UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 8-K/A

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the

Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): October 1, 2020

LIGAND PHARMACEUTICALS INCORPORATED

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**001-33093**	**77-0160744**
(State or other jurisdiction of incorporation or organization)	*(Commission File Number)*	*(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)

N/A

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.001 per share	LGND	The Nasdaq Global Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933(§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

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. ☐

Explanatory Note

On October 1, 2020, Ligand Pharmaceuticals Incorporated (the "Company"), filed a current report on Form 8-K (the "Original Filing") disclosing that it completed its acquisition (the "Acquisition") of Pfenex Inc., a Delaware corporation ("Pfenex"), pursuant to the terms of an Agreement and Plan of Merger (the "Merger Agreement"), dated August 10, 2020, by and among the Company, Pelican Acquisition Sub, Inc., a wholly-owned subsidiary of the Company, and Pfenex.

This Amendment No.1 on Form 8-K/A amends the Original Filing to include the required historical financial statements of Pfenex and the pro forma financial information required by Items 9.01(a) and 9.01(b) of Form 8-K, as well as the related auditor consent, and should be read in conjunction with the Original Filing. This Amendment No. 1 does not amend any other item of the Original Filing except as provided herein.

The pro forma financial information included as Exhibit 99.2 to this Current Report on Form 8-K/A has been presented for informational purposes only, as required by Form 8-K, and does not purport to represent the actual results of operations that the Company and Pfenex would have achieved had the companies been combined at and during the period presented in the pro forma financial information, and is not intended to project the future results of operations that the combined company may achieve following the Acquisition.

Item 9.01 Financial Statements and Exhibits.

(a) Financial statements of business acquired

The audited consolidated financial statements of Pfenex as of December 31, 2019 and for the year then ended are filed as Exhibit 99.1 and are incorporated herein by reference.

(b) Pro forma financial information

The unaudited pro forma combined financial statements of the Company as of and for the nine months ended September 30, 2020, and as of and for the year ended December 31, 2019 are filed as Exhibit 99.2 and are incorporated herein by reference.

(d) Exhibits

Exhibit No.	Description
23.1	Consent of KPMG LLP
99.1	Audited Consolidated Financial Statements of Pfenex Inc. as of and for the year ended December 31, 2019
99.2	Unaudited Pro Forma Combined Financial Statements of Ligand Pharmaceuticals Incorporated as of and for the nine months ended September 30, 2020, and as of and for the year ended December 31, 2019
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

SIGNATURES

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

LIGAND PHARMACEUTICALS INCORPORATED

Date: December 10, 2020

By: /s/ Charles S. Berkman
Name: Charles S. Berkman
Title: Senior Vice President, General Counsel and Secretary

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the registration statement (No. 333-233130, No. 333-212775, No. 333-182547, No. 333-160132, and No. 333-131029) on Form S-8 of Ligand Pharmaceuticals Incorporated of our report dated March 11, 2020, with respect to the consolidated balance sheet of Pfenex Inc. as of December 31, 2019, the related consolidated statements of operations, changes in stockholders' equity, and cash flows for the year ended December 31, 2019, and the related notes, which report appears in the Amendment No. 1 to Current Report on Form 8-K of Ligand Pharmaceuticals Incorporated, dated December 10, 2020. Our report on the consolidated financial statements refers to a change in the method of accounting for revenue due to the adoption of Accounting Standards Codification Topic 606, *Revenue from Contracts with Customers*, and leases due to the adoption of Accounting Standards Codification Topic 842,*Leases.*

/s/ KPMG LLP

San Diego, California
December 10, 2020

EXHIBIT 99.1

Pfenex Inc. and Subsidiaries
Consolidated Financial Statements
December 31, 2019

INDEX TO FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Pfenex Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheet of Pfenex Inc. and subsidiaries (the Company) as of December 31, 2019, the related consolidated statement of operations, changes in stockholders' equity, and cash flows for the year ended December 31, 2019, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019, and the results of its operations and its cash flows for the year ended December 31, 2019, in conformity with U.S. generally accepted accounting principles.

Changes in Accounting Principle

As discussed in Note 1 to the consolidated financial statements, the Company has changed its method of accounting for revenue as of January 1, 2019 due to the adoption of Accounting Standards Codification 606, *Revenue from Contracts with Customers,* and for leases as of January 1, 2019 due to the adoption of Accounting Standards Codification 842, *Leases.*

Basis for Opinion

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

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

/s/ KPMG LLP

We have served as the Company's auditor since 2016.

San Diego, California
March 11, 2020

PFENEX INC.

Consolidated Balance Sheet

(in thousands)		December 31, 2019
Assets		
Current assets		
Cash and cash equivalents	$	55,624
Restricted cash		200
Accounts and unbilled receivables, net		5,628
Other current assets		2,308
Total current assets		63,760
Property and equipment, net		7,744
Right-of-use asset		3,903
Other long-term assets		170
Intangible assets, net		3,733
Goodwill		5,577
Total assets	$	84,887
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	$	673
Accrued liabilities		7,351
Current portion of deferred revenue		75
Lease liabilities – short-term		951
Other current liabilities		616
Total current liabilities		9,666
Lease liabilities – long-term		2,896
Other non-current liabilities		26
Total liabilities		12,588
Commitments and contingencies		
Stockholders' equity		
Preferred stock, $0.001 par value, 10,000,000 shares authorized; no shares issued and outstanding		—
Common stock, par value $0.001, 200,000,000 shares authorized at December 31, 2019, 32,266,708 shares issued and outstanding at December 31, 2019		33
Additional paid-in capital		270,008
Accumulated deficit		(197,742)
Total stockholders' equity		72,299
Total liabilities and stockholders' equity	$	84,887

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

PFENEX INC.

Consolidated Statement of Operations

(in thousands, except for per share data)		Year Ended December 31, 2019
Revenue		
License and service revenue	$	$ 44,497
Product revenue		5,829
Total revenue		50,326
Cost of revenue		
License and service		3,042
Product		1,849
Total cost of revenue		4,891
Gross profit		45,435
Operating expense		
Research and development		25,533
Selling, general and administrative		19,078
Total operating expense		44,611
Income from operations		824
Other income, net		235
Net income before income taxes		1,059
Income tax provision		(1)
Net income	$	1,058
Net income per common share, basic and diluted	$	0.03
Weighted-average common shares used to compute net income per share		
Basic		31,602
Diluted		32,373

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

PFENEX INC.

Consolidated Statement of Changes in Stockholders' Equity
(in thousands)

	Common Stock		Additional Paid in Capital	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount			
Balance at December 31, 2018	31,468	$ 32	$ 262,405	$ (201,300)	$ 61,137
Adoption of ASC 606 (Note 7)	—	—	—	2,500	2,500
Exercise of stock options	764	1	4,597	—	4,598
Issuance of common stock under employee stock purchase plan	35	—	109	—	109
Stock-based compensation expense	—	—	2,897	—	2,897
Net income	—	—	—	1,058	1,058
Balance at December 31, 2019	32,267	$ 33	$ 270,008	(197,742)	$ 72,299

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

PFENEX INC.

Consolidated Statement of Cash Flows

(in thousands)		Year Ended December 31, 2019
Cash flows from operating activities		
Net income	$	1,058
Adjustments to reconcile net income to net cash used in operating activities:		
Depreciation and amortization		1,294
Amortization of intangible assets		515
Stock-based compensation expense		2,897
Gain on disposal of property and equipment		(97)
Changes in operating assets and liabilities		
Accounts and unbilled receivables		(457)
Other current assets		(198)
Other long-term assets		(90)
Accounts payable		(1,354)
Accrued liabilities		(2,454)
Deferred revenue		(5,242)
Net cash used in operating activities		(4,128)
Cash flows from investing activities		
Acquisitions of property and equipment		(1,442)
Proceeds from sales of equipment		597
Net cash used in investing activities		(845)
Cash flows from financing activities		
Repayments of financial lease obligation		(330)
Proceeds from exercise of stock options and other stock issuances		4,707
Net cash provided by financing activities		4,377
Net decrease in cash, cash equivalents and restricted cash		(596)
Cash, cash equivalents and restricted cash		
Beginning of year		56,420
End of year	$	55,824
Supplemental schedule of cash flow information		
Cash paid for interest	$	22
Cash paid for taxes	$	2
Adoption of ASC 606 - impact on deferred revenue	$	(2,500)
Adoption of ASC 842 - ROU assets	$	4,540
Adoption of ASC 842 - lease liabilities	$	(4,755)
Non-cash financing and investing transactions		
Asset acquisitions in accounts payable and accrued expenses	$	603

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

PFENEX INC.

Notes to Consolidated Financial Statements

1. Organization and Summary of Significant Accounting Policies

Business Activities and Organization

Pfenex Inc. (the Company or Pfenex) is a development and licensing biotechnology company focused on leveraging its*Pf*ēnex Expression Technology® to develop and improve protein therapies for unmet patient needs. Using the patented *Pf*ēnex Expression Technology platform, the Company has created an advanced pipeline of potential therapeutic equivalents, and novel and next generation therapeutics. On October 4, 2019, the U.S. Food and Drug Administration (FDA) approved the new drug application (NDA) for PF708 submitted in accordance with the 505(b)(2) regulatory pathway, with Forteo® (teriparatide injection) as the reference drug. Like Forteo, this FDA-approved PF708 product is indicated for the treatment of osteoporosis in certain patients at high risk for fracture. Marketing authorization applications are pending in other jurisdictions. In addition, the Company is developing hematologic oncology products in collaboration with Jazz Pharmaceuticals Ireland Limited (Jazz) including PF743 (JZP-458), a recombinant *Erwinia* asparaginase, and PF745 (JZP-341), a long-acting *Erwinia* asparaginase. Both PF743 and PF745 are being developed for the treatment of Acute Lymphoblastic Leukemia (ALL) and other hematological malignancies. The Company also uses its *Pf*ēnex Expression Technology platform to produce CRM197, a diphtheria toxoid carrier protein used in prophylactic and therapeutic vaccine candidates under development by Merck & Co, Inc. (Merck) and Serum Institute of India Private Ltd. (SIIPL). Both have licenses to the *Pf*ēnex Expression Technology for the production of CRM197 for use in conjugate vaccine products. The Company also provides services related to its technology to express difficult-to-produce proteins and other biologic products using its proprietary *Pseudomonas fluorescens* expression platform. The Company is focused on developing its portfolio of partnered as well as wholly-owned peptides and complex proteins. Currently, the Company is exploring opportunities to develop novel modalities through an assessment program designed to evaluate and pursue validated biologic pathways that are differentially druggable via a selected modality in specific diseases. In addition, the Company is exploring a range of platform partnerships with third parties who have products and/or platforms that are compatible with its *Pf*ēnex Expression Technology platform.

FDA-Approved PF708 Product

On October 4, 2019, the FDA approved the NDA for PF708 submitted in accordance with the 505(b)(2) regulatory pathway, with Forteo (teriparatide injection) as the reference drug. The FDA-approved PF708 product is indicated for the treatment of osteoporosis in certain patients at high risk for fracture. In November 2019, the Company transferred the NDA to Alvogen pursuant to the License and Development Agreement, described below, between the companies. In addition, the Company has been continuing its efforts to obtain an "A" therapeutic equivalence designation for the product relative to its reference drug, Forteo. A determination of therapeutic equivalence may permit the FDA-approved PF708 product to be automatically substituted for Forteo, depending on applicable laws and policies within each of the 50 states in the United States. Consistent with the Company's interactions with the FDA and the agency's draft guidance document on demonstrating the therapeutic equivalence of drug-device combination products, the Company has completed a comparative human factors study comparing the FDA-approved PF708 product and Forteo. The human factors study was designed to further support a finding that the FDA-approved PF708 product is therapeutically equivalent to Forteo. On October 14, 2019, the Company announced the successful completion of its PF708 comparative use human factors study and its submission of the final study report to the FDA. The study data demonstrate that the user interface of the FDA-approved PF708 product was noninferior to that of Forteo for each critical user task evaluated in the study based on pre-specified statistical analysis of critical patient and caregiver tasks. The Company believes this submission completes the information package required by the FDA to evaluate the therapeutic equivalence of the PF708 product. The Company's collaboration partner, Alvogen, intends to launch the FDA-approved PF708 product in the U.S. upon an FDA decision on the therapeutic equivalence evaluation of the product.

In April 2018, the Company and China NT Pharma Group Company Ltd. (NT Pharma) entered into a Development and License Agreement (NT Pharma Agreement), pursuant to which the Company granted an exclusive license to NT Pharma to commercialize PF708 in Mainland China, Hong Kong, Singapore, Malaysia and Thailand and a non-exclusive license to conduct development activities in such territories with respect to PF708. The Company will be responsible for commercial manufacturing and providing product for commercial sale to NT Pharma. The Company will facilitate this obligation via its commercial partner Alvogen. NT Pharma is responsible for all regulatory submissions, development costs and costs associated with regulatory approvals in such territories. The total value of payments and potential payments associated with the NT Pharma agreement is $25 million. In addition, the Company may be eligible to receive royalties on sales of the product in the territory.

In June 2018, the Company and Alvogen Malta Operations Ltd. (Alvogen) entered into a Development and License Agreement (Alvogen Agreement) pursuant to which Alvogen has the exclusive right to commercialize and manufacture PF708 in the United States. The Company expects Alvogen to launch FDA-approved PF708 in the U.S. upon an FDA rating decision on the therapeutic equivalence evaluation of the product. Following the FDA approval of the NDA for PF708, the FDA-approved PF708 product will be commercialized and manufactured in the U.S. by Alvogen. In November 2019 the Company transferred the NDA to Alvogen pursuant to the License and Development Agreement. The total value of payments and potential payments associated with the Alvogen agreement is $27.5 million. In addition, the Company may be eligible to receive royalties on sales of the product in the U.S.

