
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

Form 10-Q

(Mark One)

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

For the quarterly period ended June 30, 2018

OR

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

For the transition period from _____ to _____

Commission file number: 001-36033

THE RAVANCE BIOPHARMA, INC.

(Exact Name of Registrant as Specified in its Charter)

Cayman Islands

(State or Other Jurisdiction of
Incorporation or Organization)

98-1226628

(I.R.S. Employer
Identification No.)

PO Box 309

**Ugland House, South Church Street
George Town, Grand Cayman, Cayman Islands**
(Address of Principal Executive Offices)

KY1-1104

(Zip Code)

(650) 808-6000

(Registrant's Telephone Number, Including Area Code)

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer

Non-accelerated filer

(Do not check if a smaller reporting company)

Accelerated filer

Smaller reporting company

Emerging growth company

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

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

As of July 31, 2018, the number of the registrant's outstanding ordinary shares was 55,104,127.

THERAVANCE BIOPHARMA, INC.
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PART I. FINANCIAL INFORMATION
ITEM 1. FINANCIAL STATEMENTS

THERAVANCE BIOPHARMA, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(Unaudited)
(In thousands, except per share data)

	<u>June 30, 2018</u>	<u>December 31, 2017</u>
Assets		
Current assets:		
Cash and cash equivalents	\$ 103,854	\$ 88,980
Short-term marketable securities	249,049	259,586
Accounts receivable, net of allowances of \$1,299 and \$992 at June 30, 2018 and December 31, 2017, respectively	3,434	2,253
Receivables from collaborative arrangements	3,865	7,109
Prepaid taxes	944	291
Other prepaid and current assets	7,641	3,700
Inventories	17,906	16,830
Total current assets	<u>386,693</u>	<u>378,749</u>
Property and equipment, net	10,677	10,157
Long-term marketable securities	18,252	41,587
Tax receivable	3,143	8,191
Restricted cash	833	833
Other assets	1,766	1,883
Total assets	<u>\$ 421,364</u>	<u>\$ 441,400</u>
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable	\$ 3,644	\$ 5,924
Accrued personnel-related expenses	12,150	24,136
Accrued clinical and development expenses	14,508	20,657
Other accrued liabilities	8,700	11,710
Deferred revenue	54,478	125
Total current liabilities	<u>93,480</u>	<u>62,552</u>
Convertible senior notes, net	224,282	223,746
Deferred rent	6,670	3,668
Long-term deferred revenue	34,220	1,436
Other long-term liabilities	28,325	34,820
Commitments and contingencies		
Shareholders' equity		
Preferred shares, \$0.00001 par value: 230 shares authorized, no shares issued or outstanding	—	—
Ordinary shares, \$0.00001 par value: 200,000 shares authorized; 55,104 and 54,381 shares issued and outstanding at June 30, 2018 and December 31, 2017, respectively	1	1
Additional paid-in capital	937,437	913,650
Accumulated other comprehensive loss	(525)	(733)
Accumulated deficit	(902,526)	(797,740)
Total shareholders' equity	<u>34,387</u>	<u>115,178</u>
Total liabilities and shareholders' equity	<u>\$ 421,364</u>	<u>\$ 441,400</u>

See accompanying notes to condensed consolidated financial statements.

THERAVANCE BIOPHARMA, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(Unaudited)
(In thousands, except per share data)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Revenue:				
Product sales	\$ 5,361	\$ 3,474	\$ 9,040	\$ 6,524
Revenue from collaborative arrangements	18,115	35	22,755	72
Total revenue	23,476	3,509	31,795	6,596
Costs and expenses:				
Cost of goods sold (Note 7)	(1,448)	1,364	(622)	1,929
Research and development (1)	48,621	42,927	96,386	83,492
Selling, general and administrative (1)	25,007	24,339	49,711	45,125
Total costs and expenses	72,180	68,630	145,475	130,546
Loss from operations	(48,704)	(65,121)	(113,680)	(123,950)
Income from investment in TRC, LLC (Note 6)	1,949	—	2,635	—
Interest expense	(2,137)	(2,137)	(4,274)	(4,274)
Interest and other income, net	1,284	1,425	2,768	2,455
Loss before income taxes	(47,608)	(65,833)	(112,551)	(125,769)
Provision for income tax (benefit) (Note 9)	(6,790)	454	(6,646)	5,837
Net loss	<u>\$ (40,818)</u>	<u>\$ (66,287)</u>	<u>\$ (105,905)</u>	<u>\$ (131,606)</u>
Net loss per share:				
Basic and diluted net loss per share	<u>\$ (0.76)</u>	<u>\$ (1.27)</u>	<u>\$ (1.98)</u>	<u>\$ (2.53)</u>
Shares used to compute basic and diluted net loss per share	<u>53,799</u>	<u>52,255</u>	<u>53,529</u>	<u>51,938</u>
Net unrealized gain on available-for-sale investments	329	24	208	5
Total comprehensive loss	<u>\$ (40,489)</u>	<u>\$ (66,263)</u>	<u>\$ (105,697)</u>	<u>\$ (131,601)</u>

(1) Amounts include share-based compensation expense as follows:

(In thousands)	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Research and development	\$ 6,904	\$ 4,917	\$ 13,463	\$ 10,018
Selling, general and administrative	6,951	5,481	14,390	10,649
Total share-based compensation expense	<u>\$ 13,855</u>	<u>\$ 10,398</u>	<u>\$ 27,853</u>	<u>\$ 20,667</u>

See accompanying notes to condensed consolidated financial statements.

THERAVANCE BIOPHARMA, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)
(In thousands)

	Six Months Ended June 30,	
	2018	2017
Operating activities		
Net loss	\$ (105,905)	\$ (131,606)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	1,690	2,059
Share-based compensation	27,853	20,667
Reversal of inventory purchase commitment liability	(2,250)	—
Inventory write-down	—	642
Undistributed earnings from investment in TRC, LLC	(1,633)	—
Other	(21)	262
Changes in operating assets and liabilities:		
Accounts receivable	(1,181)	(700)
Receivables from collaborative arrangements	3,244	3,758
Other prepaid and current assets	(2,963)	(2,069)
Inventories	(351)	(497)
Tax receivable	5,092	—
Other assets	(41)	(128)
Accounts payable	(2,311)	4,798
Accrued personnel-related expenses, accrued clinical and development expenses, and other accrued liabilities	(19,049)	2,905
Deferred rent	3,002	(516)
Deferred revenue	88,256	15
Other long-term liabilities	(5,144)	5,859
Net cash used in operating activities	<u>(11,712)</u>	<u>(94,551)</u>
Investing activities		
Purchases of property and equipment	(3,865)	(1,325)
Purchases of marketable securities	(101,912)	(231,991)
Maturities of marketable securities	136,428	120,970
Proceeds from the sales of fixed assets	17	—
Net cash provided by (used in) investing activities	<u>30,668</u>	<u>(112,346)</u>
Financing activities		
Proceeds from ESPP purchases	2,742	2,657
Proceeds from option exercises	81	5,320
Repurchase of shares to satisfy tax withholding	(6,905)	(6,163)
Net cash (used in) provided by financing activities	<u>(4,082)</u>	<u>1,814</u>
Net increase (decrease) in cash, cash equivalents, and restricted cash	14,874	(205,083)
Cash, cash equivalents, and restricted cash at beginning of period	89,813	345,542
Cash, cash equivalents, and restricted cash at end of period	<u>\$ 104,687</u>	<u>\$ 140,459</u>
Supplemental disclosure of cash flow information		
Cash paid for interest	\$ 3,738	\$ 3,717
Cash received from income taxes, net	\$ (4,455)	\$ (2,985)

See accompanying notes to condensed consolidated financial statements.

THERAVANCE BIOPHARMA, INC.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

1. Organization and Summary of Significant Accounting Policies

Theravance Biopharma, Inc. (“Theravance Biopharma”, the “Company”, or “we” and other similar pronouns) is a diversified biopharmaceutical company with the core purpose of creating medicines that help improve the lives of patients suffering from serious illness.

Basis of Presentation

Our condensed consolidated financial information as of June 30, 2018, and the three and six months ended June 30, 2018 and 2017 are unaudited but include all adjustments (consisting only of normal recurring adjustments), which we consider necessary for a fair presentation of the financial position at such date and of the operating results and cash flows for those periods, and have been prepared in accordance with US generally accepted accounting principles (“GAAP”) for interim financial information. Accordingly, they do not include all of the information and notes required by GAAP for complete financial statements. The accompanying unaudited condensed consolidated financial statements should be read in conjunction with the audited consolidated December 31, 2017 financial statements and notes thereto included in our Annual Report on Form 10-K for the year ended December 31, 2017, filed with the Securities and Exchange Commission (“SEC”) on February 28, 2018.

