than our holdings of cash, cash equivalents, and investments, has been cash flows from operations. Our ability to generate cash from operations provides us with the financial flexibility we need to meet operating, investing, and financing needs.

Historically, we have liquidated our short-term investments and/or issued debt and equity securities to finance our business needs as a supplement to cash provided by operating activities. Our short-term investments include U.S. government debt securities, investment-grade corporate debt securities, mutual funds and certificates of deposit. We have established guidelines relative to diversification and maturities of our investments in order to provide both safety and liquidity. These guidelines are periodically reviewed and modified to take advantage of trends in yields and interest rates. Additionally, we own certain securities which are classified as short-term investments that we received as a result of a milestone and an upfront license payment as well as 6.0 million shares of common stock in Viking.

In May 2018, we issued an aggregate principal amount of $750.0 million of the 2023 Notes. In conjunction of the 2023 Notes offering, we used a portion of the proceeds from such issuance totaling $49.7 million to repurchase 260,000 shares of our common stock. In March 2020, we repurchased $234.4 million in principal of the 2023 Notes for $203.8 million in cash, including accrued interest of $0.6 million. After the repurchases, $515.6 million in principal amount of the 2023 Notes remain outstanding. We may continue to use cash on hand to repurchase additional 2023 Notes through open-market transactions, including through Rule 10b5-1 trading plan to facilitate open-market repurchases, or otherwise, from time to time. The timing and amount of repurchase transactions will be determined by management based on the evaluation of market conditions, trading price of the 2023 Notes, legal requirements and other factors. The 2023 Notes were not convertible as of June 30, 2020. It is our intent and policy to settle conversions through combination settlement, which essentially involves payment in cash equal to the principal portion and delivery of shares of common stock for the excess of the conversion value over the principal portion. See *Note 4 - Convertible Senior Notes.*

On September 11, 2019, our Board of Directors approved a stock repurchase program authorizing, but not obligating, the repurchase of up to $500.0 million of our common stock from time to time over the next three years. We expect to acquire shares primarily through open-market transactions and may enter into Rule 10b5-1 trading plans to facilitate open-market repurchases. The timing and amount of repurchase transactions will be determined by management based on our evaluation of market conditions, share price, legal requirements and other factors. During the first quarter of 2020, we repurchased $73.3 million of our common stock under our stock repurchase programs as discussed below. We did not have any share repurchases during the second quarter of 2020. Authorization to repurchase $253.5 million of our common stock remained available as of June 30, 2020.

We believe that our existing funds, cash generated from operations and existing sources of and access to financing are adequate to fund our need for working capital, capital expenditures, debt service requirements, continued advancement of research and development efforts, potential stock repurchases and other business initiatives we plan to strategically pursue, including acquisitions and strategic investments.

As of June 30, 2020, we had $11.4 million in fair value of contingent consideration liabilities associated with prior acquisitions to be settled in future periods.

Leases and Off-Balance Sheet Arrangements

We lease our office facilities under operating lease arrangements with varying terms through September 2026. The agreements provide for increases in annual rents based on changes in the Consumer Price Index or fixed percentage increases of 3.0%. See further information in *Note 8, Leases.* We had no off-balance sheet arrangements at June 30, 2020 and December 31, 2019.

Cash Flow Summary

(Dollars in thousands)	YTD 2020	YTD 2019
Net cash provided by (used in):		
Operating activities	$ 41,304	$ (15,800)
Investing activities	$ 281,779	$ 360,580
Financing activities	$ (279,310)	$ (190,167)

During the six months ended June 30, 2020, we repurchased $234.4 million in principal of the 2023 Notes for $203.8 million in cash, including accrued interest of $0.6 million; paid $15.1 million in cash for the Icagen acquisition, and used $73.3 million to repurchase our common stock. During the six months ended June 30, 2019, we generated $827 million from the sale of Promacta, used $189.9 million to repurchase our common stock, used $69.7 million to pay federal and state estimated income taxes and paid $12 million for the purchase of Novan economic rights.