In February 2019, the Company and Alvogen entered into additional agreements, extending Alvogen's rights to commercialize and manufacture PF708 to include the European Union (EU), certain countries in the Middle East and North Africa (MENA) and to the rest of world (ROW) territories (excluding certain Asian countries granted to NT Pharma). Alvogen is responsible for local activities and for overseeing any clinical development, regulatory, litigation, commercial manufacturing and commercialization activities in these jurisdictions. The total value of payments and potential payments associated with the Alvogen EU, MENA and ROW agreements is $3.8 million. In addition, the Company may be eligible to receive royalties on sales of the product in the EU and MENA territories.

Collaboration Partner: Jazz Pharmaceuticals Ireland Limited

In July 2016, the Company and Jazz announced an agreement under which the Company granted Jazz worldwide rights to develop and commercialize multiple early stage hematologic oncology product candidates, including PF743 (JZP-458), a recombinant *Erwinia* asparaginase, and PF745 (JZP-341), a long-acting *Erwinia* asparaginase. In December 2017, the parties amended the Jazz agreement, bringing the total value of payments and potential payments associated with the collaboration to $224.5 million. In addition, the Company may be eligible to receive tiered royalties on worldwide sales of any products resulting from the collaboration at rates reduced from those under the 2016 agreement.

Pfenex Expression Technology Licenses: CRM197

The Company has both licenses and supply agreements in place for CRM197, which is a non-toxic mutant of diphtheria toxin. CRM197 is a well-characterized protein and functions as a carrier for polysaccharides and haptens, making them immunogenic. The Company has developed unique CRM197 production strains based on its *Pf*ēnex Expression Technology platform. As a result of these development efforts, the Company previously entered into commercial licenses for production strains capable of producing CRM197 with both Merck & Co., Inc. (Merck) and Serum Institute of India Private Ltd. (SIIPL). Merck and SIIPL are using the CRM197 produced via the licensed production strain in multiple clinical stage products. Those products currently include Merck's 15-valent pneumococcal conjugate vaccine, PCV-15 (V114), currently in several ongoing Phase 3 clinical studies, and SIIPL's 10-valent pneumococcal conjugate vaccine Pneumosil®, which achieved WHO Prequalification in December 2019, and a pentavalent meningococcal conjugate vaccine currently in a Phase 3 clinical study. The CRM197 production strains utilized by both Merck and SIIPL are unique and exclusively licensed to each party. These commercial license agreements with Merck and SIIPL contemplate potential maintenance and milestone fees as well as royalties on net sales. Additionally, as part of the SIIPL commercial license agreement, SIIPL supplies both reagent grade and cGMP CRM197 to Pfenex, which supplies the product to vaccine development-focused pharmaceutical partners.

Arcellx Development, Evaluation and License Agreement

The Company previously entered into a development, evaluation and license agreement with Arcellx which provides access to the*Pf*ēnex Expression Technology platform to advance Arcellx's proprietary sparX proteins that activate, silence and reprogram Antigen-Receptor Complex T cell-based therapies. Under the agreement, we are eligible to receive development funding in addition to development, regulatory and commercial milestones ranging from $2.6 million to $18 million for each product incorporating a sparX protein expressed using a production strain based on the Pfēnex Expression Technology, as well as royalties on worldwide sales of any such products. We have completed the development of both sparX 1 and sparX 2 and Arcellx has opted into the commercial license for both production strains.

Other Pipeline Products

In the third quarter of 2019 we added PF810, a peptide based next generation therapeutic, to our wholly owned pipeline. PF810 is currently in preclinical development.

At the Market Offering Program

In March 2018, the Company entered into an equity sales agreement (Sales Agreement) with William Blair & Company, L.L.C. (William Blair) to sell shares of the Company's common stock having aggregate sales proceeds of up to $20.0 million, from time to time, through an "at the market" (ATM) equity offering program under which William Blair will act as sales agent. Under the Sales Agreement, the Company sets the parameters for the sale of shares, including the number of shares to be issued, the time period during which sales are requested to be made, limitation on the number of shares that may be sold in any one trading day and any minimum price below which sales may not be made. As of December 31, 2019, the Company had not sold any shares under the Sales Agreement. In January 2020, the Company sold 500,000 shares for net proceeds of $6.2 million, and in February 2020, the Company sold an additional 1,253,443 shares for net proceeds of $13.2 million. As of February 2020, the ATM was fully utilized.

Basis of Presentation

The accompanying consolidated financial statements have been prepared in accordance with United States generally accepted accounting principles (U.S. GAAP), and reflect all of the Company's activities, including those of its wholly-owned subsidiary. All material intercompany accounts and transactions have been eliminated in consolidation. In the opinion of management, all adjustments considered necessary for a fair presentation have been included. These adjustments consist of normal and recurring accruals, as well as non-recurring charges.

Use of Estimates

The preparation of the accompanying consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts (including assets, liabilities, revenues and expenses) and related disclosures. Estimates have been prepared on the basis of the most current and best available information. However, actual results could differ from those estimates.

Risk and Uncertainties

The Company's future results of operations involve a number of risks and uncertainties. Factors that could affect the Company's future operating results and cause actual results to vary materially from expectations include, but are not limited to, uncertainty of results of clinical trials and reaching milestones, uncertainty of regulatory approval of the Company's product candidates, uncertainty of market acceptance of the Company's products if approved for sale, competition from substitute products and larger companies, securing and protecting proprietary technology, strategic relationships and dependence on key individuals.

Products developed by the Company require clearances from international and domestic regulatory agencies prior to commercial sales in such jurisdictions. There can be no assurance that the products will receive the necessary clearances. If the Company was denied clearance, clearance was delayed or the Company was unable to maintain clearance, it could have a materially adverse impact on the Company.

As of December 31, 2019, the Company had an accumulated deficit of $197.7 million and expects to incur substantial operating losses for the next several years. The Company believes that its existing cash and cash equivalents and cash inflow from operations will be sufficient to meet its anticipated cash needs for at least the next 12 months from the date these consolidated financial statements are issued.

The Company will require substantial cash to achieve its objectives of discovering, developing and commercializing drugs, as this process typically takes many years and potentially hundreds of millions of dollars for an individual drug. The Company may not have adequate available cash, or assets that could be readily turned into cash, to meet these objectives in the long term. It will need to obtain significant funds under its existing collaborations and license agreements, under new collaboration, licensing or other commercial agreements for one or more of its drug candidates and programs or patent portfolios, or from other potential sources of liquidity, which may include the sale of equity, issuance of debt or other transactions. However, there can be no assurance that any additional financing or strategic investments will be available to the Company on acceptable terms, if at all. If events or circumstances occur such that it does not obtain additional funding, the Company will most likely be required to reduce its plans and/or certain discretionary spending, which could have a material adverse effect on its ability to achieve its intended business objectives.

Cash and Cash Equivalents

The Company considers all highly liquid investments that are readily convertible into cash and have an original maturity of 90 days or less at the time of purchase to be cash equivalents. Cash amounts that are restricted as to withdrawal or usage are presented as restricted cash. In January 2017, the Company entered into a Borrower's Pledge Agreement, which required $0.2 million in restricted cash to be provided as security for its commercial credit card arrangement with one of the Company's banks.

Concentrations

Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of cash, cash equivalents, and accounts and unbilled receivables. The Company has established guidelines intended to limit its exposure to credit risk by placing cash and cash equivalents with high credit quality financial institutions and diversifying its portfolio. All cash and cash equivalents were held at three major financial institutions as of December 31, 2019. For the Company's cash position of $55.8 million as of December 31, 2019, which included restricted cash of $0.2 million, the Company has exposure to credit loss for amounts in excess of insured limits in the event of non-performance by the institutions; however, the Company does not anticipate non-performance.

Additional credit risk is related to the Company's concentration of receivables. As of December 31, 2019 receivables were concentrated among two customers representing 90% of total net receivables. No allowance for doubtful accounts was recorded at December 31, 2019. For the year ended December 31, 2019, revenue was concentrated among two customers and/or collaboration partners representing 84% of total revenues.

A portion of revenue is earned from sales outside the United States. Non-U.S. revenue is denominated in U.S. dollars and includes revenue generated from customers with headquarters outside of the U.S. A breakdown of the Company's revenue from U.S. and non-U.S. sources for the year ended December 31, 2019 is as follows:

	Year Ended December 31, 2019
	(in thousands)
US revenue	$ 6,055
Non-US revenue	44,271
Total revenue	$ 50,326

During the year ended December 31, 2019, Ireland accounted for $28.7 million, or 57%, of the Company's revenue and Malta accounted for $13.5 million, or 27% of the Company's revenue.

Fair Value of Financial Instruments

Financial instruments, including cash, cash equivalents, restricted cash, lines of credit, and accounts and unbilled receivables are carried at cost, which management believes approximates fair value because of the short-term maturity of these instruments.

Fair value is an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability. As a basis for considering such assumptions, a three-tier fair value hierarchy has been established, which prioritizes the inputs used in measuring fair value as follows:

- Level 1—Observable inputs such as quoted prices in active markets for identical assets or liabilities. Level 1 assets at December 31, 2019 included the Company's cash, cash equivalents and restricted cash. There were no Level 1 liabilities;
- Level 2—Inputs, other than the quoted prices in active markets, that are observable either directly or indirectly. The Company had no Level 2 assets or liabilities at December 31, 2019; and
- Level 3—Unobservable inputs to the valuation methodology that are significant to the measurement of the fair value of assets or liabilities in which there is little or no market data. The Company had no Level 3 assets or liabilities at December 31, 2019.

Accounts and Unbilled Receivables

Accounts receivable represent primarily commercial receivables associated with the Company's service fees, license fees, product sales and receivables from U.S. government contracts. Accounts receivable amounted to $5.0 million as of December 31, 2019. Unbilled receivables represent reimbursable costs in excess of billings and, where applicable, accrued profit related to long-term government contracts for which revenue has been recognized, but the customer has not yet been billed. Unbilled receivables amounted to $0.6 million as of December 31, 2019.

The Company evaluates the collectability of its receivables based on a variety of factors, including the length of time the receivables are past due, the financial health of its customers and historical experience. Based upon the review of these factors, the Company recorded no allowance for doubtful accounts at December 31, 2019.

Property and Equipment

Property and equipment are stated at cost and depreciated using the straight-line method over the estimated useful lives of the assets ranging from five to ten years with the exception of leasehold improvements which are amortized over the shorter of the lease term or their estimated useful life.

Leases

Effective January 1, 2019, the Company adopted Accounting Standards Codification (ASC) 842, *Leases* (ASC 842). This standard increases transparency and comparability by recognizing a lessee's rights and obligations resulting from leases by recording them on the balance sheet as right-of-use assets and lease liabilities. The new standard requires lessees to apply a dual approach, classifying leases as either finance or operating leases based on the principle of whether or not the lease is effectively a financed purchase by the lessee. This classification dictates whether lease expense is to be recognized based on an effective interest method or on a straight-line basis over the term of the lease. Additional qualitative and quantitative disclosures will be required to give financial statement users information on the amount, timing and judgments related to a reporting entity's cash flows arising from leases. The Company adopted the standard effective January 1, 2019 using the effective date transition method. This transition method allowed the Company to initially apply the requirements of the standard at the adoption date, versus at the beginning of the earliest period presented.

As of January 1, 2019, the Company recorded an operating lease right-of-use assets of $3.7 million and corresponding net operating lease liability of $4.2 million at that date. In addition, effective January 1, 2019, the Company recorded a financial lease right-of-use assets of $0.9 million and corresponding net financial lease liability of $0.5 million. In calculating the right of use asset and lease liability, the Company elects to combine lease and non-lease components. The Company excludes short-term leases having initial terms of 12 months or less from the new guidance as an accounting policy election and recognizes lease costs on a straight-line basis over the lease term for these arrangements. Adoption of the standard did not have an effect on retained earnings. The Company availed itself of the practical expedients provided under the standard and its subsequent amendments regarding identification of leases, lease classification, indirect costs, and the combination of lease and non-lease components. The Company continues to account for leases in the prior period financials statements under ASC 840. Variable lease expenses are recorded when incurred.

Intangible Assets

Intangible assets include customer relationships, developed technology and trade names related to the Company's asset acquisition and have been capitalized and amortized over the estimated useful life of 15 years, 20 years and 15 years, respectively.

Impairment of Long-Lived Assets Other Than Goodwill

The Company assesses potential impairments to its long-lived assets, including property, plant and equipment, right-of-use assets and intangibles other than goodwill, whenever events or changes in circumstances indicate that the carrying value of an asset may not be recoverable. If indicators of impairment exist, the Company assesses the recoverability of the affected long-lived assets by determining whether the carrying value of such assets can be recovered through undiscounted future operating cash flow expected to result from the use of the assets. If the carrying amount is not recoverable, the Company measures the amount of any impairment by comparing the carrying value of the asset to the present value of the expected future cash flows associated with the use of the asset. No impairment was noted for the year ended December 31, 2019.

Goodwill

Effective January 1, 2019, the Company adopted Accounting Standards Update (ASU) 2017-04 *Intangibles – Goodwill and Other: Simplifying the Test for Goodwill Impairment*. This updated guidance eliminates Step 2 from the current two-step quantitative model for goodwill impairment tests. Step 2 required an entity to calculate an implied fair value, which included a hypothetical purchase price allocation requirement, for reporting units that failed Step 1. Per this updated guidance, a goodwill impairment will instead be measured as the amount by which a reporting unit's carrying value exceeds its fair value as identified in Step 1. This guidance is effective for fiscal years beginning after December 15, 2019, including interim periods within that reporting period. The Company has adopted this standard as of December 31, 2019. The adoption of this guidance did not impact the consolidated financial statements for fiscal year 2019.