Effective January 1, 2018, we adopted Accounting Standards Codification, Topic 606, *Revenue from Contracts with Customers* (“ASC 606”) using the modified retrospective method applied to those contracts which were not completed as of January 1, 2018 and recognized the cumulative effect of ASC 606 at the date of initial application. This standard applies to all contracts with customers, except for contracts that are within the scope of other standards, such as leases, insurance, collaboration arrangements and financial instruments. Results for reporting periods beginning after January 1, 2018 are presented under ASC 606, while prior period amounts are not adjusted and continue to be reported under the accounting standards in effect for the prior period. We recorded a reduction to the opening balance of accumulated deficit of approximately \$1.1 million and a corresponding reduction in deferred revenue as of January 1, 2018 due to ASC 606’s cumulative adoption impact on our collaborative arrangements. Our product sales revenue under ASC 606 would not have been materially different under the legacy Accounting Standards Codification, Topic 605, *Revenue Recognition* (“ASC 605”).

Effective January 1, 2018, we adopted Accounting Standards Update 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash* (“ASU 2016-18”) that changed the presentation of restricted cash and cash equivalents on the condensed consolidated statement of cash flows. Restricted cash balances are now included with cash and cash equivalents when reconciling the beginning of period and end of period total amounts shown on the condensed consolidated statements of cash flows. To conform to the presentation under ASU 2016-18, we revised the amounts previously reported on the condensed consolidated statements of cash flows for the comparable prior year period.

Significant Accounting Policies

Other than the policies below, there have been no material revisions in our significant accounting policies described in Note 1 to the consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2017.

Revenue Recognition

Under ASC 606, an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that an entity determines are within the scope of ASC 606, the entity performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation.

At contract inception, once the contract is determined to be within the scope of ASC 606, we identify the performance obligations in the contract by assessing whether the goods or services promised within each contract are distinct. We then recognize revenue for the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied.

Product Sales

We sell VIBATIV in the US market by making the drug product available through a limited number of distributors, who sell VIBATIV to healthcare providers. Title and risk of loss transfer upon receipt by these distributors. We recognize VIBATIV product sales and related cost of product sales when the distributors obtain control of the drug product, which is at the time title transfers to the distributors.

Product sales are recorded on a net sales basis which includes estimates of variable consideration. The variable consideration results from sales discounts, government-mandated rebates and chargebacks, distribution fees, estimated product returns and other deductions. We reflect such reductions in revenue as either an allowance to the related account receivable from the distributor, or as an accrued liability, depending on the nature of the sales deduction. Sales deductions are based on management's estimates that consider payor mix in target markets, industry benchmarks and experience to date. In general, these estimates take into consideration a range of possible outcomes which are probability-weighted in accordance with the expected value method in ASC 606. We monitor inventory levels in the distribution channel, as well as sales of VIBATIV by distributors to healthcare providers, using product-specific data provided by the distributors. Product return allowances are based on amounts owed or to be claimed on related sales. These estimates take into consideration the terms of our agreements with customers, historical product returns of VIBATIV, rebates or discounts taken, estimated levels of inventory in the distribution channel, the shelf life of the product, and specific known market events, such as competitive pricing and new product introductions. We update our estimates and assumptions each quarter and if actual future results vary from our estimates, we may adjust these estimates, which could have an effect on product sales and earnings in the period of adjustment.

Sales Discounts: We offer cash discounts to certain customers as an incentive for prompt payment. We expect our customers to comply with the prompt payment terms to earn the cash discount. In addition, we offer contract discounts to certain direct customers. We estimate sales discounts based on contractual terms, historical utilization rates, as available, and our expectations regarding future utilization rates. We account for sales discounts by reducing accounts receivable by the expected discount and recognizing the discount as a reduction of revenue in the same period the related revenue is recognized.

Chargebacks and Government Rebates: For VIBATIV sales in the US, we estimate reductions to product sales for qualifying federal and state government programs including discounted pricing offered to Public Health Service ("PHS"), as well as government-managed Medicaid programs. Our reduction for PHS is based on actual chargebacks that distributors have claimed for reduced pricing offered to such healthcare providers and our expectation about future utilization rates. Our accrual for Medicaid is based upon statutorily-defined discounts, estimated payor mix, expected sales to qualified healthcare providers, and our expectation about future utilization. The Medicaid accrual and government rebates that are invoiced directly to us are recorded in other accrued liabilities on the condensed consolidated balance sheets. For qualified programs that can purchase our products through distributors at a lower contractual government price, the distributors charge back to us the difference between their acquisition cost and the lower contractual government price, which we record as an allowance against accounts receivable.

Distribution Fees: We have contracts with our distributors in the US that include terms for distribution-related fees. We determine distribution-related fees based on a percentage of the product sales price, and we record the distribution fees as an allowance against accounts receivable.

Product Returns: We offer our distributors a right to return product purchased directly from us, which is principally based upon the product's expiration date. Our policy is to accept product returns during the six months prior to and twelve months after the product expiration date on product that has been sold to our distributors. Product return allowances are based on amounts owed or to be claimed on related sales. These estimates take into consideration the terms of our agreements with customers, historical product returns of VIBATIV, rebates or discounts taken, estimated levels of inventory in the distribution

channel, the shelf life of the product, and specific known market events, such as competitive pricing and new product introductions. We record our product return reserves as accrued other liabilities.

Allowance for Doubtful Accounts: We record allowances for potentially doubtful accounts for estimated losses resulting from the inability of our customers to make required payments. As of June 30, 2018, there was no allowance for doubtful accounts related to customer payments.

The following table summarizes activity in each of the product revenue allowance and reserve categories for the six months ended June 30, 2018.

(In thousands)	Chargebacks, Discounts and Fees	Government and Other Rebates	Returns	Total
Balance at December 31, 2017	\$ 992	\$ 352	\$ 947	\$ 2,291
Provision related to current period sales	3,571	393	249	4,213
Adjustment related to prior period sales	(80)	85	(449)	(444)
Credit or payments made during the period	(3,184)	(453)	(80)	(3,717)
Balance at June 30, 2018	\$ 1,299	\$ 377	\$ 667	\$ 2,343

We adopted ASC 606 on January 1, 2018 using the modified retrospective method. Our prior periods remain reported under ASC 605. Our revenue recognition policy under ASC 605 for the comparative 2017 periods is included in our Annual Report on Form 10-K for the year ended December 31, 2017.

Collaborative Arrangements

We enter into collaborative arrangements with partners that fall under the scope of Accounting Standards Codification, Topic 808, *Collaborative Arrangements* ("ASC 808"). While these arrangements are in the scope of ASC 808, we may analogize to ASC 606 for some aspects of the arrangements. We analogize to ASC 606 for certain activities within the collaborative arrangement for the delivery of a good or service (i.e., a unit of account) that is part of our ongoing major or central operations.

The terms of our collaborative arrangements typically include one or more of the following: (i) up-front fees; (ii) milestone payments related to the achievement of development, regulatory, or commercial goals; (iii) royalties on net sales of licensed products; (iv) reimbursements or cost sharing of R&D expenses; and (v) profit/loss sharing arising from co-promotion arrangements. Each of these payments results in collaboration revenues or an offset against R&D expenses. Where a portion of non-refundable up-front fees or other payments received are allocated to continuing performance obligations under the terms of a collaborative arrangement, they are recorded as deferred revenue and recognized as collaboration revenue when (or as) the underlying performance obligation is satisfied.

As part of the accounting for these arrangements, we must develop estimates and assumptions that require judgment to determine the underlying stand-alone selling price for each performance obligation which determines how the transaction price is allocated among the performance obligations. The estimation of the stand-alone selling price may include such estimates as, forecasted revenues or costs, development timelines, discount rates, and probabilities of technical and regulatory success. We evaluate each performance obligation to determine if they can be satisfied at a point in time or over time, and we measure the services delivered to our collaboration partner which are periodically reviewed based on the progress of the related program. The effect of any change made to an estimated input component and, therefore revenue or expense recognized, would be recorded as a change in estimate. In addition, variable consideration (e.g., milestone payments) must be evaluated to determine if it is constrained and, therefore, excluded from the transaction price.

Up-front Fees: If a license to our intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, we recognize collaboration revenues from the transaction price allocated to the license when the license is transferred to the licensee and the licensee is able to use and benefit from the license. For licenses that are bundled with other promises, we utilize judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing collaboration revenue from the allocated transaction price. For example, when we receive up-front fees for the performance of research and development services, or when

research and development services are not considered to be distinct from a license, we recognize collaboration revenue for those units of account over time using a measure of progress. We evaluate the measure of progress each at reporting period and, if necessary, adjust the measure of performance and related revenue or expense recognition as a change in estimate.