Contractual Obligations

There have been no material changes outside the ordinary course of business to the “Contractual Obligations” table set forth in our 2019 Annual Report, other than our purchase obligations under our agreements with Hovione for Captisol purchases and equipment investment increased by approximately $79 million.

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. There have been no material changes in our critical accounting policies and estimates as compared to the critical accounting policies and estimates described in our 2019 Annual Report, other than the adoption of the Accounting Standards Updates described in Item 1. Condensed Consolidated Financial Statements - *Note 1, "Basis of Presentation and Summary of Significant Accounting Policies,"* related to allowance for credit losses.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

There were no substantial changes to our market risks in the three and six months ended June 30, 2020, when compared to the disclosures in Item 7A of our 2019 Annual Report.

Item 4. Controls and Procedures

We carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures as of June 30, 2020 were effective to ensure that information required to be disclosed by us in reports that we file or submit under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms, and that such information is accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

There were no changes in our internal control over financial reporting that occurred during the quarter ended June 30, 2020 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

For information that updates the disclosures set forth under Part I, Item 3, "Legal Proceedings" in our 2019 Annual Report, refer to *Note 7, Commitment and Contingencies: Legal Proceedings*, to the Condensed Consolidated Financial Statements contained in Part I, Item 1 of this report.

Item 1A. Risk Factors

There have been no material changes to the risk factors included in "Item 1A. Risk Factors" in our 2019 Annual Report, other than as set forth below:

Our business is subject to risks arising from epidemic diseases, such as the recent COVID-19 pandemic, which has impacted and could continue to impact our business.

The current COVID-19 worldwide pandemic has presented substantial public health and economic challenges and is affecting our employees and partners, patients, communities and business operations, as well as the U.S. and global economy and financial markets. International and U.S. governmental authorities in impacted regions are taking actions in an effort to slow the spread of COVID-19, including issuing varying forms of "stay-at-home" orders, and restricting business functions outside of one's home. In response, we have restricted in-person access to our executive offices, our administrative employees are mostly working remotely, and we have limited the number of staff in our research and development laboratories and other facilities.

Several of our partners have reported that their operations have been impacted including delays in research and development programs and deprioritizing clinical trials in favor of treating patients who have contracted the virus or to prevent the spread of the virus. This may lead to clinical trial protocol deviations or to discontinuation of treatment for patients who are currently enrolled in the clinical trials being conducted by us or our partners. In addition, certain of our partners have reported negative impacts on product sales which will impact our royalty revenues. As the COVID-19 pandemic continues to spread around the globe, we may experience disruptions that could severely impact our business, drug manufacturing and supply chain, nonclinical activities and clinical trials and our partners' business may be impacted in similar ways, including due to:

- delays or difficulties in enrolling patients in clinical trials;
- delays or difficulties in clinical site initiation, including difficulties in recruiting or supporting clinical site investigators and clinical site staff;
- diversion of healthcare resources away from the conduct of clinical trials, including the diversion of hospitals serving as clinical trial sites and hospital staff supporting the conduct of clinical trials;
- interruption of key clinical trial activities, such as clinical trial site monitoring, due to limitations on travel imposed or recommended by federal or state governments, employers and others or interruption of clinical trial subject visits and study procedures, which may impact the integrity of subject data and clinical study endpoints;
- interruption or delays in the operations of the FDA or other regulatory authorities, which may impact review and approval timelines;
- interruption of, or delays in receiving, supplies of Captisol or other product or product candidates from contract manufacturing organizations due to staffing shortages, production slowdowns or stoppages and disruptions in delivery systems, which may result in cancellations of Captisol orders or refunds if we fail to deliver Captisol timely;
- delays in clinical sites receiving the supplies and materials needed to conduct clinical trials and interruption in global shipping that may affect the transport of clinical trial materials;
- interruptions in nonclinical studies due to restricted or limited operations at laboratory facility or those of outsourced service providers;
- limitations on employee resources that would otherwise be focused on the conduct of nonclinical studies or clinical trials, including because of sickness of employees or their families or the desire of employees to avoid contact with large groups of people;
- delays in receiving approval from local regulatory authorities to initiate planned clinical trials;