Goodwill is the excess of purchase price over the aggregate fair values of tangible and intangible assets acquired, less liabilities assumed, in a business combination. The Company does not amortize goodwill. Instead, goodwill is tested for impairment annually and between annual tests if the Company becomes aware of an event or a change in circumstances that would indicate the carrying amount may be impaired. The Company performs its annual impairment testing as of December 31st of each year. The Company will first assess qualitative factors to determine whether the existence of events or circumstances suggests that goodwill is impaired. If the entity determines that there are not triggering events, the Company does not perform the quantitative impairment test. The Company's determination as to whether, and, if so, the extent to which goodwill becomes impaired is highly judgmental and include, but not limited to changes in the manner of its use of the acquired assets, changes in its overall business strategy, regulatory changes, market and economic environment trends, key personnel changes, negative trends in its overall financial performance, and sustained deceases in share-price. No impairment was noted as of December 31, 2019.

Preclinical and Clinical Trial Accruals

The Company's clinical trial accruals are based on estimates of patient enrollment and related costs at clinical investigator sites, as well as estimates for the services received and efforts expended pursuant to contracts with multiple research institutions and clinical research organizations that conduct and manage clinical trials on the Company's behalf.

The Company estimates preclinical and clinical trial expenses based on the services performed, pursuant to contracts with research institutions and clinical research organizations that conduct and manage preclinical studies and clinical trials on its behalf. In accruing service fees, the Company estimates the time period over which services will be performed and the level of patient enrollment and activity expended in each period. If the actual timing of the performance of services or the level of effort varies from the estimate, the Company will adjust the accrual accordingly. Payments made to third parties under these arrangements in advance of the receipt of the related services are recorded as prepaid expenses until the services are rendered.

Revenue

Company revenues to date have been generated primarily through collaboration and license agreements. The Company's collaboration and license agreements frequently contain multiple elements including (i) intellectual property licenses, and (ii) product research and development services. Consideration received under these arrangements may include upfront payments, research and development funding, cost reimbursements, milestone payments, payments for product sales and royalty payments. The Company's customers include Alvogen, NT Pharma, Jazz, Arcellx, and BARDA.

Effective January 1, 2019 (Adoption Date), the Company adopted ASC 606, *Revenue from Contracts with Customers* (ASC 606). ASC 606 supersedes prior revenue recognition guidance and establishes a comprehensive revenue recognition model with a broad principle that requires an entity to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. To achieve this principle, an entity identifies the contract with a customer, identifies the separate performance obligations in the contract, determines the transaction price, allocates the transaction price to the separate performance obligations and recognizes revenue when each separate performance obligation is satisfied. The standard allows for two methods of adoption: (a) "full retrospective" adoption, meaning the standard is applied to all periods presented, or (b) "modified retrospective" adoption, meaning the cumulative effect of applying the new guidance is recognized as an adjustment to the opening retained earnings balance for the year of implementation. The Company has adopted this standard as of January 1, 2019 using the modified retrospective method for those contracts which were not substantially completed as of the transition date. As a result, the Company has changed its accounting policy for revenue recognition as detailed below. The cumulative impact to the Company's accumulated deficit balance at the Adoption Date as a result of the adoption of ASC 606 was a decrease of $2.5 million. The decrease relates to a reduction of deferred revenue associated to an upfront payment received from NT Pharma in 2018. The comparative information prior to the Adoption Date has not been restated and continues to be reported under the accounting standards in effect for the periods presented.

In November 2018, the FASB issued ASU No. 2018-18,*Collaborative Arrangements (ASC 808): Clarifying the Interaction between ASC 808 and ASC 606*. The amendments in ASU No. 2018-18 make targeted improvements to generally accepted accounting principles for collaborative arrangements by clarifying that certain transactions between collaborative arrangement participants should be accounted for as revenue under ASC 606, when the collaborative arrangement participant is a customer in the context of a unit of account. In those situations, all the guidance in ASC 606 should be applied, including recognition, measurement, presentation, and disclosure requirements. In addition, unit-of-account guidance in ASC 808 was aligned with the guidance in ASC 606 when an entity is assessing whether the collaborative arrangement or a part of the arrangement is within the scope of ASC 606. ASU No. 2018-18 is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. The amendments in ASU No. 2018-18 are required to be applied retrospectively to the date of initial application of ASC 606. The Company adopted this standard concurrently with ASC 606 and did not materially impact on the Company's financials upon adoption.

The following table summarizes the impacts of adopting ASC 606 on the Company's consolidated financial statements, in thousands.

	Impact of Changes in Accounting Policies *($ thousands)*		
Three months ended December 31, 2019 (unaudited)	**As reported**	**Adjustments**	**Balances without adoption of ASC 606**
License and service revenue	$ 23,413	$ —	$ 23,413
Product revenue	992	—	992
Total revenues	24,405	—	24,405
Income from operations	11,595	—	11,595
Net income	$ 11,634	—	$ 11,634
Year ended December 31, 2019			
License and service revenue	$ 44,497	$ 2,500	$ 46,997
Product revenue	5,829	—	5,829
Total revenues	50,326	2,500	52,826
Income from operations	824	2,500	3,324
Net income	$ 1,058	2,500	$ 3,558

ASC 606 did not have an aggregate impact on the Company's net cash used in operating activities but resulted in offsetting certain assets and liabilities presented within net cash used in operating activities in the Company's consolidated statement of cash flows.

Under ASC 606, revenue is recognized when a customer obtains control of promised goods or services. The amount of revenue recognized reflects the consideration that the Company expects to be entitled to receive in exchange for goods or services and excludes sales incentives and amounts collected on behalf of third parties. The Company analyzes the nature of these performance obligations in the context of individual agreements in order to assess the distinct performance obligations.

The Company applies the following five-step model to recognize revenue: (i) identification of the promised goods or services in the contract; (ii) determination of whether the promised goods or services are performance obligations, including whether they are distinct in the context of the contract; (iii) measurement of the transaction price, including the constraint on variable consideration; (iv) allocation of the transaction price to the performance obligations; and (v) recognition of revenue when (or as) the Company satisfies each performance obligation.

i) Identify the contract with a customer. The Company considers the terms and conditions of its agreements to identify contracts within the scope of ASC 606. The Company concludes it has a contract with a customer when the contract is approved, each party's rights regarding the goods and services to be transferred can be identified, the payment terms for the goods and services can be identified, it has been determined that the customer has the ability and intent to pay and the contract has commercial substance. The Company uses judgment in determining the customer's ability and intent to pay, which is based upon factors including the customer's historical payment experience or, for new customers, credit and financial information pertaining to the customers.

ii) Identify the performance obligations in the contract. Performance obligations in the agreements are identified based on the goods and services that will be transferred to the customer that are both capable of being distinct, whereby the customer can benefit from the service either on its own or together with other resources that are readily available from third parties or from the Company, and are distinct in the context of the contract, whereby the transfer of the services is separately identifiable from other promises in the contract. The Company's performance obligations generally consist of intellectual property licenses and research and development services with respect to license and service agreements, and the manufacture and supply of product for product sales agreements.

iii) Determine the transaction price. The Company determines the transaction price based on the consideration to which the Company expects to be entitled in exchange for transferring goods and services to the customer. In determining the transaction price, any variable consideration would be considered, to the extent applicable, if, in the Company's judgment, it is probable that a significant future reversal of cumulative revenue under the contract will not occur. In accordance with the royalty exception under ASC 606 for licenses of intellectual property, the transaction price excludes future royalty payments to be received from the Company's customers. None of the Company's revenue generating contracts contain consideration payable to its customer or a significant financing component.

iv) Allocate the transaction price to performance obligations in the contract. If the contract contains a single performance obligation, the entire transaction price is allocated to that performance obligation. Contracts that contain multiple performance obligations require an allocation of the transaction price to each performance obligation based on a relative standalone selling price.

v) Recognize revenue when or as we satisfy a performance obligation. Revenue is recognized at the time the related performance obligation is satisfied by transferring the promised goods or services to a customer. The Company recognizes revenue when control of the goods or services is transferred to the customers for an amount that reflects the consideration that the Company expect to receive in exchange for those goods or services.

Performance Obligations.

The following is a general description of principal goods and services from which the Company generates revenue.

License to intellectual property

The Company generates revenue from licensing its intellectual property including know-how and development and commercialization rights. These licenses provide customers with the right to further research, develop and commercialize internally-discovered or collaborated drug candidates, or the right to use the Company's P*f*ēnex Expression Technology platform to further research, develop and commercialize customer drug candidates. The consideration the Company receives is in the form of nonrefundable upfront consideration related to the functional intellectual property licenses and is recognized when the Company transfers such license to the customer unless the license is combined with other goods or services into one performance obligation, in which case the revenue is recognized over a period of time based on the estimated pattern in which the Company satisfies the combined performance obligation. The Company's licensing agreements are generally cancelable. Customers have the right to terminate the contracts between a range of 30 days and 12 months with written notice. The Company has the right to terminate the contracts generally only if the customer is in breach of the contract and fails to remedy the breach in accordance with the contractual terms.

Research and development services

The Company generates revenue from research and development services it provides to its customers and primarily includes scientific research activities, preparation for clinical trials, and assistance during regulatory approval application process. Revenue associated with these services is recognized based on the Company's estimate of total consideration to be received for such services and the pattern in which the Company perform the services. The pattern of performance is generally determined to be the amount of incurred costs related to the service portion of the contract with the customer as a percentage of total expected costs associated with the service portion of the contract.

Product Revenue

The Company generates revenue from product sales and recognizes revenue when control of the products is transferred to customers, typically upon shipment, in an amount that reflects the consideration the Company expects to receive in

exchange for those products. The Company's principle product sales relate to the sales of its product, CRM 197. The Company's product sales agreements are not subject to rebates or discounts. Product replacement or refund is available at the Company's discretion if the product is found to be defective or nonconforming. Historically, product returns have been immaterial.

Contracts with Multiple Performance Obligations.

Most of the Company's collaboration and license agreements with customers contain multiple promised goods or services. Based on the characteristics of the promised goods and services the Company analyzes whether they are separate or combined performance obligations. The transaction price is allocated to the separate performance obligations on a relative standalone selling price basis. The estimated standalone selling price is based on the adjusted market assessment approach including estimated present value of future cash flows and cost plus margin approach, taking into consideration the type of services, estimates of hourly market rates, and stage of the development.

Variable Consideration.

The Company's contracts with customers primarily include two types of variable consideration: (i) development and regulatory milestone payments, which are due to the Company upon achievement of specific development and regulatory milestones and (ii) one-time sales-based payments and sales-based royalties associated with licensed intellectual property.

Due to uncertainty associated with achievement of the development and regulatory milestones, the related milestone payments are excluded from the contract consideration and the corresponding revenue is not recognized until we conclude it is probable that reversal of such milestone revenue will not occur. As part of the Company's evaluation of the constraint, the Company considers numerous factors, including whether the achievement of the milestone is outside of the Company's control, contingent upon regulatory approval or dependent on licensee efforts.

Product sales-based royalties under licensed intellectual property and one-time payments are accounted for under the royalty exception. The Company recognizes revenue for sales-based royalties under licensed intellectual property and one-time payments at the later of when the sales occur or the performance obligation is satisfied or partially satisfied.

The transaction price is reevaluated each reporting period and as uncertain events are resolved or other changes in circumstances occur.

Disaggregation of Revenue.

We operate in one reportable business segment. We provide goods and services to our customers in collaboration and license agreements pursuant to various geographical markets. In the following table, revenue is disaggregated by major customers, timing of revenue recognition and revenue classification:

	Year ended December 31, 2019		
	License and service	Product	Total
Customers	*(in thousands)*		
Alvogen	$ 11,133	$ 2,334	$ 13,467 *(w)*
Jazz	28,742	—	28,742 *(x)*
Arcellx	2,231	—	2,231 *(y)*
BARDA	1,541	—	1,541 *(y)*
Other	850	3,495	4,345 *(z)*
Total	44,497	5,829	$ 50,326

(w) - Revenue recognized at point in time except for immaterial portion of the $2.5 million upfront payment that was constrained until FDA approval of PF708.

(x) - $26 million recognized at a point-in-time and $2.7 million recognized over time

(y) - Revenue recognized over time

(z) - Revenue recognized at point in time

Contract Assets and Contract Liabilities.

The Company receives payments from customers based on contractual terms. Accounts receivable are recorded when the right to consideration becomes unconditional. For research and development services, the Company generally bills its customers monthly or quarterly as the services are performed. The Company satisfies its performance obligation on product sales when the products are shipped. Payment terms on invoiced amounts are typically 30 days.

Contract assets include amounts related to the Company's contractual right to consideration for both completed and partially completed performance obligations that have not been invoiced and for which the Company does not yet have the right to payment. As of the Adoption Date, the Company's contract asset balance was $3.7 million, consisting of $1.6 million related to partially completed performance obligations from the BARDA contract, and $2.1 million of unbilled receivables from Alvogen related to cost sharing activities for the development of PF708 and recorded net against research and development expenses as of December 31, 2018. Under the Company's arrangement with Alvogen, these cost sharing activities were only billable upon approval from Alvogen. During 2019, the Company invoiced and collected the total $3.7 million balance of contract assets.

As of December 31, 2019, the Company had a contract assets balance of $0.2 million related to partially completed performance obligations associated to the BARDA contract. The decrease in contract assets during the year relates to decreased activity related to the BARDA agreement as the Company deprioritized this program in its portfolio during the year and obtaining approval from Alvogen on cost sharing activities.

As of the Adoption Date, the Company had an accounts receivable balance of $1.5 million related to contracts with customers. As of December 31, 2019, the Company had an accounts receivable balance of $5.4 million related to contracts with customers. The increase in the accounts receivable balance during the year primarily relates to Alvogen executing sublicense agreements in Europe and the Middle East in December 2019.

Contract liabilities consist of deferred revenue and include payments received in advance of performance under the contract. As of the Adoption Date, the Company had a contract liability balance of $2.8 million all of which was deferred revenue, and all of this $2.8 million balance was recognized as revenue in 2019.