Milestone Payments: At the inception of each arrangement that includes milestone payments (variable consideration), we evaluate whether the milestones are considered probable of being reached and estimate the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price. Milestone payments that are not within our or the collaboration partner's control, such as non-operational developmental and regulatory approvals, are generally not considered probable of being achieved until those approvals are received. At the end of each reporting period, we re-evaluate the probability of achievement of milestones that are within our or the collaboration partner's control, such as operational developmental milestones and any related constraint, and if necessary, adjust our estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which would affect collaboration revenues and earnings in the period of adjustment. Revisions to our estimate of the transaction price may also result in negative collaboration revenues and earnings in the period of adjustment.

Royalties: For arrangements that include sales-based royalties, including commercial milestone payments based on the level of sales, and the license is deemed to be the predominant item to which the royalties relate, we recognize revenue at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied). To date, we have not recognized any material royalty revenue resulting from any of our collaborative arrangements.

Reimbursement, cost-sharing and profit-sharing payments: Under certain collaborative arrangements, we have been reimbursed for a portion of our R&D expenses or participate in the cost sharing of such R&D expenses. Such reimbursements and cost sharing arrangements have been reflected as a reduction of R&D expense in our condensed consolidated statements of operations, as we do not consider performing research and development services for reimbursement to be a part of our ongoing major or central operations. Therefore, the reimbursement or cost sharing of research and development services are recorded as a reduction of R&D expense.

Under the terms of our collaboration agreement with Mylan Ireland Limited ("Mylan") for revefenacin, including YUPELRI™ inhalation solution, we are also entitled to a share of US profits and losses (65% Mylan/35% Theravance Biopharma) received in connection with commercialization of YUPELRI, and we are entitled to low double-digit royalties on ex-US net sales (excluding China). If and when YUPELRI is approved, we expect that Mylan will be the principal in the sales transaction and will record the product sales. For the periods presented, our share of the losses under a co-promote arrangement are recorded within R&D expense and selling, general and administrative expense on our condensed consolidated statements of operations. See "Note 3. Collaborative Arrangements" for additional information about our collaboration agreement with Mylan.

Income Taxes

On January 1, 2018, we adopted ASU 2016-16, *Income Taxes (Topic 740), Intra-Entity Transfers of Assets Other Than Inventory* ("ASU 2016-16") using the modified retrospective approach. ASU 2016-16 requires immediate recognition of income tax consequences of intra-company asset transfers, other than inventory transfers. Legacy GAAP prohibited recognition of income tax consequences of intra-company asset transfers whereby the seller defers any net tax effect and the buyer is prohibited from recognizing a deferred tax asset on the difference between the newly created tax basis of the asset in its tax jurisdiction and its financial statement carrying amount as reported in the consolidated financial statements. An example of an inter-company asset transfers included in ASU 2016-16's scope is intellectual property. The adoption of ASU 2016-16 did not have a material impact on our balance sheet or statement of operations as our deferred tax assets are fully offset by a valuation allowance.

Recently Issued Accounting Pronouncements Not Yet Adopted

In February 2016, the FASB issued ASU 2016-02, *Leases* ("ASU 2016-02"). ASU 2016-02 is aimed at making leasing activities more transparent and comparable, and requires substantially all leases be recognized by lessees on their balance sheet as a right-of-use asset and corresponding lease liability, including leases currently accounted for as operating

leases. ASU 2016-02 is effective for all interim and annual reporting periods beginning after December 15, 2018 with early adoption permitted. Based on our initial assessment of ASU 2016-02, we believe that the largest impact to our balance sheet will be from recognizing a right-of-use asset and corresponding lease liability related to our property leases in South San Francisco and Dublin, Ireland. We expect to adopt ASU 2016-02 in the first quarter of 2019, and we are continuing to evaluate the full impact that the adoption of ASU 2016-02 will have on our consolidated financial statements and related disclosures.

We have evaluated other recently issued accounting pronouncements and do not believe that any of these pronouncements will have a material impact on our consolidated financial statements and related disclosures.

2. Net Loss per Share

Basic net loss per share is computed by dividing net loss by the weighted-average number of shares of outstanding, less ordinary shares subject to forfeiture. Diluted net loss per share is computed by dividing net loss by the weighted-average number of shares outstanding, less ordinary shares subject to forfeiture, plus all additional ordinary shares that would have been outstanding, assuming dilutive potential ordinary shares had been issued for other dilutive securities.

For the three and six months ended June 30, 2018 and 2017, diluted and basic net loss per share was identical since potential ordinary shares were excluded from the calculation, as their effect was anti-dilutive.

Anti-dilutive Securities

The following ordinary equivalent shares were not included in the computation of diluted net loss per share because their effect was anti-dilutive:

(In thousands)	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Share issuances under equity incentive plans and ESPP	5,383	2,674	4,622	2,958
Restricted shares	4	26	4	26
Share issuances upon the conversion of convertible senior notes	6,676	6,676	6,676	6,676
Total	12,063	9,376	11,302	9,660

In addition, there were 978,750 and 1,305,000 shares that are subject to performance-based vesting criteria which have been excluded from the ordinary equivalent shares table above as of June 30, 2018 and 2017, respectively.

3. Collaborative Arrangements

Revenue from Collaborative Arrangements

We recognized revenues from our collaborative arrangements as follows:

(In thousands)	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Janssen	\$ 7,566	\$ —	\$ 12,179	\$ —
Alfasigma	10,533	—	10,533	—
Other	16	35	43	72
Total revenue from collaborative arrangements	\$ 18,115	\$ 35	\$ 22,755	\$ 72

The change from our legacy revenue policy, under ASC 605, had no material impact on our collaboration revenue for the three and six months ended June 30, 2018, which would have been \$18.1 million and \$22.8 million, respectively.

Changes in Deferred Revenue Balances

We recognized the following revenue from collaborative arrangements as a result of changes in our deferred revenue balance during the periods below:

<u>(In thousands)</u>	<u>Three Months Ended June 30, 2018</u>
Collaboration revenue recognized in the period from:	
Amounts included in deferred revenue at the beginning of the period	\$ 16
Performance obligations satisfied in previous period	—
	Six Months Ended June 30, 2018
<u>(In thousands)</u>	<u>2018</u>
Collaboration revenue recognized in the period from:	
Amounts included in deferred revenue at the beginning of the period	\$ 32
Performance obligations satisfied in previous period	—

Mylan*Development and Commercialization Agreement*

In January 2015, Mylan Ireland Limited (“Mylan”) and we established a strategic collaboration (the “Mylan Agreement”) for the development and, subject to regulatory approval, commercialization of revefenacin, our investigational LAMA in development under the proposed brand name YUPELRI™ inhalation solution as a nebulized, once-daily single-agent for the treatment of COPD. We entered into this collaboration to expand the breadth of our revefenacin development program and extend our commercial reach beyond the acute care setting where we currently market VIBATIV.

Under the Mylan Agreement, Mylan paid us an up-front fee of \$15.0 million for the delivery of the revefenacin license in 2015 and, in 2016, Mylan paid us a milestone payment \$15.0 million for the achievement of 50% enrollment in the Phase 3 twelve-month safety study. Separately, pursuant to an ordinary share purchase agreement entered into on January 30, 2015, Mylan Inc., a subsidiary of Mylan N.V., made a \$30.0 million equity investment in us, buying 1,585,790 ordinary shares from us in early February 2015 in a private placement transaction at a price of approximately \$18.918 per share, which represented a 10% premium, equal to \$4.2 million, over the volume weighted average price per share of our ordinary shares for the five trading days ending on January 30, 2015.

As of June 30, 2018, we are eligible to receive from Mylan additional potential development, regulatory and sales milestone payments totaling up to \$205.0 million in the aggregate, with \$160.0 million associated with YUPELRI, which is a monotherapy, and \$45.0 million for future potential combination products. Of the \$160.0 million associated with monotherapy, \$150.0 million relates to sales milestones based on achieving certain levels of net sales and \$10.0 million relates to regulatory actions in the European Union (“EU”).

The Mylan Agreement is considered to be within the scope of ASC 808, as the parties are active participants and exposed to the risks and rewards of the collaborative activity. Under the terms of the Mylan Agreement, Mylan is responsible for reimbursement of our costs related to the registrational program up until the approval of the first new drug application. Performing R&D services for reimbursement is considered to be a collaborative activity under the scope of ASC 808. Reimbursable program costs are recognized proportionately with the performance of the underlying services and accounted for as reductions to R&D expense. For this unit of account, we do not recognize revenue or analogize to ASC 606 and, as such, the reimbursable program costs are excluded from the transaction price.