- changes in local regulations as part of a response to COVID-19 which may require us to change the ways in which clinical trials are conducted, which may result in unexpected costs, or to discontinue the clinical trials altogether;
- delays in necessary interactions with local regulators, ethics committees and other important agencies and contractors due to limitations in employee resources or forced furlough of government employees;
- refusal of the FDA to accept data from clinical trials in affected geographies outside the United States;
- interruption or delays to discovery and development pipelines; and
- difficulties launching or commercializing products, including due to reduced access to doctors as a result of social distancing protocols.

In addition, if COVID-19 infects our genetically modified animals which form the basis of our OmniAb platform, or if there is an outbreak among our employees who maintain and care for these animals, we and our partners may be unable to produce antibodies for development. Further, the spread of COVID-19 has had and may continue to severely impact the trading price of shares of our common stock and could further severely impact our ability to raise additional capital on a timely basis or at all.

The COVID-19 pandemic continues to evolve. The extent to which the COVID-19 may impact our business, including our drug manufacturing and supply chain, nonclinical activities, clinical trials and financial condition, including due to impacts on our partners' businesses, will depend on future developments, which are highly uncertain and cannot be predicted with confidence, the duration of the pandemic, travel restrictions and social distancing in the United States and other countries, business closures or business disruptions and the effectiveness of actions taken in the United States and other countries to contain and treat the disease.

To the extent the COVID-19 pandemic adversely affects our business and financial results, it may also have the effect of heightening many of the other risks described in this section and in the "*Risk Factors*" section of our 2019 Annual Report.

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, including Amgen and Gilead, 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. In addition, revenue from Captisol sales related to remdesivir may not continue or materially increase due to a number of factors, including: if remdesivir is later shown to not be effective or safe for the treatment of COVID-19; the FDA revises or revokes its EUA for remdesivir; if alternative therapies or vaccines are approved; or the risk of COVID-19 infection significantly diminishes, in which case the commercial opportunity could be materially and adversely affected.

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 Hovione, our third party manufacturer, primarily at Hovione's facilities in Portugal and Ireland. If Hovione 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. In the event of a Captisol supply interruption, we are permitted to designate and, with Hovione's assistance, qualify one or more alternate suppliers, although there is no assurance that we could do so timely or at an acceptable costs, if at all.

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. In addition, we will rely on Hovione to expand manufacturing capacity of Captisol and any failure by Hovione to timely implement such increased capacity could adversely affect our ability to supply Captisol to our partners. While we believe we maintain adequate inventory of Captisol to meet our current partner needs, and our planned expansion of Captisol capacity will be sufficient to meet future partner needs, our estimates and

projections for Captisol demand may not be correct and any supply interruptions could materially adversely impact our operating results. In addition, our plan to invest additional capital for the expansion of Captisol manufacturing capacity may not yield a return on investment if future Captisol sales fall below our expectations.

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 competing product, 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.

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.

Our OmniAb antibody platform faces specific risks, including the fact that no product using antibodies from the platform has been approved by the FDA or similar regulatory agency.

None of our collaboration partners using our OmniAb antibody platform have received approval from the FDA or similar regulatory agency to market a product discovered based on our platform. In addition, only a few of our collaboration partners' product candidates based on the platform have been tested in late stage clinical trials. If one of our OmniAb collaboration partners' product candidates fails during preclinical studies or clinical trials, our other OmniAb collaboration partners may decide to abandon product candidates using antibodies generated from the OmniAb platform, whether or not such failure is 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 six patents within the U.S. and three patents in the European Union and are subject to the same risks as our patent portfolio discussed elsewhere in this report and our 2019 Annual Report, including the risk that our patents may infringe on third party patent rights or that our patents may be invalidated. As of a result of these factors, the future revenue generated from this platform may be materially lower than what we currently anticipate. 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. Our competitors may render our OmniAb antibody platform obsolete, or limit the commercial value of any product candidates developed using our platform, by advances in existing technological approaches or the development of new or different approaches, potentially eliminating the advantages that we believe our platform offers.