As of December 31, 2019, the Company has a contract liability balance of $0.7 million, consisting of $0.1 million related to deferred revenue and $0.6 million recorded to other current liabilities related to a payment received in 2019 from Alvogen in connection to the Company acting as the liaison between Alvogen and the Company's established raw materials supplier/manufacturer.

Cost to Obtain and Fulfill a Contract.

The Company generally does not incur costs to obtain new contracts. Costs to fulfill contracts are expensed as incurred.

Remaining Performance Obligations.

The estimated revenue expected to be recognized in the future related to performance obligations that are unsatisfied (or partially unsatisfied) pursuant to the Company's existing collaboration and license agreements as of December 31, 2019 is immaterial.

Cost of Revenue

Cost of revenue related to license and service revenue includes costs incurred in connection with the execution of license and service contracts. These are primarily costs incurred for third-party manufacturing, materials and internal labor. Costs related to government contract activities are generally recognized as incurred.

Cost of revenue related to products includes costs to manufacture or purchase, package and ship the Company's reagent products, and these costs are recognized upon shipment to the customer.

Research and Development Expenses

Research and development expenses, which consist primarily of salaries and other personnel costs, clinical trial costs and preclinical study fees, manufacturing costs for non-commercial products, and the development of earlier-stage programs and technologies, are expensed as incurred when these expenditures have no alternative future uses. Research and development expenses are recognized as incurred and amounted to $25.5 million for the year ending December 31, 2019.

Stock-Based Compensation

In June 2018, the FASB issued ASU No. 2018-07,*Compensation-Stock Compensation (ASC 718)*, which simplifies the accounting for nonemployee share-based payment transactions. The amendments specify that Topic 718 applies to all share-based payment transactions in which a grantor acquires goods or services to be used or consumed in a grantor's own operations by issuing share-based payment awards. The Company has adopted this standard as of January 1, 2019. The impact of adopting this standard to the Company's consolidated financial statements was immaterial.

Employee stock-based compensation expense is measured at the grant date, based on the estimated fair value of the award, and is recognized as an expense, net of estimated forfeitures, over the requisite service period. As of January 1, 2019, consultant stock-based compensation expense is measured at the grant date, based on the estimated fair value of the award, and is recognized as an expense, net of estimated forfeitures, over the requisite service period. Stock-based compensation expense is amortized on a straight-line basis over the requisite service period for the entire award, which is generally the vesting period of the award.

The Company estimates the fair value of stock options and other equity-based compensation using a Black-Scholes option pricing model on the date of grant. The Black-Scholes valuation model requires multiple subjective inputs, which are discussed further in Note 9 — Stock-Based Compensation. The fair value of equity instruments expected to vest are recognized and amortized on a straight-line basis over the requisite service period of the award, which is generally four years; however, certain provisions in the Company's equity compensation plan provides for shorter and longer vesting periods under certain circumstances.

Comprehensive Income

Comprehensive income is defined as a change in equity of a business enterprise during a period, resulting from transactions from non-owner sources. There have been no items qualifying as other comprehensive income and, therefore, for all periods presented, the Company's comprehensive income was the same as its reported net income.

Income Taxes

The Company utilizes the asset and liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are determined based on the difference between the financial statement carrying amounts and tax basis of assets and liabilities using enacted tax rates in effect for years in which the temporary differences are expected to reverse. A deferred income tax asset or liability is computed for the expected future impact of differences between the financial reporting and income tax bases of assets and liabilities and for the expected future tax benefit, if any, to be derived from tax credits and loss carryforwards. Deferred income tax expense or benefit would represent the net change during the year in the deferred income tax asset or liability. Deferred tax assets, if any, are reduced by a valuation allowance when, in the opinion of management, it is more likely than not that some portion or all of the deferred tax assets will not be realized.

Net Income per Share of Common Stock

Basic net income per common share is calculated by dividing the net income attributable to common stockholders by the weighted-average number of common shares outstanding during the period, without consideration for potentially dilutive securities. Diluted net income per share is computed by dividing net income by the weighted-average number of common shares outstanding and potentially dilutive securities during the period under the treasury stock method. For purposes of the diluted net income per share calculation, stock options and employee purchase plan shares are considered to be potentially dilutive securities. Securities are excluded from the computation of diluted net income per share if their effect would be anti-dilutive to earnings per share.

Recently Issued Accounting Pronouncements Not Yet Adopted

In August 2018, the FASB issued ASU No. 2018-15, Intangibles—*Goodwill and Other-Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract.* This new guidance aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. ASU 2018-15 is effective for the Company beginning in the first quarter of fiscal year 2020, with early adoption permitted. The Company is currently evaluating this guidance to determine the impact on its financial statements and related disclosures.

In December 2019, the FASB issued ASU No. 2019-12,*Simplifying the Accounting for Income Taxes*, as part of its initiative to reduce complexity in accounting standards. The amendments in the ASU are effective for fiscal years beginning after December 15, 2020, including interim periods therein. Early adoption of the standard is permitted, including adoption in interim or annual periods for which financial statements have not yet been issued. The Company has not early adopted this ASU for 2019, and the ASU is currently not expected to have a material impact on the Company's consolidated financial statements.

2. Fair Value Measurements

The fair value measurements of the Company's cash equivalents and investments, which are measured at fair value on a recurring basis as of December 31, 2019 were determined using the inputs described above and are as follows:

		Fair Value Measurements at Reporting Data Using		
(in thousands)	**Total**	**Quoted Prices in Active Markets for Identical Assets (Level 1)**	**Significant Other Observable Inputs (Level 2)**	**Significant Unobservable Inputs (Level 3)**
December 31, 2019				
Cash and money market funds	$ 55,824	$ 55,824	$ —	$ —
Total assets measured at fair value	$ 55,824	$ 55,824	$ —	$ —

Cash and money market funds at December 31, 2019 include restricted cash, which is included in current assets on the balance sheet.

3. Cash, Cash Equivalents and Restricted Cash

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

	December 31, 2019
	(in thousands)
Cash and cash equivalents	$ 55,624
Restricted cash	200
Total cash, cash equivalents and restricted cash shown in statement of cash flows	$ 55,824

4. Property and Equipment

Property and equipment consisted of the following:

	December 31, 2019
	(in thousands)
Furniture and equipment	$ 346
Computers and IT equipment	498
Purchased software	434
Lab and research equipment	9,202
Leasehold improvements	959
Construction-in-progress	1,242
Other fixed assets	83
Total property and equipment, gross	12,764
Less: accumulated depreciation and amortization	(5,020)
Property and equipment, net	$ 7,744

As of January 1, 2019, the Company adopted the new lease standards of ASC 842, reclassifying a net amount of $0.9 million of leased lab and research equipment and furniture and equipment out of property and equipment to finance lease right-of-use asset. No new finance leases were entered into during 2019. As of December 31, 2019, there was no property and equipment assets under capital lease as these were reclassified to finance lease right-of-use assets as part of the adoption of ASC 842.

Property and equipment classified as construction-in-progress increased by $0.9 million as of December 31, 2019 compared to December 31, 2018. The change was primarily attributed to additional lab equipment that was being brought online for novel target identification purposes.

For the year ended December 31, 2019, total depreciation and amortization expense was $1.3 million and is included in cost of revenue, research and development and selling, general and administrative expenses in the accompanying consolidated statement of operations as follows:

	Year ended December 31, 2019
	(in thousands)
Cost of revenue	$ 194
Research and development	897
Selling, general and administrative	203
Total depreciation and amortization expense	$ 1,294

5. Intangible Assets

Intangible assets consisted of the following:

	December 31, 2019
	(in thousands)
Customer relationships	$ 3,750
Developed technology	4,400
Trade names	921
Gross intangible assets	9,071
Less: Accumulated amortization	(5,338)
Total intangible assets, net	$ 3,733

Amortization expense related to intangible assets was $0.5 million for each of the year ended December 31, 2019. Amortization expense is included within selling, general and administrative expense in the accompanying consolidated statement of operations. As of December 31, 2019, estimated amortization expense for the next five years amounts to approximately $0.5 million per year. As of December 31, 2019, the weighted average amortization period for the net intangible assets balance is 8.2 years.

6. Accrued Liabilities

Accrued liabilities consisted of the following:

	December 31, 2019
	(in thousands)
Accrued vacation	$ 547
Accrued bonuses	2,657
Other accrued employee-related liabilities	905
Accrued professional fees	755
Accrued supplier liability	917
Accrued subcontractor costs	750
Other accrued liabilities	821
Total accrued liabilities	$ 7,351

As of January 1, 2019, the Company adopted ASC 842 and as such, reclassified the $0.6 million deferred rent liability to operating lease right-of-use asset.

7. Significant Revenue Generating Contracts

The Company has three types of revenue generating contracts (i) those for which the Company co-develops or assists customers in developing their products (Collaboration Agreements), (ii) those for which the Company receives funding to advance its own products (Funding Agreements), and (iii) those for which the Company sells its reagent protein and other products.

Collaboration and License Agreements

Alvogen

In June 2018, the Company entered into an agreement with Alvogen in which the Company has granted Alvogen exclusive rights to commercialize PF708 in the United States. The Company will continue to be responsible for development and registration of PF708, while Alvogen is providing additional regulatory and development expertise. Alvogen has assumed responsibility for costs related to litigation, commercial manufacturing and supply chain, and commercialization of PF708. In consideration for the licenses and other rights granted in the development and license agreement, the Company received an upfront payment of $2.5 million, which was recorded to deferred revenue as of December 31, 2018. The original contract included an additional $25 million in support and regulatory milestone payments.

In February 2019, the Company and Alvogen entered into agreements expanding the Company's and Alvogen's collaboration to develop and commercialize PF708 to the European Union (EU), to certain countries in the Middle East and North Africa (MENA) and to the ROW territories (the latter defined as all countries outside of the EU, US and MENA, excluding Mainland China, Hong Kong, Singapore, Malaysia and Thailand). The EU and MENA agreements allows for Alvogen to sublicense the license rights to a third party in exchange for consideration to the Company, payable upon Alvogen executing a sublicense agreement with a third party.

During 2019, Pfenex received upfront payments from the EU, MENA and ROW agreements totaling $1.1 million, a milestone payment of $0.3 million from the EU agreement, and sublicense consideration of $2.2 million for the EU and MENA agreements.

As of December 31, 2019, the Company will be eligible to receive an additional $20 million in support and regulatory milestone payments and receive a 50% gross profit split related to the US agreement, an additional $250 thousand in support and regulatory milestone payments and 50% gross profit split on sales related to the EU agreement, approximately $240 thousand in support and regulatory milestone payments and 60% gross profit split on sales related to the ROW agreement, and 60% gross profit split on sales related to the MENA agreement

Accounting for Alvogen Agreement under ASC 606

The Company assessed this arrangement in accordance with ASC 606 and identified the following performance obligations: 1) license to intellectual property, PF708, 2) development services, including preparing and submitting an NDA for PF708, manufacturing process quality services and support FDA pre-approval inspections for the facilities named in the NDA application 3) COGS reduction activities related to PF708 manufacturing. The Company concluded that each of these performance obligations were distinct because Alvogen can benefit from the good or service either on its own or together with other resources that are readily available, and each performance obligation is separately identifiable from other promises within the contract. The performance obligations have not changed with the EU, MENA, and ROW agreements as Alvogen is receiving a license for substantially the same Pfenex technology in each respective geographic Territory (i.e., the EU, MENA, and ROW Territories defined in those Agreements) as the Pfenex technology in the US Agreement.

As noted above, in 2018, the Company received a $2.5 million upfront payment in connection with the Alvogen Agreement. This upfront payment was fully refundable if the Company did not obtain FDA approval of the PF708 NDA by June 2021. Due to the uncertainty associated with the FDA approval of the NDA, the Company determined that this amount should be fully constrained until FDA approval of the NDA, which is when it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur. The FDA approved the NDA in October 2019, at which time the upfront payment was included in the transaction price.

In February 2019, the Company received a $0.5 million nonrefundable upfront license fee for executing the EU agreement and a $0.3 million nonrefundable upfront license fee for executing the MENA agreement. These upfront payments were considered fixed and included in the transaction price at contract inception.

Also in February 2019, the Company achieved a development milestone of $2.5 million related to the acceptance of the PF708 NDA by the FDA. This milestone was constrained at the Adoption Date and not included in the transaction price until the date the FDA accepted the NDA, in February 2019.

In May 2019, the Company achieved a development milestone of $250 thousand for the EU agreement by submitting a Marketing Authorization Application (MAA) for PF708 to the Kingdom of Saudi Arabia's Saudi Food and Drug Authority (SFDA). This development milestone was constrained until the date the MAA was submitted, in May 2019.

In October 2019, the Company achieved a development milestone related to the original agreement of $2.5 million for the FDA approval of PF708 NDA, Due to the uncertainty associated with the FDA approval of the NDA, the Company determined that this amount should be fully constrained until FDA approval of the NDA. This amount is included in the transaction price at the date the FDA approved the NDA.

The Company received $1.0 million sublicense consideration related to the EU agreement and $1.2 million sublicense consideration related to the MENA agreement. These fees are considered variable consideration but are included in the transaction price at the date the sublicense contracts were executed by Alvogen to the third parties, in December 2019.

The estimated total transaction price was allocated between satisfied and unsatisfied performance obligations based on the relative standalone selling prices of the identified performance obligations. The Company uses an adjusted market assessment approach and an expected cost plus a margin approach to estimate the standalone selling price for the performance obligations. The Company allocated the $2.5 million transaction price of the original upfront payment, $0.8 million nonrefundable upfront license fee for the EU and MENA agreements, $5.0 million transaction price of the two milestone achievements of the original agreement, $250 thousand transaction price of the milestone achievement of the EU agreement, $2.2 million sublicense consideration for the EU and MENA agreements, $0.3 million of initial payments related to the ROW agreement, and $113 thousand of a milestone achievement of the EU agreement to the license to intellectual property and development services performance obligations. None of the transaction price was allocated to the COGS reduction activities performance obligation due to the immateriality in the valuation of the standalone selling price relative to the other two identified performance obligations.