We analogized to ASC 606 for the accounting for two performance obligations: (1) delivery of the license to develop and commercialize revefenacin; and (2) joint steering committee participation. We determined the license to be distinct from the joint steering committee participation. We further determined that the transaction price under the arrangement was comprised of the following: (1) \$15.0 million up-front license fee received in 2015; (2) \$4.2 million

premium related to the ordinary share purchase agreement received in 2015; and (3) \$15.0 million milestone for 50% enrollment in the Phase 3 twelve-month safety study received in 2016. The total transaction price of \$34.2 million was allocated to the two performance obligations based on our best estimate of the relative stand-alone selling price. For the delivery of the license, we based the stand-alone selling price on a discounted cash flow approach and considered several factors including, but not limited to: discount rate, development timeline, regulatory risks, estimated market demand and future revenue potential. For the committee participation, we based the stand-alone selling price on the average compensation of our committee members estimated to be incurred over the performance period. We expect to recognize collaboration revenue from the committee participation ratably over the performance period of approximately seventeen years.

The future potential milestone amounts were not included in the transaction price, as they were all determined to be fully constrained following the concepts of ASC 606. As part of our evaluation of the development and regulatory milestones constraint, we determined that the achievement of such milestones are contingent upon success in future clinical trials and regulatory approvals which are not within our control and uncertain at this stage. We expect that the sales-based milestone payments and royalty arrangements will be recognized when the sales occur or the milestone is achieved. We will re-evaluate the transaction price each quarter and as uncertain events are resolved or other changes in circumstances occur.

We are also entitled to a share of US profits and losses (65% Mylan/35% Theravance Biopharma) received in connection with commercialization of YUPELRI, and we are entitled to low double-digit royalties on ex-US net sales (excluding China). We expect that Mylan will be the principal in the sales transaction and will record the product sales. Under a co-promote arrangement with Mylan, we record our 35% share of expenses based on collaboration activities to prepare for a potential product launch. Until YUPELRI is approved and we have recognized a profit under the agreement, collaboration expenses are recognized within R&D expense and selling, general and administrative expense on our condensed consolidated statements of operations. Our 35% share of profits related to the commercialization of YUPELRI will be recognized as collaboration revenue. For the cost-sharing and profit-sharing activities, we do not analogize to ASC 606. We consider these activities to be collaborative activities under the scope of ASC 808, and we will recognize the shared profits and losses in the periods that such profits and losses occur, following the implementation guidance in ASC 808. For the three and six months ended June 30, 2018, we recognized \$1.3 million and \$1.7 million, respectively, in collaboration loss under the YUPELRI co-promote arrangement with Mylan.

As of June 30, 2018, \$0.3 million was recorded in deferred revenue on the condensed consolidated balance sheet under the Mylan Agreement. This amount reflects revenue allocated to joint steering committee participation and will be recognized as collaboration revenue over the course of the remaining performance period of approximately fourteen years. For the three and six months ended June 30, 2018, we recognized \$6,000 and \$12,000, respectively, in collaboration revenue from the recognition of previously deferred revenue under the Mylan collaborative arrangement.

Janssen Biotech

In February 2018, we entered into a global co-development and commercialization agreement with Janssen Biotech, Inc. (“Janssen”) for TD-1473 and related back-up compounds for inflammatory intestinal diseases, including ulcerative colitis and Crohn’s disease (the “Janssen Agreement”). Under the terms of the Janssen Agreement, we received an upfront payment of \$100.0 million. In 2018, we plan to initiate a large, Phase 2b/3 adaptive design induction and maintenance study in ulcerative colitis with TD-1473, as well as a Phase 2 study in Crohn’s disease. Following completion of the Phase 2 Crohn’s study and the Phase 2b induction portion of the ulcerative colitis study, Janssen can elect to obtain an exclusive license to develop and commercialize TD-1473 and certain related compounds by paying us a fee of \$200.0 million. Upon such election, we and Janssen will jointly develop and commercialize TD-1473 in inflammatory intestinal diseases and share profits in the US and expenses related to a potential Phase 3 program (67% to Janssen; 33% to Theravance Biopharma). We would receive royalties on ex-US sales at double-digit tiered percentage royalty rates, and we would be eligible to receive up to an additional \$700.0 million in development and commercialization milestone payments from Janssen.

The Janssen Agreement is considered to be within the scope of ASC 808, as the parties are active participants and exposed to the risks and rewards of the collaborative activity. We evaluated the terms of the Janssen Agreement and have analogized to ASC 606 for the research and development activities to be performed through the initial Phase 2 development period of the collaborative arrangement that are considered to be part of our ongoing major or central operations. Using the concepts of ASC 606, we have identified research and development activities as our only performance obligation. We further

determined that the transaction price under the arrangement was the \$100.0 million upfront payment which was allocated to the single performance obligation.

The \$900.0 million in future potential payments is considered variable consideration if Janssen elects to remain in the collaboration arrangement following completion of certain Phase 2 activities, as described above and, as such, was not included in the transaction price, as the potential payments were all determined to be fully constrained under ASC 606. As part of our evaluation of this variable consideration constraint, we determined that the potential payments are contingent upon developmental and regulatory milestones that are uncertain and are highly susceptible to factors outside of our control. We expect that any consideration related to royalties and sales-based milestones will be recognized when the subsequent sales occur.

For the three and six months ended June 30, 2018, we recognized \$7.6 million and \$12.2 million, respectively, as revenue from collaboration agreements related to the Janssen Agreement. The remaining transaction price of \$87.8 million was recorded in deferred revenue on the condensed consolidated balance sheet and is expected to be recognized as collaboration revenue as the research and development services are delivered over the Phase 2 period. Collaboration revenue is recognized for the research and development services based on a measure of our efforts toward satisfying a performance obligation relative to the total expected efforts or inputs to satisfy the performance obligation (e.g., costs incurred compared to total budget). In future reporting periods, we will reevaluate our estimates related to our efforts towards satisfying the performance obligation and may record a change in estimate if deemed necessary.

Alfasigma

Development and Collaboration Agreement

Under an October 2012 development and collaboration agreement for velusetrag, we and Alfasigma S.p.A (“Alfasigma”) agreed to collaborate in the execution of a two-part Phase 2 program to test the efficacy, safety and tolerability of velusetrag in the treatment of patients with gastroparesis (a medical condition consisting of a paresis (partial paralysis) of the stomach, resulting in food remaining in the stomach for a longer time than normal) (the “Alfasigma Agreement”). As part of the Alfasigma Agreement, Alfasigma funded the majority of the costs associated with the Phase 2 gastroparesis program, which consisted of a Phase 2 study focused on gastric emptying and a Phase 2 study focused on symptoms. Alfasigma had an exclusive option to develop and commercialize velusetrag in the EU, Russia, China, Mexico and certain other countries, while we retained full rights to velusetrag in the US, Canada, Japan and certain other countries.

In April 2018, Alfasigma exercised its exclusive option to develop and commercialize velusetrag, and we elected not to pursue further development of velusetrag. As a result, we will transfer global rights for velusetrag to Alfasigma under the terms of the existing collaboration agreement. We received a \$10.0 million option exercise fee from Alfasigma, and we are eligible to receive future potential development, regulatory and sales milestone payments of up to \$26.8 million, and tiered royalties on global net sales ranging from high single digits to the mid-teens.

The Alfasigma Agreement is considered to be within the scope of ASC 808, as the parties are active participants and exposed to the risks and rewards of the collaborative activity. We have historically received reimbursements related to R&D services performed under the Alfasigma Agreement. Performing R&D services for reimbursement is considered to be a collaborative activity under the scope of ASC 808. Reimbursable program costs are accounted for as reductions to R&D expense. For this unit of account, we do not recognize revenue or analogize to ASC 606 and, as such, the reimbursable program costs are excluded from the transaction price.

In April 2018, Alfasigma exercised its exclusive option to develop and commercialize velusetrag and paid us a total of \$11.0 million, comprised of the \$10.0 option exercise fee and a \$1.0 million non-refundable reimbursement. We analogized to ASC 606 for the delivery of the following identified performance obligations: (i) delivery of the velusetrag license; (ii) transfer of technical know-how; (iii) delivery of clinical study reports (“CSRs”); (iv) delivery of registration batches, including drug substances; and (v) joint steering committee participation. We determined that all of the five performance obligations were distinct, and we allocated the transaction price based on the estimated stand-alone selling prices of each of the performance obligations. The stand-alone selling price of the license was based on a discounted cash flow approach and considered several factors including, but not limited to: discount rate, development timeline, regulatory risks, estimated market demand and future revenue potential.

We determined that as any potential development or regulatory milestones were determined to be fully constrained as prescribed under ASC 606. As part of our evaluation of this variable consideration constraint, we determined that the potential payments are contingent upon development and regulatory milestones that are uncertain and are highly susceptible to factors outside of our control. In addition, we expect that any consideration related to sales-based milestones would be recognized when the subsequent sales occur.