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

None.

Item 3. Defaults Upon Senior Securities

None.

em 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None

Item 6. Exhibits

Exhibit Number	Description
2.1	Asset Purchase Agreement, dated February 11, 2020, (as amended on April 1, 2020), by and among the Registrant, Icagen Inc., Icagen Corp., XRPro Sciences, Inc. and Caldera Discovery, Inc. (incorporated by reference to Exhibit 2.1 to the Company's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 8, 2020).
10.1	Call Option Amendment Agreed, dated April 6, 2020, between the Registrant and Barclays Bank PLC (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 8, 2020).
10.2	Call Option Amendment Agreed, dated April 6, 2020, between the Registrant and Deutsche Bank AG, London Branch (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 8, 2020).
10.3	Call Option Amendment Agreed, dated April 6, 2020, between the Registrant and Goldman Sachs & Co. LLC (incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 8, 2020).
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.*
101	The following financial information from our Quarterly Report on Form 10-Q for the quarter ended June 30, 2020, formatted in iXBRL (inline eXtensible Business Reporting Language): (i) Consolidated Condensed Balance Sheets, (ii) Consolidated Condensed Statements of Operations, (iii) Consolidated Condensed Statement of Comprehensive Income, (iv) Consolidated Condensed Statements of Stockholders' Equity, (v) Consolidated Condensed Statements of Cash Flows, and (vi) the Notes to Consolidated Condensed Financial Statements.*
104	The cover page from the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2020, formatted in Inline XBRL and contained in Exhibit 101.

* Filed herewith.

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: August 7, 2020

By: /s/ Matthew Korenberg

Matthew Korenberg

Executive Vice President, Finance and Chief Financial Officer

Duly Authorized Officer and Principal Financial Officer

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO EXCHANGE ACT RULE 13a-14(a)/15d-14(a)
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, John L. Higgins, certify that:

1 I have reviewed this Quarterly Report on Form 10-Q of Ligand Pharmaceuticals Incorporated;

2 Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

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

4 The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5 The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO EXCHANGE ACT RULE 13a-14(a)/15d-14(a)
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

Date: August 7, 2020

/s/ John L. Higgins

John L. Higgins
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO EXCHANGE ACT RULE 13a-14(a)/15d-14(a)
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Matthew Korenberg, certify that:

1 I have reviewed this Quarterly Report on Form 10-Q of Ligand Pharmaceuticals Incorporated;

2 Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

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

4 The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5 The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO EXCHANGE ACT RULE 13a-14(a)/15d-14(a)
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

Date: August 7, 2020

/s/ Matthew Korenberg

Matthew Korenberg
Executive Vice President, Finance and Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER

In connection with the Quarterly Report of Ligand Pharmaceuticals Incorporated (the "Company") on Form 10-Q for the quarter ended June 30, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, John L. Higgins, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 7, 2020

/s/ John L. Higgins

John L. Higgins
Chief Executive Officer
(Principal Executive Officer)

The foregoing certification is being furnished solely to accompany the Report pursuant to 18 U.S.C. Section 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing. A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER

In connection with the Quarterly Report of Ligand Pharmaceuticals Incorporated (the "Company") on Form 10-Q for the quarter ended June 30, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Matthew Korenberg, Executive Vice President, Finance and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 7, 2020

/s/ Matthew Korenberg

Matthew Korenberg
Executive Vice President, Finance and Chief Financial Officer
(Principal Financial Officer)

The foregoing certification is being furnished solely to accompany the Report pursuant to 18 U.S.C. Section 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing. A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.