In May 2019, the Company entered into a separate agreement with Alvogen for the Company to provide PF708 drug substance batches and pen components in exchange for $2.3 million. This product sold to Alvogen was initially manufactured by the Company's CMO for manufacturing process validation purposes as part of the PF708 NDA submission to the FDA for approval. The Company assessed this arrangement in accordance with ASC 606 and identified the deliverables, the drug substance and associated pen parts, as one performance obligation because they are highly interdependent in that the pen parts have been customized so that they only work in combination with the drug substance. The Agreement does not include any forms of variable consideration, noncash consideration, consideration payable to the customer, or a significant financing component, so the Company concluded that it is receiving a fixed price of $2.3 million and included in the transaction price at contract inception. The Company concluded that the product revenue should be recognized at the point in time that the Company's performance obligation to deliver the drug substance and pen parts is satisfied and recognized the $2.3 million in August 2019.

NT Pharma

In April 2018, the Company entered into an agreement with NT Pharma under which the Company granted NT Pharma non-exclusive development and exclusive commercialization rights to PF708 in Mainland China, Hong Kong, Singapore, Malaysia and Thailand. NT Pharma will be responsible for any further development required to achieve regulatory approval as well as commercialization activities in the applicable territories.

As noted above, in 2018 the Company received $2.5 million upfront license fee in connection with the NT Pharma Agreement. This upfront payment was fully refundable if the Company did not submit the PF708 NDA to the FDA by the contractual deadline of December 31, 2018 or if the Company did not subsequently provide NT Pharma the associated documents related to the NDA filing.

As of December 31, 2019, the Company may be eligible to receive up to $22.5 million in payments based on the achievement of certain development, regulatory, and sales-related milestones. In addition, the Company is eligible to receive double-digit royalties on net product sales.

Accounting for NT Pharma Agreement under ASC 606

The Company assessed this arrangement in accordance with ASC 606 and identified the following performance obligations: 1) license to intellectual property, PF708, and 2) development services including preparing and submitting an NDA for PF708 and providing NT Pharma with documents related to the NDA submission. The Company concluded that each of these performance obligations were distinct because NT Pharma can benefit from the good or service either on its own or together with other resources that are readily available, and each performance obligation is separately identifiable from other promises within the contract.

The estimated total transaction price was allocated between satisfied and unsatisfied performance obligations based on the relative standalone selling prices of the identified performance obligations. The Company uses an adjusted market assessment approach and an expected cost plus a margin approach to estimate the standalone selling price for the performance obligations. The Company allocated the $2.5 million transaction price of the original upfront payment as such: $1.3 million to the development services performance obligation and $1.2 million to license to the intellectual property performance obligation.

The Company concluded that under ASC 606 the $2.5 million should be recognized as of the Adoption Date as the work was substantially complete (including the satisfaction of the performance obligations above) and a significant revenue reversal was not probable. However, under ASC 605, the Company concluded that the upfront payment of $2.5 million was not fixed and determinable, and that due to a contract clause, the $2.5 million could be payable to NT Pharma if the NDA was not filed by a specified date and additional deliverables were required after NDA submission. Therefore, under ASC 605 the upfront payment was recorded as deferred revenue in the accompanying consolidated balance sheet at December 31, 2018. As a result of the adoption of ASC 606, the Company adjusted its accumulated deficit balance at January 1, 2019 by decreasing the amount by $2.5 million.

Jazz

In July 2016, the Company entered into a development and license agreement with Jazz Pharmaceuticals for the development and commercialization of multiple early stage hematology/oncology product candidates, including PF743, a

recombinant crisantaspase, and PF745, a recombinant crisantaspase with half-life extension technology, and in the third quarter of 2017, achieved a process development milestone. The agreement also includes an option for Jazz to negotiate a license for a recombinant pegaspargase (PF690) product candidate with the Company. Under the agreement, the Company received an upfront payment of $5.0 million and an option payment of $10.0 million in July 2016 and may be eligible to receive additional payments based on achievement of certain research and development, regulatory and sales-related milestones.

In December 2017, the Company and Jazz entered into an amended and restated agreement. In connection with the amendment and restatement of the Jazz Agreement (as amended, the Amended Jazz Agreement), the Company received a total of $18.5 million, consisting of an upfront payment of $5.0 million and a payment of $13.5 million for development achievement.

As a result of the Amended Jazz Agreement, the total payments and potential payments to the Company is $224.5 million. The Company has received $62 million of upfront and milestone payment through December 31, 2019 and may be eligible to receive additional payments of up to $162.5 million based on achievement of certain research and development, regulatory and sales-related milestones. The total remaining milestones are categorized as follows: $3.5 million based on achievement of certain research and development milestones; $34.0 million for certain regulatory milestones; and $125.0 million for sales milestones.

Accounting for Jazz Agreement under ASC 606

Upon implementation of ASC 606 on January 1, 2019, the Company applied a practical expedient for contract modifications applicable to contracts that were modified before the implementation date. The Company assessed this arrangement in accordance with ASC 606 and identified the following performance obligations: 1) research and development services related to the Pegaspargase product candidate option ("Pegaspargase Data Package"), 2) license and research and development activities of the PF743 product, and 3) license and research and development activities of the PF745 product. The Company concluded that the development activities for PF743 and PF745 are highly interrelated and integrated with the license to intellectual property, so the research and development activities and license were combined into one performance obligation. The Company concluded that each of these performance obligations were distinct because Jazz can benefit from the good or service either on its own or together with other resources that are readily available, and each performance obligation is separately identifiable from other promises within the contract. The performance obligations have not changed under the amendment.

As noted above, in 2016, the Company received a $5.0 million upfront fee related to the PF743 and PF745 licenses and a $10 million upfront fee related to the Pegaspargase Data Package in connection with the original Jazz agreement. These payments were concluded to be fixed consideration as they were non-refundable, and therefore included in the transaction price at the inception of the original agreement. At contract inception of the original agreement, the first development milestone for $0.4 million was likely to occur at the inception of the agreement, so the payment was included in the transaction price at the inception of the agreement, which is when it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur.

In 2017, the Company received a $5.0 million upfront license fee in connection with the amended Jazz agreement. This upfront payment was concluded to be fixed consideration as it was non-refundable, and therefore and included in the transaction price at the inception of the amended agreement. At contract inception of the amended agreement, the first development milestone for $0.4 million was likely to occur at the inception of the amendment, so the payment was included in the transaction price at the inception of the amendment, which is when it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur.

The remaining milestone payments within the original and amended agreements include a level of production/manufacturing that is unprecedented in the Company's history at contract inception, the development milestones were highly uncertain and the Company determined that they should not be included in the transaction price until the milestones are reached, which is when it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur. In addition, the future royalties related to licensed intellectual property were also excluded from the estimated total transaction price under the royalty exception in ASC 606. Between 2016 and 2018, the Company achieved multiple development milestones totaling $15.3 million in connection with the original agreement and amended agreement.

The $20 million received in upfront payments was allocated between satisfied and unsatisfied performance obligations based on the relative standalone selling price of the identified performance obligations. The Company uses an adjusted

market assessment approach and an expected cost plus margin approach to estimating the standalone selling price for all three performance obligations. The Company allocated the $20 million transaction price of the upfront payments as such: $10 million to the Pegaspargase Data Package, $7.5 million to the license and research and development activities of the PF745 product, and $2.5 million to the license and research and development activities of the PF743 product. The milestone payments related to the PF743 product license and development services performance obligation and the PF745 product license and development services are allocated to each of those performance obligations because those performance obligations are each a series of distinct services.

The upfront payments allocated to the three performance obligations meet the criteria under ASC 606 to be recognized over time using an input method based on estimated costs. The Company concluded that this is the best method for measuring progress because the costs incurred by the Company enhances the assets over time. As of the Adoption Date the Company recognized license and service revenue for all of the $2.5 million allocated to the PF743 product license and research and development activities performance obligation, $5.7 million of the $7.5 million allocated to the PF745 product license and research and development activities performance obligation, and $9.1 million of the $10 million allocated to the Pegaspargase Data Package performance obligation. As of January 1, 2019, deferred revenue associated with the upfront payments of the Jazz collaboration was $2.7 million.

In 2019, the Company recognized the remaining $2.7 million of the upfront payments. In addition, the Company achieved two development milestones during 2019, and recognized $26 million in license and service revenue for successful achievement of process development milestones for the PF743 product and the PF745 product. During the year ended December 31, 2019, the Company recorded license and service revenue of approximately $28.7 million related to the Jazz Collaboration.

Arcellx

In December 2018, the Company entered into a development, evaluation and license agreement with Arcellx which provides access to the Pfenex Expression Technology platform to advance Arcellx's proprietary sparX proteins that activate, silence and reprogram Antigen-Receptor Complex T cell-based therapies. Under the terms of the agreement, the Company is eligible to receive development funding in addition to development, regulatory and commercial milestones ranging from $2.6 million to $18 million for each product incorporating a sparX protein expressed using the Pfenex Expression Technology, as well as royalties on worldwide sales of any such products. The Company currently has two sparX proteins in development with Arcellx.

Accounting for Arcellx Agreement under ASC 606

The Company assessed this arrangement in accordance with ASC 606 and identified one combined license and development performance obligation. The Company concluded that the development activities provided to Arcellx are highly interrelated and integrated with the license to intellectual property, so the research and development activities and license were combined into one performance obligation. The Company is receiving development fees for work performed over each Arcellx owned sparX protein. The development work is provided in stages and each stage includes fix development fees. The upfront payments meet the criteria under ASC 606 to be recognized over time using an input method based on estimated costs. The Company concluded that this is the best method for measuring progress because the costs incurred by the Company in providing the development service reflect the pattern of the Company's performance in transferring control to Arcellx. As of December 31, 2019 there was no deferred revenue related to the Arcellx contract. During the year ended December 31, 2019, revenue from Arcellx was $2.2 million.

Funding Agreements

The U.S. Department of Health and Human Services

In August 2015, the Company completed a development contract with the BARDA within the Office of the Assistant Secretary for Preparedness and Response in the U.S. Department of Health and Human Services for Px563L and RPA563 as a novel vaccine candidate for the prevention of anthrax infection. The Company entered into a follow-on contract with BARDA in August 2015 for the advanced development of Px563L and RPA563. This agreement is a cost-plus fixed fee development contract valued at up to approximately $143.5 million, including a 30-month base period of performance of approximately $15.9 million, and eight option periods valued at a total of approximately $127.6 million. The base period of performance was initially from August 2015 through February 2018 and later extended through September 2018. BARDA

exercised additional phases of the development contract effective January 2017, totaling $4.9 million and allowing for the continuing development of Px563L and RPA563. The period of performance for the two option periods was extended through September 2018 and December 2019. In May 2018, BARDA increased the funding for one of the option periods by approximately $1.7 million. On March 29, 2019, the Company received notice from BARDA advising the Company of its decision not to exercise development options for cGMP manufacturing and potential Phase 1/2b study readiness for Px563L and RPA563. Following the receipt of the notice from BARDA and pursuant to discussions with BARDA, the Company deprioritized this program in its portfolio. This agreement is subject to early termination and stop-work order in conformance with Federal Acquisition Regulations 52.249-6 and 52.242-15 whereupon BARDA may immediately terminate the agreement early for convenience or request the Company to stop all or any part of the work for a period of at least 90 days. If BARDA is not adequately funded, there is a potential that some or all of the follow-on options could be delayed or never elected.

Accounting for BARDA Agreement under ASC 606

The Company assessed this arrangement in accordance with ASC 606 and identified one performance obligation, research and development services. The performance obligations have not changed under the amendments. The Company is receiving fees from BARDA based on the costs the Company incurs with either a percentage markup or no markup, and reimbursable expenses, so the Company concluded that all of the consideration is variable. The Company also concluded that the contract with BARDA is a month-to-month contract and that it satisfies its performance obligation over time, and therefore, the Company includes the variable fees in the transaction price when the services are complete at the end of each month and the variable fees are known. The Company concluded that recognizing revenue over time is the best method for measuring progress because the costs incurred by the Company in providing the development service reflect the pattern of the Company's performance in transferring control to BARDA. During the year ended December 31, 2019, revenue from BARDA was $1.5 million.

CRM197

The Company has several development and commercial partnerships in place for CRM197, which is a non-toxic mutant of diphtheria toxin. It is a well-characterized protein and functions as a carrier for polysaccharides and haptens, making them immunogenic. The Company developed a unique CRM197 production strain based on its Pseudomonas fluorescens platform and sells non-GMP and cGMP CRM197 to vaccine development-focused pharmaceutical partners. As a result of those efforts, the Company previously entered into commercial licenses for production strains capable of producing CRM197 with both Merck & Co., Inc. (Merck) and Serum Institute of India Private, Ltd (SIIPL). These commercial license agreements with Merck and SIIPL contemplate potential maintenance and milestone fees as well as royalties on net sales. Merck and SIIPL are currently using the Company's CRM197 in multiple Phase 3 clinical trials for such diseases as pneumococcal and meningitis bacterial infections.

The Company generates revenue by selling bulk CRM197 product. If a customer purchases reagent grade CRM197, the Company can ship the product from its facilities to the customer from reagent stock that is ordered and received from SIIPL and kept in the Company's lab freezers. Any unsold reagent grade product is counted and included in inventory each quarter and has historically been immaterial. If a customer purchases GMP/human grade CRM197, SSIPL dropships the product directly to the Company's customers.

The Company assessed the purchase order arrangements in accordance with ASC 606. As the purchases are received for a specific quantity and type of CRM197 product, there is deemed to be just one performance obligation, delivery of such product. The transaction price is clearly identified on the purchase order and product quote information and allocated to the single performance obligation. The customer control and risk of loss is transferred upon shipment which results in the Company recognizing revenue at a point in time. During the year ended December 31, 2019, revenue from CRM197 was $3.5 million.