For the three and six months ended June 30, 2018, we recognized \$10.5 million as revenue from collaboration agreements related to the Alfasigma collaborative arrangement. The remaining transaction price of \$0.5 million was recorded in deferred revenue on the condensed consolidated balance sheet and is expected to be recognized as collaboration revenue over approximately the next four years.

Reimbursement of R&D Expense

Under certain collaborative arrangements, we are entitled to reimbursement of certain R&D expense. Activities under collaborative arrangements for which we are entitled to reimbursement are considered to be collaborative activities under the scope of ASC 808. For these units of account, we do not analogize to ASC 606 or recognize revenue. We record reimbursement payments received from our collaboration partners as reductions to R&D expense.

The following table summarizes the reductions to R&D expenses related to the reimbursement payments:

(In thousands)	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Mylan	\$ 1,395	\$ 4,768	\$ 3,245	\$ 11,857
Other	—	4	—	41
Total reduction to R&D expense	\$ 1,395	\$ 4,772	\$ 3,245	\$ 11,898

4. Cash, Cash Equivalents, and Restricted Cash

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the condensed consolidated balance sheets that sum to the total of the same such amount shown on the condensed consolidated statements of cash flows.

(In thousands)	June 30,	
	2018	2017
Cash and cash equivalents	\$ 103,854	\$ 139,626
Restricted cash	833	833
Total cash, cash equivalents, and restricted cash shown on the condensed consolidated statements of cash flows	\$ 104,687	\$ 140,459

Restricted cash pertained to certain lease agreements and letters of credit where we have pledged cash and cash equivalents as collateral. The cash-related amounts reported in the table above exclude our investments in short and long-term marketable securities that are reported separately on the condensed consolidated balance sheets.

5. Investments and Fair Value Measurements

Available-for-Sale Securities

The estimated fair value of marketable securities is based on quoted market prices for these or similar investments that were based on prices obtained from a commercial pricing service. The fair value of our marketable securities classified within Level 2 is based upon observable inputs that may include benchmark yields, reported trades, broker/dealer quotes, issuer spreads, two-sided markets, benchmark securities, bids, offers and reference data including market research publications.

Available-for-sale securities are summarized below:

		June 30, 2018			
(In thousands)		Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
US government securities	Level 1	\$ 78,912	\$ —	\$ (263)	\$ 78,649
US government agency securities	Level 2	22,614	—	(35)	22,579
Corporate notes	Level 2	99,684	4	(232)	99,456
Commercial paper	Level 2	89,584	—	—	89,584
Marketable securities		290,794	4	(530)	290,268
Money market funds	Level 1	64,783	—	—	64,783
Total		\$ 355,577	\$ 4	\$ (530)	\$ 355,051

		December 31, 2017			
(In thousands)		Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
US government securities	Level 1	\$ 89,896	\$ —	\$ (342)	\$ 89,554
US government agency securities	Level 2	50,891	—	(113)	50,778
Corporate notes	Level 2	141,226	2	(280)	140,948
Commercial paper	Level 2	19,893	—	—	19,893
Marketable securities		301,906	2	(735)	301,173
Money market funds	Level 1	69,055	—	—	69,055
Total		\$ 370,961	\$ 2	\$ (735)	\$ 370,228

As of June 30, 2018, all of the marketable securities had contractual maturities within two years and the weighted average maturity of the marketable securities was approximately five months. There were no transfers between Level 1 and Level 2 during the periods presented and there have been no changes to our valuation techniques during the three and six months ended June 30, 2018.

In general, we invest in debt securities with the intent to hold such securities until maturity at par value. We do not intend to sell the investments that are currently in an unrealized loss position, and it is unlikely that we will be required to sell the investments before recovery of their amortized cost basis, which may be maturity. We have determined that the gross unrealized losses on our marketable securities, as of June 30, 2018, were temporary in nature and primarily due to increases in short-term borrowing rates in the capital markets. There were no material unrealized losses on investments which have been in a loss position for more than twelve months as of June 30, 2018.

As of June 30, 2018, our accumulated other comprehensive loss on our condensed consolidated balance sheets consisted of net unrealized losses on available-for-sale investments. During the three and six months ended June 30, 2018, we did not sell any of our marketable securities.

Long-term Debt Fair Value

We have \$230.0 million of 3.250% convertible senior notes (“Notes”) outstanding as of June 30, 2018 with an estimated fair value of \$225.8 million. The estimated fair value was primarily based upon the underlying price of Theravance Biopharma’s publicly traded shares and other observable inputs as of June 30, 2018. The inputs to determine fair value of the Notes are categorized as Level 2 inputs. Level 2 inputs include quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations whose inputs are observable or whose significant value drivers are observable.

6. Theravance Respiratory Company, LLC

Prior to the spin-off from Innoviva (the “Spin-Off”), our former parent company, Innoviva, assigned to Theravance Respiratory Company, LLC (“TRC”), a Delaware limited liability company formed by Innoviva, its strategic alliance agreement with GSK and all of its rights and obligations under its collaboration agreement with GSK other than with respect to RELVAR® ELLIPTA®/BREQ® ELLIPTA®, ANORO® ELLIPTA® and vilanterol monotherapy. Through our 85% equity

interests in TRC, we are entitled to receive an 85% economic interest in any future payments made by GSK under the strategic alliance agreement and under the portion of the collaboration agreement assigned to TRC. The drug programs assigned to TRC include Trelegy Ellipta and the MABA program, as monotherapy and in combination with other therapeutically active components, such as an inhaled corticosteroid (“ICS”), and any other product or combination of products that may be discovered and developed in the future under the GSK agreements.

On May 31, 2014, we entered into the TRC LLC Agreement with Innoviva that governs the operation of TRC. Under the TRC LLC Agreement, Innoviva is the manager of TRC, and the business and affairs of TRC are managed exclusively by the manager, including (i) day to day management of the drug programs in accordance with the existing GSK agreements, (ii) preparing an annual operating plan for TRC and (iii) taking all actions necessary to ensure that the formation, structure and operation of TRC complies with applicable law and partner agreements. We are responsible for our proportionate share of TRC’s administrative expenses incurred by Innoviva.

We analyzed our ownership, contractual and other interests in TRC to determine if it is a variable-interest entity (“VIE”), whether we have a variable interest in TRC and the nature and extent of that interest. We determined that TRC is a VIE. The party with the controlling financial interest, the primary beneficiary, is required to consolidate the entity determined to be a VIE. Therefore, we also assessed whether we are the primary beneficiary of TRC based on the power to direct its activities that most significantly impact its economic performance and our obligation to absorb its losses or the right to receive benefits from it that could potentially be significant to TRC. Based on our assessment, we determined that we are not the primary beneficiary of TRC, and, as a result, we do not consolidate TRC in our consolidated financial statements. TRC is recognized in our consolidated financial statements under the equity method of accounting, and the value of our equity investment in TRC was not material for the periods presented.

For the three and six months ended June 30, 2018, we recognized \$1.9 million and \$2.6 million, respectively, in income from our investment in TRC which was generated by royalty payments from GSK to TRC arising from the net sales of Trelegy Ellipta. There was no income from TRC in the comparable prior year period.

7. Inventories

Inventory consists of the following:

<u>(In thousands)</u>	<u>June 30, 2018</u>	<u>December 31, 2017</u>
Raw materials	\$ 10,579	\$ 11,729
Work-in-process	3,349	66
Finished goods	3,978	5,035
Total inventories	<u>\$ 17,906</u>	<u>\$ 16,830</u>

We assess our inventory levels each reporting period in consideration of the risk of product expiration. In evaluating the sufficiency of our inventory reserves or liabilities for firm purchase commitments, we also take into consideration our firm purchase commitments for future inventory production. In the fourth quarter of 2017, we accrued a \$2.3 million liability related to excess inventory purchase commitments based on our expected purchase obligations at the time. For the three months ended June 30, 2018, we reversed the expense related to the \$2.3 million purchase commitment liability due to the waiver of our minimum purchase commitment by our third-party manufacturer, and the \$2.3 million adjustment is included within costs of goods sold on the condensed consolidated statements of operations.

8. Share-Based Compensation

Share-Based Compensation Expense Allocation

The allocation of share-based compensation expense included in the condensed consolidated statements of operations was as follows:

(In thousands)	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Research and development	\$ 6,904	\$ 4,917	\$ 13,463	\$ 10,018
Selling, general and administrative	6,951	5,481	14,390	10,649
Total share-based compensation expense	\$ 13,855	\$ 10,398	\$ 27,853	\$ 20,667

Performance-Contingent Awards

In the first quarter of 2016, the Compensation Committee of our Board of Directors (“Compensation Committee”) approved the grant of 1,575,000 performance-contingent restricted share awards (“RSAs”) and 135,000 performance-contingent restricted share units (“RSUs”) to senior management. The vesting of such awards is dependent on the Company meeting its critical operating goals and objectives during a five-year period from 2016 to December 31, 2020. The goals that must be met in order for the performance-contingent RSAs and RSUs to vest are strategically important for the Company, and the Compensation Committee believes the goals, if achieved, will increase shareholder value. The awards have dual triggers of vesting based upon the achievement of these goals and continued employment. As of June 30, 2018, there were 978,750 performance-contingent RSAs and 101,250 performance-contingent RSUs outstanding. As of June 30, 2017, there were 1,305,000 performance-contingent RSAs and 135,000 performance-contingent RSUs outstanding.

Expense associated with these awards is broken into three separate tranches and may be recognized during the years 2016 to 2020 depending on the probability of meeting the performance conditions. Compensation expense relating to awards subject to performance conditions is recognized if it is considered probable that the performance goals will be achieved. The probability of achievement is reassessed at each quarter-end reporting period.

As of June 30, 2018, the performance conditions associated with the first tranche of these awards were completed, and, as a result, we recognized \$0.6 million and \$1.8 million of share-based compensation expense for the three and six months ended June 30, 2018, respectively, associated with these awards. For the three and six month ended June 30, 2017, we recognized \$0.5 million and \$0.9 million, respectively, of share-based compensation expense related to the first tranche of these awards.

For the three and six months ended June 30, 2018, we recognized \$0.9 million and \$1.7 million, respectively, of share-based compensation expense related to our assessment of the probability that the performance conditions associated with the second tranche of these awards was considered to be probable of vesting. As of June 30, 2017, the second tranche was not considered probable of vesting, and as of June 30, 2018 and 2017, we determined that the remaining third tranche was not probable of vesting and, as a result, no compensation expense related to the third tranche has been recognized to date.

The maximum potential expense associated with the remaining second and third tranches could be up to \$21.4 million (allocated as \$8.0 million for research and development expense and \$13.4 million for selling, general and administrative expense) if the performance conditions for the second and third tranches are achieved.

In the third quarter of 2017, the Compensation Committee approved the grant of 50,000 performance contingent RSUs to a newly appointed member of senior management. The RSUs have dual triggers of vesting based upon the achievement of certain corporate operating milestones in specified timelines, as well as a requirement for continued employment. Share-based compensation expense related to this grant is broken into two separate tranches and recognized when the associated performance goals are deemed to be probable of achievement. The maximum expense associated with the first tranche is \$0.8 million. In 2017, we recognized \$0.4 million in share-based compensation expense as we determined that the performance conditions associated with the first tranche was probable of vesting, and during the three months ended March 31, 2018, we recognized the remaining \$0.4 million of share-based compensation expense as the performance conditions associated with the first tranche of this award were met. We have determined that the second tranche was not probable of vesting as of June 30, 2018 and, as a result, no compensation expense related to the second tranche has been recognized to date.

9. Income Taxes

The income tax provision was a \$6.8 million benefit and \$6.6 million benefit for the three and six months ended June 30, 2018, respectively. The benefit recorded in the income tax provision was primarily due to recording contingent tax liabilities pertaining primarily to uncertain tax positions taken with respect to transfer pricing and tax credits, offset by a tax benefit arising from an updated estimate of a tax filing position to be reported in our tax returns filed in 2018. No provision for income taxes has been recognized on undistributed earnings of our foreign subsidiaries because we consider such earnings to be indefinitely reinvested.

We follow the accounting guidance related to accounting for income taxes which requires that a company reduce its deferred tax assets by a valuation allowance if, based on the weight of available evidence, it is more likely than not that some portion or all of its deferred tax assets will not be realized. As of June 30, 2018, our deferred tax assets were offset in full by a valuation allowance.

We record liabilities related to uncertain tax positions in accordance with the income tax guidance which clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements by prescribing a minimum recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. Resolution of one or more of these uncertain tax positions in any period may have a material impact on the results of operations for that period. We include any applicable interest and penalties within the provision for income taxes in the condensed consolidated statements of operations.

The difference between the Irish statutory rate and our effective tax rate was primarily due to the valuation allowance on deferred tax assets and the liabilities recorded for the uncertain tax position related to transfer pricing and tax credits.

Our future income tax expense may be affected by such factors as changes in tax laws, our business, regulations, tax rates, interpretation of existing laws or regulations, the impact of accounting for share-based compensation, the impact of accounting for business combinations, our international organization, shifts in the amount of income before tax earned in the US as compared with other regions in the world, and changes in overall levels of income before tax.

US Tax Reform

On December 22, 2017, the US government enacted the Tax Cuts and Jobs Acts (the "Tax Act"). The Tax Act significantly revises the US corporate income tax laws by, amongst other things, reducing the corporate income tax rate from 35% to 21% and implementing a modified territorial tax system that includes a one-time repatriation tax on accumulated undistributed foreign earnings.

Based on provisions of the Tax Act, we remeasured the deferred tax assets and liabilities based on the rates at which they are expected to reverse in the future, which is generally 21%. The estimated amount of the remeasurement of our federal deferred tax balance was \$12.4 million. However, as we recognize a valuation allowance on deferred tax assets, if it is more likely than not that the assets will not be realized in future years, there is no impact to effective tax rate, as any change to deferred taxes would be offset by valuation allowances.

The changes included in the Tax Act are broad and complex. The final transition impact of the Tax Act may differ from the above estimate, possibly materially, due to, among other things, changes in interpretations of the Tax Act, any legislative action to address questions that arise because of the Tax Act, any changes in accounting standards for income taxes or related interpretations in response to the Tax Act, or any updates or changes to estimates the Company has utilized to calculate the transition impact, including impact from changes to current year earnings estimates and foreign exchange rates of foreign subsidiaries. For example, one area where we are waiting on further guidance before finalizing our conclusion as to the impact of the Tax Act on our deferred tax assets and liabilities is the transition rules with respect to the tax deductibility of executive compensation. The Securities Exchange Commission has issued rules that would allow for a measurement period of up to one year after the enactment date of the Tax Act to finalize the recording of the related tax impacts. For the three and six months ended June 30, 2018, we did not adjust or include any previously assessed Tax Act effect in our quarterly tax provision. We currently anticipate finalizing and recording any resulting adjustments by December 22, 2018.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Forward-Looking Statements

You should read the following discussion in conjunction with our condensed financial statements (unaudited) and related notes included elsewhere in this report. This report includes "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933 (the "Securities Act"), as amended, and Section 21E of the Securities Exchange Act of 1934 (the "Exchange Act"), as amended, that involve risks and uncertainties. All statements in this report, other than statements of historical facts, including statements regarding our strategy, future operations, future financial position, future revenues, projected costs, prospects, plans, intentions, expectations and objectives are forward-looking statements. The words "anticipate," "assume," "believe," "contemplate," "continue," "could," "designed," "developed," "drive," "estimate," "expect," "forecast," "goal," "intend," "may," "mission," "opportunities," "plan," "potential," "predict," "project," "pursue," "seek," "should," "target," "will," "would," and similar expressions (including the negatives thereof) are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. These statements reflect our current views with respect to future events or our future financial performance, are based on assumptions, and involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. We may not actually achieve the plans, intentions, expectations or objectives disclosed in our forward-looking statements and the assumptions underlying our forward-looking statements may prove incorrect. Therefore, you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions, expectations and objectives disclosed in the forward-looking statements that we make. Factors that we believe could cause actual results or events to differ materially from our forward-looking statements include, but are not limited to, those discussed in "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and elsewhere in this report and in our Annual Report on Form 10-K for the year ended December 31, 2017. Our forward-looking statements in this report are based on current expectations and we do not assume any obligation to update any forward-looking statements for any reason, even if new information becomes available in the future.

Management Overview

Theravance Biopharma, Inc. ("Theravance Biopharma") is a diversified biopharmaceutical company with the core purpose of creating medicines that help improve the lives of patients suffering from serious illness.

In our relentless pursuit of this objective, we strive to apply insight and innovation at each stage of our business, including research, development and commercialization, and utilize both internal capabilities and those of partners around the world. Our research efforts are focused in the areas of inflammation and immunology. Our research goal is to design localized medicines that target diseased tissues, without systemic exposure, in order to maximize patient benefit and minimize risk. These efforts leverage years of experience in developing localized medicines for the lungs to treat respiratory disease. The first potential medicine to emerge from our research focus on immunology and localized treatments is an oral, intestinally restricted pan-Janus kinase (JAK) inhibitor, currently in development to treat a range of inflammatory intestinal diseases. Our pipeline of internally discovered product candidates will continue to evolve with the goal of creating transformational medicines to address the significant needs of patients.