8. Commitments and Contingencies

Lease Agreements

The Company determines if an arrangement is, or contains, a lease at contract inception. These lease agreements have remaining lease terms of 1 to 5 years. The Company recognizes a right-of-use ("ROU") asset and a lease liability at the lease commencement date. The lease liability is initially measured at the present value of the unpaid future lease payments as of

the lease commencement date. A key estimate includes how the Company determines the discount rate it uses to discount the unpaid lease payments to present value.

ASC 842 requires a lessee to discount its unpaid lease payments using the interest rate implicit in the lease or, if that rate cannot be readily determined, its incremental borrowing rate. Generally, the Company cannot determine the interest rate implicit in the lease because it does not have access to the lessor's estimated residual value or the amount of the lessor's deferred initial direct costs. Therefore, the Company generally uses its incremental borrowing rate as the discount rate for the lease. The Company's incremental borrowing rate for a lease is the rate of interest it would have to pay on a collateralized basis to borrow an amount equal to the lease payments under similar terms. Because the Company does not generally borrow on a collateralized basis, it uses quoted interest rates obtained from financial institutions as an input to derive an appropriate incremental borrowing rate, adjusted for the amount of the lease payments, the lease term, and the effect on that rate of designating specific collateral with a value equal to the unpaid lease payments for that lease.

In June 2010, the Company entered into an operating lease agreement (Lease) with a landlord for an initial term of 10 years, for its corporate headquarters comprised of one building located in San Diego, California. Occupation of the premises under the Lease began in April 2011. Under the terms of the Lease, the Company pays annual base rent, subject to an annual fixed percentage increase, plus its share of common operating expenses and tax obligations. The annual base rent was subject to abatement of 50% for the first year of the Lease.

In September 2014, the Company amended the Lease to extend the term for an additional three years through March 31, 2024 and to an additional 7,315 square feet of leased space. The extended term on the existing space increased total estimated rent payments by approximately $1.4 million. Base rent payments for the new space commenced in December 2014 and increased total estimated rent payments over the life of the Lease by approximately $1.5 million. In November 2015, the Company further amended the Lease to add facilities consisting of 16,811 square feet. Base rent payments for the new space commenced in March 2016 and June 2016 and increased total estimated rent payments over the life of the Lease by approximately $2.3 million.

In February 2019, the Company entered into a sublease agreement with a tenant to lease a portion of its office space. The term of the lease agreement commenced on April 1, 2019 and ends on March 31, 2024 (when the underlying lease term ends, unless the underlying lease is terminated early). The sublessee is responsible for all variable lease payments including expenses, costs, taxes, insurance, maintenance, and other charges in connection with the subleased premises. The sublease does not have any renewal options, require any contingent rental payments, impose any financial restrictions, or contain any residual value guarantees. Rent payments increase by 3% each year on the anniversary of the commencement date. The sublease income earned in 2019 was immaterial.

The Company adopted ASC 842 effective January 1, 2019 using the alternative transition approach by recording an operating lease right-of-use asset of $3.7 million and corresponding net operating lease liability of $4.2 million. In addition, effective January 1, 2019, the Company recorded a financial lease right-of-use asset of $0.9 million and corresponding net financial lease liability of $0.5 million at that date.

The following table presents the lease related assets and liabilities recorded on the Company's consolidated balance sheet related to its operating and finance leases:

	December 31, 2019
	(in thousands)
Operating lease right-of-use assets	$ 3,124
Finance lease right-of-use assets	779
Total right-of-use assets	$ 3,903
Operating lease liability-short-term	$ 761
Operating lease liability-long-term	2,895
Finance lease liability-short-term	190
Finance lease liability-long-term	1
Total lease liabilities	$ 3,847
Weighted average remaining lease term - operating leases	4.2 years
Weighted average remaining lease term - finance leases	0.6 years
Weighted average discount rate	5%

Lease cost was $0.8 million for the year ended December 31, 2019. Lease cost is included in cost of revenue, research and development and selling, general and administrative expenses in the accompanying consolidated statement of operations as follows:

	Year Ended December 31, 2019
	(in thousands)
Cost of revenue	$ 64
Research and development	496
Selling, general and administrative	241
Total rent expense	$ 801

The Company's office space leases do not require any contingent rental payments, impose any financial restrictions, or contain any residual value guarantees. These leases do not have any renewal options or rent escalation clauses. Variable expenses generally represent the Company's share of the landlord's operating expenses. In addition to the Lease, the Company has entered into operating and financial lease agreements for office and lab equipment that commenced prior to January 1, 2019 and expire at various dates through 2024. The Company does not have any arrangements where it acts as a lessor except for the one sublease of a portion of its office space referred to above.

Supplemental cash flow information related to operating leases for the year ended December 31, 2019 were as follows:

		(in thousands)
Cash paid for amounts included in the measurement of lease liabilities	$	1,175
Lease liabilities arising from obtaining ROU asset	$	—

Maturities of operating lease liabilities for each of the next five years and thereafter are as follows:

	Payment Amounts	
	Finance Leases	Operating Leases
	(in thousands)	
2020	$ 198	$ 927
2021	1	941
2022	—	967
2023	—	995
2024 and thereafter	—	244
Total future minimum lease payments	$ 199	$ 4,074

As of December 31, 2019, the Company has no additional operating lease commitments that have not yet commenced.

Clinical Study and Development Activity Commitments

The Company has entered into agreements with subcontractors to further develop its product candidates. These contracts can be cancelled at any time, with some having certain cancellation fees associated with the termination of the contract, and others that only obligate the Company through the termination date.

Contingencies

From time to time, the Company may be involved in legal proceedings, claims, and litigation in the ordinary course of business. At December 31, 2019, there were no material legal proceedings.

9. Stock-Based Compensation

Summary Stock-Based Compensation Information

The following table summarizes stock-based compensation expense:

	Year Ended December 31, 2019
	(in thousands)
Cost of revenues	$ 161
Research and development	1,214
Selling, general and administrative	1,522
Total	$ 2,897

	2019
	(in thousands)
Stock-based compensation from:	
Stock options	$ 2,809
Employee stock purchase plan	88
Total	$ 2,897

Stock Option Plan

The Company's board of directors adopted, and the Company's stockholders approved, the Company's 2009 Equity Incentive Plan (2009 Plan) in 2009. The 2009 Plan terminated in connection with the Company's IPO in 2014 and, accordingly, no awards will be granted under the 2009 Plan following the IPO. However, the 2009 Plan will continue to govern outstanding awards granted thereunder. The 2009 Plan provided for the grant of incentive stock options and for the grant of nonstatutory stock options, restricted stock, restricted stock units, and stock appreciation rights to the Company's employees, directors and consultants. As of December 31, 2019, awards covering 0.1 million shares of common stock were outstanding under the 2009 Plan.

In July 2014, the board of directors adopted a 2014 Equity Incentive Plan (2014 Plan) and the Company's stockholders approved it. In May 2017, the Company's stockholders approved an amendment to the 2014 Equity Incentive Plan (2014 Amended Plan), to, among other things, increase the available shares by 2.5 million. In addition, in May 2019, the Company's stockholders approved an amendment to the 2014 Amended Plan (2014 Second Amended Plan), to, among other things, increase the available shares by 2.0 million. The 2014 Second Amended provides for the grant of incentive stock options, within the meaning of Section 422 of the Internal Revenue Code, to employees and any parent and subsidiary corporations' employees, and for the grant of nonstatutory stock options, restricted stock, restricted stock units, stock appreciation rights, performance units and performance shares to employees, directors and consultants and parent and subsidiary corporations' employees and consultants. The shares available for issuance under the 2014 Second Amended Plan include shares returned to the 2009 Plan as the result of expiration or termination of awards (provided that the maximum number of shares that may be added to the 2014 Second Amended Plan pursuant to such previously granted awards under the 2009 Plan is 961,755 shares). The maximum number of shares that may be issued under the 2014 Second Amended Plan is 7.5 million plus shares added from 2009 Plan, if any. As of December 31, 2019, a total of 3.4 million shares of common stock were available for issuance pursuant to the 2014 Second Amended Plan. As of December 31, 2019, awards covering 3.5 million shares of common stock were outstanding under the 2014 Second Amended Plan.

In September 2016, the board of directors adopted the 2016 Inducement Equity Incentive Plan (2016 Plan). The 2016 Plan provides for the grant of nonstatutory stock options, restricted stock, restricted stock units, stock appreciation rights, performance units and performance shares to new employees. Stock options granted under the 2016 Plan have a term of ten years from the date of grant, the exercise price for the shares to be issued will be no less than 100% of the fair market value per share on the date of grant and generally vest over a four-year period. The maximum aggregate number of shares that may be issued under the 2016 Plan is 500,000 shares. As of December 31, 2019, a total of 0.1 million shares of common stock were available for issuance pursuant to the 2016 Plan. As of December 31, 2019, awards covering 0.4 million shares of common stock were outstanding under the 2016 Plan.

Stock options granted to date under the 2009 Plan and the 2014 Second Amended Plan have a term of ten years from the date of grant, and generally vest over a four-year period. However, in the event that an incentive stock option (ISO) granted to a participant who, at the time the ISO is granted, owns stock representing more than ten percent (10%) of the total combined voting power of all classes of stock of the Company, the term of the ISO shall be five years from the grant date or such shorter term as may be provided in the award agreement.

In July 2014, the board of directors adopted the 2014 Employee Stock Purchase Plan (ESPP) and the stockholders approved it. As of December 31, 2019, a total of 1,548,890 shares of common stock were available for issuance under the ESPP. In addition, the ESPP provides for annual increases in the number of shares available for sale under the ESPP on the first day of each fiscal year beginning in 2015, equal to the least of: (i) 355,618 shares; (ii) 1.5% of the outstanding shares of the common stock on the last day of the immediately preceding fiscal year; or (iii) such other amount as may be determined by the administrator. As of December 31, 2019, 167,215 shares have been purchased under the ESPP.

Stock Options

The per share exercise price of all options granted during the year ended December 31, 2019 is equal to the closing price of a share of common stock on the date of grant. The fair value of each stock option granted during the year ended December 31, 2019 is estimated on the grant date under the fair value method using the Black-Scholes model. The estimated fair values of the stock option, including the effect of estimated forfeitures, are then expensed over the requisite service period which is generally the vesting period. The following assumptions were used to estimate the fair value of stock options:

	Year Ended December 31, 2019
Risk-free interest rate	2.4%
Expected volatility	72.6%
Expected dividend yield	0.0%
Expected life of options in years	6.2

The fair value of equity instruments that are ultimately expected to vest, net of estimated forfeitures, are recognized and amortized on a straight-line basis over the requisite service period. The Black-Scholes option-pricing model requires multiple subjective inputs, including a measure of expected future volatility. Prior to the Company's IPO in 2014, the Company's stock did not have a readily available market. Consequently, the expected future volatility was based on the historical volatility for comparable publicly traded companies over the most recent period commensurate with the estimated expected term of the Company's stock options. Beginning in the fourth quarter of 2016, the expected future volatility was based on the historical volatility for the Company's common stock. Following the completion of the Company's IPO, the fair value of options granted is based on the closing price of the Company's common stock on the date of grant as quoted on the NYSE American. The risk-free interest rate assumption is based upon observed interest rates during the period appropriate for the expected term of the options. The expected term of the options has been estimated using the simplified method to determine the expected life of the Company's options due to insufficient activity as a basis from which to estimate future exercise patterns. With the exception of 1,217,784 shares of common stock issued in connection with the payment of all accrued and unpaid dividends on the preferred stock immediately prior to the completion of the Company's IPO, the Company had never declared or paid dividends and has no plans to do so in the foreseeable future. Accordingly, the dividend yield assumption is based on the expectation that the Company will not pay dividends on its common stock in the future. Forfeitures are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. The weighted-average grant date fair values of options granted during the year ended December 31, 2019 is $3.25. Total fair value of options vested during the year ended December 31, 2019 is $2.9 million.

Stock option transactions under the 2014 and 2016 Plans during the year ended December 31, 2019 were as follows:

	Number of Options *(in thousands)*	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term *(in years)*	Aggregate Intrinsic Value *(in thousands)*
Outstanding at January 1, 2019	4,155	$ 6.12		
Granted	1,390	4.94		
Exercised	(764)	6.02		
Cancelled (forfeited)	(778)	7.09		
Outstanding at December 31, 2019	4,003	$ 5.55	7.63	$ 22,781
Vested and expected to vest at December 31, 2019	3,512	$ 5.66	7.46	$ 19,699
Vested and exercisable at December 31, 2019	1,858	$ 6.65	6.35	$ 9,078

The Company received $4.6 million for the year ended December 31, 2019 for options exercised.

As of December 31, 2019, there was approximately $4.2 million of unrecognized compensation cost related to unvested stock option awards, and the weighted-average period over which this cost is expected to be recognized is 2.64 years.

The total aggregate intrinsic value, which is the amount, if any, by which the exercise price was exceeded by the estimated fair value of the Company's common stock, of options exercised is $3.2 million for the year ended December 31, 2019.

In June 2018, the FASB issued ASU No. 2018-07,*Compensation-Stock Compensation (ASC 718)*, which simplifies the accounting for nonemployee share-based payment transactions. The Company adopted this standard as of January 1, 2019. The impact of adoption of this standard did not have a material impact on the Company's consolidated financial statements.

10. Retirement Plan

The Company has a 401(k) Savings Plan (401(k) plan). The 401(k) plan is for the benefit of all qualifying employees and permits voluntary contributions by employees up to a maximum percentage allowable by current IRS regulations. During the year ended December 31, 2019, the Company made matching contributions to the 401(k) of $0.4 million.