In addition, we have an economic interest in future payments that may be made by Glaxo Group or one of its affiliates ("GSK") pursuant to its agreements with Innoviva, Inc. relating to certain programs, including Trelegy Ellipta.

Program Highlights

Intestinally Restricted Pan-Janus Kinase (JAK) Inhibitor Program (TD-1473)

JAK inhibitors function by inhibiting the activity of one or more of the Janus kinase family of enzymes (JAK1, JAK2, JAK3, TYK2) that play a key role in cytokine signaling. Inhibiting these JAK enzymes interferes with the JAK/STAT signaling pathway and, in turn, modulates the activity of a wide range of pro-inflammatory cytokines. JAK inhibitors are currently approved for the treatment of rheumatoid arthritis, myelofibrosis, and ulcerative colitis and have demonstrated therapeutic benefit for patients with Crohn's disease. However, these products are known to have side effects based on their systemic exposure. Our goal is to develop an orally administered, intestinally restricted pan-JAK inhibitor specifically

designed to distribute adequately and predominantly to the tissues of the intestinal tract, treating inflammation in those tissues while minimizing systemic exposure. We are focused on utilizing targeted JAK inhibitors for potential treatment of a range of inflammatory intestinal diseases, including ulcerative colitis and Crohn's disease. TD-1473 is our lead intestinally restricted pan-JAK inhibitor that is progressing into multiple clinical studies in 2018, as further described below. TD-3504 is a back-up compound that has successfully completed Phase 1 studies in healthy volunteers. Development of TD-3504 has been paused, consistent with the strategy we generally apply to back-up compounds and due to our significant investments in TD-1473.

Phase 1 Single Ascending Dose (SAD) and Multiple Ascending Dose (MAD) Studies

In June 2016, we completed a Phase 1 clinical study of TD-1473, an internally-discovered JAK inhibitor that has demonstrated a high affinity for each of the JAK family of enzymes. The primary objective of the study was to evaluate the safety and tolerability of single ascending and multiple ascending doses of TD-1473 in healthy volunteers. A key secondary objective of the trial was to characterize the pharmacokinetics of TD-1473, including the determination of the amount of TD-1473 that entered systemic circulation following oral administration. Data from the study demonstrated TD-1473 to be generally well tolerated. Study results also demonstrated that systemic exposures of TD-1473 were low relative to that reported for tofacitinib, a JAK inhibitor currently in development for ulcerative colitis. At steady state, the plasma exposures of TD-1473 were significantly lower than the plasma exposure of tofacitinib.

Furthermore, subjects exhibited high stool concentrations of TD-1473, which were comparable to concentrations associated with efficacy in preclinical colitis models. Preclinical studies also demonstrated penetration of TD-1473 into the intestinal wall and membrane. The data generated from the study met our target pharmacokinetic profile and support clinical progression of the compound.

Previously announced findings from a preclinical model of colitis evaluating TD-1473 and tofacitinib demonstrated that both compounds significantly reduced disease activity scores. However, at doses providing similar preclinical efficacy, the systemic exposure of TD-1473 was much lower than that of tofacitinib and, in contrast to tofacitinib, TD-1473 did not reduce systemic immune cell counts. Also, we completed six and nine month toxicology studies of TD-1473 and demonstrated favorable safety margins in these studies, in support of the dose ranges planned in the Phase 3 registrational program. Based on these preclinical findings, we believe that TD-1473 represents a potential breakthrough approach to treating inflammatory intestinal diseases without the risk generally associated with systemically active therapies.

Phase 1b Study

In late 2016, we announced dosing of the first patient in a Phase 1b clinical study of TD-1473 in patients with moderate to severe ulcerative colitis. The Phase 1b exploratory study in 40 patients was designed to evaluate the safety, tolerability, and pharmacokinetics (PK) of TD-1473 over a 28-day treatment period. In addition, the study incorporated biomarker analysis and clinical, endoscopic, and histologic assessments to evaluate biological effect.

In August 2017, we announced encouraging data from the first cohort of patients in the Phase 1b study. Data from the first cohort demonstrated evidence of localized biological activity for TD-1473 after four weeks of treatment, based on a compilation of clinical, endoscopic, and biomarker assessments. Pharmacokinetic data demonstrated minimal systemic exposure, and there was no evidence of systemic immunosuppression.

In early August 2018, we announced the completion of the Phase 1b study of TD-1473 in ulcerative colitis. Results from the full dataset demonstrated that rates of clinical response were higher on all active doses (20, 80, 270 mg) compared with placebo using both partial and total Mayo endpoints, with greatest effect seen at the 270 mg dose. Rectal bleeding scores improved above placebo at the 80 and 270 mg doses. Endoscopic improvements and mucosal healing were reported in all active arms, and none were reported in the placebo arm. Additionally, plasma levels were low and consistent with data from healthy volunteers. TD-1473 was generally well tolerated at all doses. Full results from the Phase 1b study will be presented at a future medical meeting.

Following positive results from the Phase 1b study and recently completed dialogues with the US Food and Drug Administration ("FDA") and European Medicines Agency ("EMA") regarding study design, we plan to initiate a Phase 2b/3

induction and maintenance study in ulcerative colitis in the fourth quarter of 2018. In addition, we plan to initiate a Phase 2 induction study in Crohn's disease in the third quarter of 2018.

Janssen Biotech Collaboration

In February 2018, we announced a global co-development and commercialization agreement with Janssen Biotech, Inc. ("Janssen") for TD-1473 and related back-up compounds for inflammatory intestinal diseases, including ulcerative colitis and Crohn's disease. Under the terms of the agreement, we received an upfront payment of \$100.0 million and will be eligible to receive up to an additional \$900.0 million in potential payments, if Janssen elects to remain in the collaboration following the completion of certain Phase 2 activities. Upon such election, we and Janssen will jointly develop and commercialize TD-1473 in inflammatory intestinal diseases, and we and Janssen will share profits and losses in the US and expenses related to a potential Phase 3 program (67% to Janssen; 33% to us). In addition, we would receive royalties on ex-US sales at double-digit tiered percentage royalty rates.

Following completion of the Phase 2 Crohn's study and the Phase 2b induction portion of the ulcerative colitis study, Janssen can elect to obtain an exclusive license to develop and commercialize TD-1473 and certain related compounds by paying us a fee of \$200.0 million. The closing of this portion of the transaction is subject to clearance under the Hart-Scott-Rodino Antitrust Improvements Act ("HSR Act"). After Phase 2, Janssen would lead subsequent development of TD-1473 in Crohn's disease if it makes such election. We will lead development of TD-1473 in ulcerative colitis through completion of the Phase 2b/3 program. If TD-1473 is commercialized, we have the option to co-commercialize in the US, and Janssen would have sole commercialization responsibilities outside the US.

TD-9855

TD-9855 is an investigational, once-daily norepinephrine and serotonin reuptake inhibitor ("NSRI") being developed for the treatment of patients with symptomatic neurogenic orthostatic hypotension ("nOH"). The compound has high affinity for binding to norepinephrine and serotonin transporters. By blocking the action of these transporters, TD-9855 causes an increase in extracellular concentrations of norepinephrine and serotonin.

In May 2016, we initiated a Phase 2 study of TD-9855 in nOH. The initial study design of the Phase 2 trial consisted of two parts. Part A, a single ascending dose study, with doses ranging from 1 mg up to 20 mg based on patient response, was designed to evaluate impact on blood pressure and standing time for TD-9855 as compared to placebo. Part B, a double-blind, single dose study was designed to evaluate impact on blood pressure and standing time for TD-9855 as compared to placebo. Based on encouraging treatment responses in the first part of the study, we amended the study design to allow responders to continue dosing for up to 20 weeks to assess the durability of their response (Part C). Part C, an open label extension to Part A, was designed to evaluate improvement in patients' symptoms and impact on blood pressure. Responders in Part A were eligible to enroll in Part C at up to their highest tolerated Part A dose, which included 5 mg, 10 mg and 20 mg. The primary endpoint of the study was measured after four weeks, although patients can continue to receive medication for up to five months. We believe the ability to demonstrate a durable effect in nOH with TD-9855 could lead to significant benefits for patients over existing therapy.