11. Income Taxes

The components of the income tax provision are as follows:

	Year Ended December 31, 2019
	(in thousands)
Current	$ —
Deferred	(1)
Total provision	$ (1)

The Company's practice is to recognize interest and/or penalties related to income tax matters in income tax expense. The Company had no accrual for interest or penalties on its balance sheet at December 31, 2019. The Company is subject to taxation in the United States and various state jurisdictions. The Company's tax years 2014 and forward are subject to examination by the United States and tax years 2010 and forward in California and various state tax authorities.

As of December 31, 2019, the Company had federal and state research and development credits carryforwards of approximately $7.5 million and $4.2 million, respectively, to offset potential tax liabilities. The federal research and development credits have a 20-year carryforward period and begin to expire in 2030 unless utilized. California research and development tax credits have no expiration. The Company has $82.7 million federal net operating loss carryforwards and $32.9 million of state net operating loss carryforwards as of December 31, 2019. Of the total federal net operating loss carryforwards, the Company has $41.2 million with no expiration dates. The remaining federal and state net operating losses will begin to expire in 2036 unless utilized.

The utilization of NOLs and tax credit carryforwards to offset future taxable income may be subject to an annual limitation as a result of ownership changes that have occurred previously or may occur in the future. Under Sections 382 and 383 of the Internal Revenue Code ("IRC") a corporation that undergoes an ownership change may be subject to limitations on its ability to utilize its pre-change NOLs and other tax attributes otherwise available to offset future taxable income and/or tax liability. An ownership change is defined as a cumulative change of 50% or more in the ownership positions of certain stockholders during a rolling three-year period. If an ownership change has occurred, the Company's ability to use its NOLs or tax credit carryforwards may be restricted, which could require the Company to pay federal or state income taxes earlier than would be required if such limitations were not in effect.

Significant components of the Company's deferred tax assets as of December 31, 2019 is shown below. A valuation allowance of $29.9 million for the year ended December 31, 2019 has been established to offset deferred tax assets, as realization of such assets is uncertain.

	December 31, 2019 (in thousands)
Deferred tax assets	
Net operating losses	$ 19,660
Stock-based compensation	1,388
Research and development credits	9,444
Deferred revenue	19
Accruals and other	805
Lease Liability	934
Total deferred tax assets	32,250
Deferred tax liabilities	
Depreciation and amortization	(510)
Intangible assets	(1,024)
ROU Asset	(798)
Total deferred tax liabilities	(2,332)
Valuation allowance	(29,918)
Net deferred tax asset	$ —

The provision for income taxes differs from the U.S. federal statutory tax rate primarily due to state and local income taxes, valuation allowance established, R&D credits and the impact of tax reform. A reconciliation of the Company's effective tax rate and federal statutory tax rate at December 31, 2019 is as follows:

	December 31, 2019 (in thousands)
Federal income taxes	$ (222)
State income taxes	(48)
State rate changes	(790)
Impact of change in federal income tax rates	—
Stock-based compensation	(162)
Valuation allowance	(14)
Research and development credits	1,287
Permanent items and other	(51)
Total income tax provision	$ (1)

In accordance with authoritative guidance, the impact of an uncertain income tax position on the income tax return must be recognized at the largest amount that is more-likely-than-not to be sustained upon audit by the relevant taxing authority. An uncertain income tax position will not be recognized if it has less than a 50% likelihood of being sustained. The Company has an uncertain tax position with respect to its research and development credits as of December 31, 2019.

The following is a tabular reconciliation of the Company's Unrecognized Tax Benefits activity (excluding interest and penalties):

	December 31, 2019
	(in thousands)
Beginning balance of unrecognized tax benefits	$ 1,394
Additions based on tax positions related to the current year	232
Additions based on tax positions of prior years	16
Reductions for tax positions of prior years	—
Ending balance of unrecognized tax benefits	$ 1,642

As of December 31, 2019, if recognized, approximately $1.6 million would affect the effective tax rate if the Company did not have a full valuation allowance.

The Company's practice is to recognize interest and/or penalties related to income tax matters in income tax expense. No accrued interest or penalties were included in its consolidated balance sheet at December 31, 2019 and the Company did not recognize any interest and/or penalties in its consolidated statement of operations during the year ended December 31, 2019.

The Company does not anticipate significant increases or decreases within the next 12 months with respect to its unrecognized tax benefit.

The Company is subject to income tax in the United States, California and Massachusetts. The Company is subject to income tax examination by various state tax authorities for the years beginning in 2009 due to net operating losses and state statutes.

12. Net Income Per Share of Common Stock

The following table summarizes the computation of basic and diluted net income per share attributable to common stockholders of the Company:

	December 31, 2019
	(in thousands, except per share data)
Net income	$ 1,058
Weighted average shares used to compute basic net income per share	31,602
Dilutive effect of employee stock option plans	771
Dilutive weighted-average common shares outstanding	32,373
Basic and diluted net income per common share	$ 0.03

Basic net income per share is computed by dividing the net income by the weighted-average number of common shares outstanding for the period. Diluted net income per share is computed by dividing the net income by the weighted-average number of common shares and dilutive common stock equivalents outstanding for the period, determined using the treasury-stock method, if inclusion of these is dilutive.

The following table summarizes the potentially dilutive securities outstanding at the end of the period presented:

	December 31, 2019
	(in thousands)
Options to purchase common stock	4,004
Employee stock purchase plan	53
Total	4,057

13. Quarterly Financial Data (unaudited)

The following is a summary of the quarterly results of the Company for the year ended December 31, 2019:

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year Ended December 31
	(in thousands, except for per share data)				
2019[(a)(b)]					
Revenues	$ 7,862	$ 2,811	$ 15,248	$ 24,405	$ 50,326
Cost of revenues	1,566	1,119	1,145	1,061	4,891
Gross profit	6,296	1,692	14,103	23,344	45,435
Operating expenses	12,423	9,332	11,108	11,748	44,611
Other income, net	69	71	55	40	235
Income tax provision	—	—	—	(1)	(1)
Net income (loss)	(6,058)	(7,569)	3,051	11,634	1,058
Net income (loss) per share, basic	$ (0.19)	$ (0.24)	$ 0.10	$ 0.37	$ 0.03
Net income (loss) per share, diluted	$ (0.19)	$ (0.24)	$ 0.10	$ 0.35	$ 0.03
Weighted-average common shares used in calculating net income (loss) per share:					
Basic	31,487	31,527	31,595	31,805	31,602
Diluted	31,487	31,527	31,595	33,398	32,373

(a) - Due to the adoption of ASC 606, Q1-2019 revenue is $2.5 million less than the amount reported in the Q1-2019 10-Q. Refer to Note 7 for more information on this adjustment.

(b) - Due to the adoption of ASC 718, cost of revenues and operating expenses is immaterially different than the amounts reported in the Q1-2019, Q2-2019, and Q3-2019 10-Qs.

14. Subsequent Events

As discussed in Note 1, in January and February 2020, the Company sold 1,753,443 shares of common stock for net proceeds of $19.4 million.

EXHIBIT 99.2

UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL INFORMATION

On October 1, 2020, Ligand Pharmaceuticals Incorporated ("Ligand" or the "Company"), completed its acquisition (the "Acquisition") of Pfenex Inc., a Delaware corporation ("Pfenex"), pursuant to the terms of an Agreement and Plan of Merger (the "Merger Agreement"), by and among the Company, Pelican Acquisition Sub, Inc., a wholly-owned subsidiary of the Company ("Acquisition Sub"), and Pfenex. The Acquisition Sub paid a purchase price of $438 million in cash, without interest (the "Cash Portion"), a nontransferable contingent value right (a "CVR") per share representing the right to receive a contingent payment of $78 million in cash if a certain specified milestone is achieved, without interest (the "CVR Portion", and together with the Cash Portion, the "Offer Price"), subject to any required tax withholding and upon the other terms and subject to the conditions of the Merger Agreement. Upon completion of the Merger Agreement, Pfenex became a wholly-owned subsidiary of the Company.

The following unaudited pro forma condensed combined financial information and related notes (the "Pro Forma Financial Statements") present the historical combined financial information of Ligand and Pfenex. The Pro Forma Financial Statements give effect to the Merger Agreement and reclassifications and adjustments described in the accompanying notes. The unaudited pro forma condensed combined balance sheet as of September 30, 2020 (the "Pro Forma Balance Sheet") gives effect to the Merger Agreement as if it had occurred on September 30, 2020. The unaudited pro forma condensed combined statements of operations for both the nine months ended September 30, 2020 (the "2020 Pro Forma Statement of Operations") and the year ended December 31, 2019 (the "2019 Pro Forma Statement of Operations") are presented as if the Merger Agreement had occurred on January 1, 2019.

The Pro Forma Financial Statements should be read in conjunction with the accompanying notes, and the following:

- the separate unaudited condensed consolidated financial statements of Ligand for the nine months ended September 30, 2020 included in Ligand's Quarterly Report on Form 10-Q that can be found at *www.sec.gov*;
- the separate audited consolidated financial statements of Ligand for the fiscal year ended December 31, 2019 included in Ligand's Annual Report on Form 10-K that can be found at *www.sec.gov*; and
- the separate audited consolidated financial statements of Pfenex for the year ended December 31, 2019 included in Exhibit 99.1 to this Current Report on Form 8-K.

The Pro Forma Financial Statements have been prepared for illustrative purposes only and are based on assumptions and estimates considered appropriate by Ligand's management. However, they do not necessarily reflect what the combined company's financial condition or results of operations would have been had the Merger Agreement occurred on the dates set forth above, nor do they purport to be indicative of the future financial condition and results of operations of the combined company. The adjustments included in the Pro Forma Financial Statements are preliminary and may be revised. Future results may vary significantly from the pro forma results reflected below due to many factors, including, but not limited to, the final allocation of the purchase price and variations in future operating results.

UNAUDITED PRO FORMA CONDENSED COMBINED BALANCE SHEET
As of September 30, 2020

(in thousands)	Historical Ligand	Historical Pfenex	Pro Forma Adjustments	Notes	Pro Forma Combined
ASSETS					
Current assets					
Cash and cash equivalents	$ 456,916	$ 51,407	$ (438,306)	***3(a)***	$ 70,017
Short-term investments	338,154	—	—		338,154
Accounts and unbilled receivables, net	32,907	1,114	—		34,021
Inventory	13,430	—	—		13,430
Other current assets	3,191	4,835	4,028	***3(b), 3(d)***	12,054
Assets held for sale	13,143	—	—		13,143
Total current assets	857,741	57,356	(434,278)		480,819
Deferred income taxes, net	27,026	—	—		27,026
Intangible assets, net	224,582	3,354	415,646	***3(g)***	643,582
Goodwill	102,136	5,577	100,385	***2(b)***	208,098
Commercial license and other economic rights, net	10,834	—	—		10,834
Property and equipment, net	7,157	9,227	(1,393)	***2(a)***	14,991
Operating lease right-of-use asset	4,269	2,618	453	***3(c), 3(e)***	7,340
Other long-term assets	13,704	81	100	***3(e)***	13,885
Total assets	$ 1,247,449	$ 78,213	$ 80,913		$ 1,406,575
LIABILITIES AND STOCKHOLDERS' EQUITY					
Current liabilities					
Accounts payable	$ 10,169	$ 6,814	$ 62	***3(h)***	$ 17,045
Accrued liabilities	14,498	9,460	40,892	***3(c), 3(f), 3(e)***	64,850
Income tax payable	674	—	(674)	***3(b)***	—
Current portion of contingent liabilities	1,194	—	—		1,194
Current portion of deferred revenue	5,404	2,842	196	***3(i)***	8,442
Liability related to assets held for sale	10,361	—	—		10,361
Total current liabilities	42,300	19,116	40,476		101,892
2023 convertible senior notes, net	454,973	—	—		454,973
Long-term contingent liabilities	9,604	—	—		9,604
Deferred income taxes, net	13,508	—	87,990	***3(k)***	101,498
Long-term operating lease liabilities	3,920	2,290	(26)	***3(c)***	6,184
Other non-current liabilities	25,320	1,258	(97)	***3(e), 3(i)***	26,481
Total liabilities	549,625	22,664	128,343		700,632
Commitments and contingencies					
Stockholders' equity					
Preferred Stock	—	—	—		—
Common stock	16	35	(35)	***3(j)***	16
Additional paid-in capital	313,057	293,369	(293,369)	***3(j)***	313,057
Accumulated other comprehensive loss	(1,441)	—	—		(1,441)
Retained earnings (accumulated deficit)	386,192	(237,855)	245,974	***3(j)***	394,311
Total stockholders' equity	697,824	55,549	(47,430)		705,943
Total liabilities and stockholders' equity	$ 1,247,449	$ 78,213	$ 80,913		$ 1,406,575

UNAUDITED PRO FORMA CONDENSED COMBINED STATEMENT OF OPERATIONS
For the nine months ended September 30, 2020

(in thousands, except per share data)	Historical		Pro Forma Adjustments		Notes	Pro Forma Combined
	Ligand	Pfenex	Reclassification Adjustments	Pro Forma Adjustments		
Revenues:						
Royalties	$ 22,751	$ —	$ —	$ —		$ 22,751
Captisol	68,966	—	—	—		68,966
Contract revenue	24,712	2,784	—	—		27,496
Total revenue	116,429	2,784	—	—		119,213
Cost of revenue:						
Cost of Captisol	18,680	—	—	—		18,680
Cost of contract revenue	—	2,045	(2,045)	—		—
Total cost of revenue	18,680	2,045	(2,045)	—		18,680
Gross profit	97,749	739	2,045	—		100,533
Operating costs and expenses:						
Amortization of intangibles	11,285	—	378	24,740	***3(g)***	36,403
Research and development	37,476	16,939	2,045	2,099	***3(l), 3(o), 3(q)***	58,559
Selling, general and administrative	34,353	23,229	(378)	(14,465)	***3(l), 3(o), 3(p), 3(q)***	42,739
Total operating expense	83,114	40,168	2,045	12,374		137,701
Net income (loss) from operations	14,635	(39,429)	—	(12,374)		(37,168)
Other income (expense):						
Loss from short-term investment	(17,143)	—	—	—		(17,143)
Interest income	7,690	—	—	—		7,690
Interest expense	(21,030)	—	—	—		(21,030)
Other expense, net	1,940	479	—	—		2,419
Total other income (loss), net	(28,543)	479	—	—		(28,064)
Net loss from before income taxes	(13,908)	(38,950)	—	(12,374)		(65,232)
Income tax benefit (expense)	5,162	(4)	—	19,053	***3(m)***	24,211
Net loss	$ (8,746)	$ (38,954)	$ —	$ 6,679		$ (41,021)
Net loss per common share:						
Basic	$ (0.54)				***3(r)***	$ (2.53)
Diluted	$ (0.54)				***3(r)***	$ (2.53)
Weighted average common shares						
Basic	16,222					16,222
Diluted	16,222					16,222

UNAUDITED PRO FORMA CONDENSED COMBINED STATEMENT OF OPERATIONS
For the year ended December 31, 2019

	Historical		Pro Forma Adjustments			
(in thousands, except per share data)	Ligand	Pfenex	Reclassification Adjustments	Pro Forma Adjustments	Notes	Pro Forma Combined
Revenues:						
Royalties	$ 46,976	$ —	$ —	$ —		$ 46,976
Captisol	31,489	—	—	—		31,489
Contract revenue	41,817	50,326	—	—		92,143
Total revenue	120,282	50,326	—	—		170,608
Cost of revenue:						
Cost of Captisol	11,347	—	—	—		11,347
Cost of contract revenue	—	4,891	(4,891)	—		—
Total cost of revenue	11,347	4,891	(4,891)	—		11,347
Gross profit	108,935	45,435	4,891	—		159,261
Operating costs and expenses:						
Amortization of intangibles	16,864	—	516	32,975	***3(g)***	50,355
Research and development	55,908	25,533	4,891	2,143	***3(l), 3(o), 3(q)***	88,475
Selling, general and administrative	41,884	19,078	(516)	(2,075)	***3(l), 3(o), 3(q)***	58,371
Total operating expense	114,656	44,611	4,891	33,043		197,201
Gain from sale of Promacta license	812,797	—	—	—		812,797
Net income from operations	807,076	824	—	(33,043)		774,857
Other income (expense):						
Gain from Viking	2,888	—	—	—		2,888
Interest income	28,430	—	—	—		28,430
Interest expense	(35,745)	—	—	—		(35,745)
Other income (expense), net	(6,010)	235	—	—		(5,775)
Total other income (loss), net	(10,437)	235	—	—		(10,202)
Net income from before income taxes	796,639	1,059	—	(33,043)		764,655
Income tax expense	167,337	1	—	(6,719)	***3(n)***	160,619
Net income	$ 629,302	$ 1,058	$ —	$ (26,324)		$ 604,036
Net income per common share:						
Basic	$ 33.13				***3(s)***	$ 31.80
Diluted	$ 31.85				***3(s)***	$ 30.57
Weighted average common shares						
Basic	18,995					18,995
Diluted	19,757					19,757

NOTES TO UNAUDITED PRO FORMA COMBINED FINANCIAL STATEMENTS
(dollars in thousands, except per share amounts)

Note 1. Basis of presentation

The Pro Forma Financial Statements have been prepared using the acquisition method of accounting in accordance with ASC 805,*Business Combinations*, with the Company as the accounting acquirer.

As shown in the "Reclassification Adjustments" column on the Pro Forma Statement of Operations, certain reclassifications have been made to Pfenex's historical amounts to conform to Ligand's historical presentation.

The historical financial information has been adjusted to give effect to pro forma events that are (1) directly attributable to the Merger Agreement, (2) factually supportable, and (3) with respect to the 2020 Pro Forma Statement of Operations and the 2019 Pro Forma Statement of Operations, expected to have a continuing impact on the combined financial operating results of Ligand and Pfenex. The unaudited Pro Forma Financial Statements do not reflect (1) any operating efficiencies, cost savings, or revenue synergies that may be achieved by the combined company following the Merger Agreement and (2) certain nonrecurring expenses expected to be incurred within the first twelve months after the Merger Agreement.

Ligand has performed a preliminary review of Pfenex's accounting policies to determine whether any adjustments were necessary to ensure comparability in the Pro Forma Financial Statements. Ligand is not aware of any significant differences in accounting policies that would have a material effect on the Pro Forma Financial Statements.

Note 2. Preliminary purchase price allocation

Total preliminary purchase price of $475,306 included $438,306 cash consideration paid upon acquisition, and a CVR of up to $78,000 of cash payments if a certain specified milestone is achieved with an estimated initial fair value of $37,000. The fair value of the CVR was determined using a probability adjusted income approach. Ligand has performed a preliminary valuation analysis of the fair market value of Pfenex's assets and liabilities. The following table sets forth a preliminary allocation of the estimated purchase price to the identifiable tangible and intangible assets acquired and liabilities assumed as if the Merger Agreement had taken place on September 30, 2020, with the excess recorded to goodwill:

Assets acquired:		
Cash and cash equivalents	$	51,407
Restricted cash		200
Accounts and unbilled receivable		1,114
Fixed assets, net[(a)]		7,835
Operating lease right-of-use assets		3,070
Other assets		1,338
Intangible assets		419,000
Total assets acquired		483,964
Liabilities assumed:		
Accounts payable and accrued expenses		18,271
Deferred revenue		3,908
Lease liabilities		3,070
Other liabilities		1,381
Deferred tax liability		87,990
Total liabilities assumed		114,620
Net assets acquired		369,344
Purchase price		475,306
Goodwill recognized[(b)]	$	105,962

(a) Amount includes a net adjustment to fixed assets of $1,393 to conform to Ligand's accounting policies.

(b) Goodwill represents the excess of the purchase price over the preliminary fair value of the underlying assets acquired and liabilities assumed. Goodwill is attributable to the assembled workforce of experienced personnel at Pfenex and expected synergies. The net pro forma adjustment of $100,385 to goodwill reflects the goodwill recognized of $105,962 less the elimination of $5,577 of historical Pfenex's goodwill.

The preliminary allocation of the purchase price is based upon preliminary estimates of the fair value of assets acquired and liabilities assumed of Pfenex as if the Acquisition occurred on September 30, 2020. The pro forma adjustments are based upon currently available information. Certain assumptions and estimates are subject to change as Ligand finalizes its determination of the fair value of the assets acquired and liabilities assumed in connection with the closing of the Merger Agreement. The final allocation of the purchase price will be determined at a later date and is dependent on a number of factors, including the final valuation of Pfenex's tangible and intangible assets acquired and liabilities assumed. Such final valuations are dependent upon procedures and other studies that are not yet complete. The final amounts allocated to assets acquired and liabilities assumed could materially differ from the information presented in the Pro Forma Financial Statements.

Note 3. Acquisition adjustments

The following pro forma adjustments related to the Acquisition are based on Ligand's preliminary estimates and assumptions that are subject to change. The following Acquisition adjustments have been reflected in the Pro Forma Financial Statements:

(a) To reflect the cash consideration in the amount of $438,306 transferred in connection with the Acquisition.

(b) To add back income taxes receivable of $7,506 and remove income taxes payable of $674 on a combined company basis as of September 30, 2020.

(c) To conform Pfenex's historical financial statements to the accounting policies used by Ligand, pro forma adjustments are presented to reflect the net present value of the acquired right-of-use asset and acquired lease liability using Ligand's incremental borrowing rate as of October 1, 2020. The pro forma adjustments are presented below.

		September 30, 2020
Record a right-of-use asset for operating leases	$	3,070
Remove historic right-of-use asset for operating leases		(2,618)
Record a short-term lease liability for operating leases		806
Remove historic short-term lease liability for operating leases		(804)
Record a long-term lease liability for operating leases		2,264
Remove historic long-term lease liability for operating leases	$	(2,290)

(d) To reflect the following adjustments as of September 30, 2020: i) removing Pfenex's deferred offering costs in the amount of $331 related to Pfenex's prior Shelf filing and at-the-market (ATM) offering; ii) removing Pfenex prepaid Director and Officer insurance balance of $2,818; and iii) a reduction on prepaid assets in the amount of $329 to conform to Ligand's accounting policies.

(e) To present Pfenex's finance lease to conform to Ligand's balance sheet presentation.

(f) To reflect fair value of CVR liability in amount of $37,000, an accrual of $3,527 for payments to certain Pfenex executives with prior employment agreement that triggered by the Acquisition, and an adjustment in the amount of $331 related to employer payroll taxes on accelerating Pfenex options triggered by the Acquisition.

(g) Preliminary identifiable intangible assets from the Acquisition consist of the following:

	Approximate Fair Value	Estimated useful life (in years)
Contractual Relationships:		
Alvogen	$ 147,000	12
Merck	118,000	12
Jazz	80,000	17
SII	49,000	10
Arcellx	2,000	17
Acquired Technologies	23,000	10-19
	$ 419,000	

The net pro forma adjustment of $415,646 to intangible assets, net reflects the addition of $419,000 for the Acquisition and the elimination of $3,354 of historical Pfenex intangible assets.

The straight-line amortization related to the identifiable assets from the Acquisition is reflected as pro forma adjustments in the Pro Forma Statements of Operations based on the estimated useful lives above and as further described below. The identifiable intangible assets and related amortization are preliminary and are based on management's estimates after initial consultations with valuation personnel and discussions with Pfenex's management. The final amounts may differ materially from this preliminary allocation.

	Approximate fair value	Estimated useful life (in years)	Estimated pro forma amortization for the nine months ended September 30, 2020	Estimated pro forma amortization for the year ended December 31, 2019
Contractual Relationships:				
Alvogen	$ 147,000	12	$ 9,188	$ 12,250
Merck	118,000	12	7,375	9,833
Jazz	80,000	17	3,529	4,706
SII	49,000	10	3,675	4,900
Arcellx	2,000	17	88	118
Acquired Technologies	23,000	10-19	1,263	1,684
	419,000		25,118	33,491
Elimination of historical balances	(3,354)		(378)	(516)
Total	$ 415,646		$ 24,740	$ 32,975

The fair value and useful lives for the intangible assets set forth above are estimates and subject to change. A 10% change in the fair value of the intangible assets would change amortization expense on a pro forma basis by approximately $2,500 and $3,300 for the nine months ended September 30, 2020 and the year ended December 31, 2019, respectively.

(h) To reflect the accrual of $62 of transaction fees directly related to the Acquisition that were paid by Pfenex subsequent to September 30, 2020. The transaction fees consisted primarily of advisory fees, tax consulting, and other professional services fees.

(i) Pfenex's deferred revenue has been adjusted to the estimated fair value based on a preliminary valuation. The actual valuation could materially differ from the estimate. The resulting pro forma adjustment is as follows:

		September 30, 2019
Record short-term deferred revenue at fair value	$	3,038
Remove historic short-term deferred revenue		(2,842)
Record long-term deferred revenue at fair value		870
Remove historic long-term deferred revenue		(1,036)

(j) Pro forma adjustments to equity reflect (i) the elimination of Pfenex's historical equity accounts through the reversal of $35 of common stock, $293,369 of additional paid in capital, and $237,854 of accumulated deficit, and (ii) recording the impacts to retained earnings as of September 30, 2020 of certain costs incurred subsequent to September 30, 2020 as outlined above in notes 3(b) and 3(h).

(k) The Acquisition resulted in the recognition of net deferred tax liabilities of approximately $87,990 related primarily to the step up in fair value of amortizable intangible assets for book purposes. The deferred tax liabilities were calculated using the statutory rate of 21%.

(l) To reflect incremental compensation expense of $3,989 and $2,659 for the nine months ended September 30, 2020 and year ended December 31, 2019, respectively. The incremental compensation expense consists of Ligand equity grants, cash incentives, salary and bonus increases for certain acquired Pfenex employees that are expected to have a continuing impact on the Pro Forma Statements of Operations beyond twelve months.

(m) To reflect the net income tax benefit of all pro forma adjustments impacting the Pro Forma Statement of Operations based on Ligand's effective tax rate in effect during the nine months ended September 30, 2020.

(n) To reflect the net income tax benefit of all pro forma adjustments impacting the Pro Forma Statement of Operations based on Ligand's effective tax rate in effect during fiscal year 2019.

(o) To reflect the pro forma adjustment to eliminate the historical depreciation expense and record the new depreciation expense based on the fixed assets acquired and the estimated remaining useful lives as follows:

	Nine months ended September 30, 2020		
	Cost of revenue	Research and development	General and administrative
Depreciation of property and equipment acquired	$ —	$ 827	$ —
Reversal of Pfenex historical depreciation	(62)	(904)	(111)
Pro forma adjustment	$ (62)	$ (77)	$ (111)

	Year ended December 31, 2019		
	Cost of revenue	Research and development	General and administrative
Depreciation of property and equipment acquired	$ —	$ 993	$ —
Reversal of Pfenex historical depreciation	(194)	(897)	(203)
Pro forma adjustment	$ (194)	$ 96	$ (203)

(p) Adjustment to remove non-recurring transaction fees directly related to the Acquisition of $11,975 that were expensed during the nine months ended September 30, 2020.

(q) To reflect the removal of compensation expense of $4,130 and $2,290 for the nine months ended September 30, 2020 and year ended December 31, 2019, respectively, related to compensation of Pfenex board of directors, executives and employees that were terminated as a result of the Acquisition.

(r) The changes to basic and diluted net loss per common share reflect the net impacts of the pro forma adjustments impacting the Pro Forma Statement of Operations during the nine months ended September 30, 2020.

(s) The changes to basic and diluted net income per common share reflect the net impacts of the pro forma adjustments impacting the Pro Forma Statement of Operations during the year ended December 31, 2019.