In early August 2018, we announced positive top-line four week data from the Phase 2 trial of TD-9855 for the treatment of nOH. Top-line results from the study included durable improvements in patients' disease symptom severity after four weeks of treatment with TD-9855, as measured by Orthostatic Hypotension Symptom Assessment Question #1 ("OHSA #1"). OHSA #1 is a measure of dizziness, lightheadedness, or the sensation of being about to black out. Patients treated in the extension phase of the study showed a mean symptom improvement of 2.4 points at four weeks. Importantly, mean symptom improvement was greatest (3.8 points) in nOH patients who reported dizziness symptoms (OHSA #1 > 4) at baseline. Additionally, TD-9855 consistently increased systolic blood pressure ("SBP"), including clinically meaningful increases in standing SBP at the three-minute assessment on all weekly clinic visits. TD-9855 was generally well tolerated, with no new safety findings attributable to drug observed in the study. Based on positive top-line four-week results from the Phase 2 study and recently completed discussions with the FDA regarding the Phase 3 clinical design, we plan to progress TD-9855 into a registrational Phase 3 program in nOH in late 2018 or early 2019.

YUPELRI™ (revefenacin) Inhalation Solution

Revefenacin is an investigational long-acting muscarinic antagonist (“LAMA”) under regulatory review as a nebulized, once-daily single-agent for the treatment of COPD under the proposed brand name YUPELRI™ inhalation solution, with an FDA PDUFA target action date in November of 2018. We believe that YUPELRI may become a valuable addition to the COPD treatment regimen and that it represents a significant commercial opportunity. Our market research indicates there is an enduring population of COPD patients in the US that either need or prefer nebulized delivery for maintenance therapy. LAMAs are a cornerstone of maintenance therapy for COPD, but existing LAMAs are only available in handheld devices that may not be suitable for every patient. YUPELRI has the potential to be a best-in-class once-daily single-agent product for COPD patients who require, or prefer, nebulized therapy. The therapeutic profile of revefenacin, together with its physical characteristics, suggest that this LAMA could also serve as a foundation for combination products and for delivery in metered dose inhaler and dry powder inhaler (“MDI/DPI”) products.

Mylan Collaboration

In January 2015, Mylan Ireland Limited (“Mylan”) and we established a strategic collaboration for the development and, subject to regulatory approval, commercialization of revefenacin. Partnering with a world leader in nebulized respiratory therapies enables us to expand the breadth of our revefenacin development program and extend our commercial reach beyond the acute care setting where we currently market VIBATIV. Mylan funded the Phase 3 development program of YUPELRI, enabling us to advance other high value pipeline assets alongside YUPELRI.

Under the terms of the Mylan Development and Commercialization Agreement (the “Mylan Agreement”), Mylan and we are co-developing YUPELRI for COPD and other respiratory diseases. We are leading the US Phase 3 development program, and Mylan is responsible for reimbursement of our costs related to the registrational program up until the approval of the first new drug application (“NDA”), after which costs will be shared. If a product developed under the collaboration is approved in the US, Mylan will lead commercialization, and we retain the right to co-promote the product in the US under a profit and loss sharing arrangement (65% Mylan/35% Theravance Biopharma). Currently, we plan to co-promote YUPELRI with Mylan in the US, and we are working diligently, together with Mylan, to prepare for the anticipated launch. Outside the US (excluding China), Mylan will be responsible for development and commercialization and will pay us a tiered royalty on net sales at percentage royalty rates ranging from low double-digits to mid-teens.

Under the Mylan Agreement, Mylan paid us an initial payment of \$15.0 million in cash in the second quarter of 2015. Also, pursuant to an ordinary share purchase agreement entered into on January 30, 2015, Mylan Inc., the indirect parent corporation of Mylan, made a \$30.0 million equity investment in us, buying 1,585,790 ordinary shares from us in early February 2015 in a private placement transaction at a price of approximately \$18.918 per share, which represented a 10% premium over the volume weighted average price per share of our ordinary shares for the five trading days ending on January 30, 2015. In February 2016, we earned a \$15.0 million development milestone payment for achieving 50% enrollment in the Phase 3 twelve-month safety study. As of June 30, 2018, we are eligible to receive from Mylan additional potential development, regulatory and sales milestone payments totaling up to \$205.0 million in the aggregate, with \$160.0 million associated with YUPELRI, which is a monotherapy, and \$45.0 million for future potential combination products. Of the \$160.0 million associated with monotherapy, \$150.0 million relates to sales milestones based on achieving certain levels of net sales and \$10.0 million relates to regulatory actions in the European Union (“EU”). We do not expect to earn any milestone payments from Mylan in 2018.

We retain worldwide rights to revefenacin delivered through other dosage forms, such as a MDI/DPI, while Mylan has certain rights of first negotiation with respect to our development and commercialization of revefenacin delivered other than via a nebulized inhalation product. In China, we retain all rights to revefenacin in any dosage form.

Phase 3 Study in COPD and NDA Submission

In September 2015, we announced, with our partner Mylan, the initiation of the Phase 3 development program for YUPELRI for the treatment of COPD. The Phase 3 development program included two replicate three-month efficacy studies and a single twelve-month safety study. The two efficacy studies examined two doses (88 mcg and 175 mcg) of YUPELRI inhalation solution administered once-daily via nebulizer in patients with moderate to severe COPD. The Phase 3 efficacy studies were replicate, randomized, double-blind, placebo-controlled, parallel-group trials designed to provide pivotal efficacy and safety data for once-daily YUPELRI over a dosing period of 12 weeks, with a primary endpoint of trough forced

expiratory volume in one second (FEV₁) on day 85. The Phase 3 safety study was an open-label, active comparator study of 12 months duration.

In October 2016, we announced positive top-line results from the two replicate Phase 3 efficacy studies of YUPELRI in more than 1,200 moderate to very severe COPD patients, and in May and November 2017 we reported additional data from these studies. Both Phase 3 efficacy studies met their primary endpoints, demonstrating statistically significant improvements over placebo in trough FEV₁ after 12 weeks of dosing for each of the YUPELRI doses studied (88 mcg once daily and 175 mcg once daily). The studies also demonstrated that the 88 mcg and 175 mcg doses of YUPELRI were generally well-tolerated, with comparable rates of adverse events and serious adverse events across all treatment groups (active and placebo). In July 2017, we announced positive top-line results from the twelve-month safety study in more than 1,000 COPD patients. Data demonstrated that both the 88 mcg and 175 mcg doses of YUPELRI were generally well-tolerated, with low rates of adverse events (AEs) and serious adverse events (SAEs), comparable to those seen with the active comparator. Together, the three studies enrolled approximately 2,280 patients.

In November 2017, we submitted to the FDA for filing a NDA for YUPELRI supported by data from the two replicate Phase 3 efficacy studies and twelve-month safety study. In January 2018, the FDA accepted the NDA for filing and assigned a PDUFA target action date of November 13, 2018.

Phase 3b PIFR Study

In March 2017, we initiated a Phase 3b study of YUPELRI in patients with suboptimal peak inspiratory flow rate (“PIFR”). This study is not required for NDA approval and was designed to support commercialization, if YUPELRI is approved. The purpose of the study was to assess whether nebulized YUPELRI was superior to handheld tiotropium (dosed via the Handihaler® device) in a broad population of COPD patients with suboptimal PIFR. The primary endpoint was improvement in lung function, as measured by trough forced expiratory volume in one second (FEV₁) after 4 weeks of treatment.

The PIFR study was completed in the first quarter of 2018. In the overall population of approximately 200 moderate to very severe (GOLD Stage 2/3/4) COPD patients, we saw numerical improvements for YUPELRI over tiotropium, but these improvements were not statistically significant, and as a result the study failed to meet the predefined threshold for superiority. In the pre-specified subgroup of severe and very severe (GOLD 3/4) COPD patients, which represented approximately 80% of the patients in the study, YUPELRI demonstrated nominally statistically significant and clinically relevant improvements in trough FEV₁ versus tiotropium. Data generated in the study provide important insights to inform future potential studies of YUPELRI in COPD patients with suboptimal PIFR. YUPELRI was well tolerated in this study, with no new safety issues identified. The Company plans to publish the results from this study in a future medical meeting or publication.

Velusetrag (TD-5108)

Velusetrag is an oral, investigational medicine developed for gastrointestinal motility disorders. It is a highly selective agonist with high intrinsic activity at the human 5-HT₄ receptor. In 2012, we partnered with Alfasigma S.p.A. (“Alfasigma”) (formerly Alfa Wassermann S.p.A.) in the development of velusetrag and its commercialization in certain countries. In April 2014, we announced top-line results from the initial Phase 2 proof-of-concept study under this partnership, which evaluated gastric emptying, safety and tolerability of multiple doses of velusetrag.

In August 2017, we announced positive top-line results from a 12-week, Phase 2b study of velusetrag characterizing the impact on symptoms and gastric emptying of three oral doses of velusetrag (5, 15 and 30 mg) compared to placebo administered once daily over 12 weeks of therapy. Results from the study demonstrated statistically significant improvements in gastroparesis symptoms and gastric emptying for patients receiving 5 mg of velusetrag as compared to placebo. Patients in the 15 and 30 mg velusetrag study arms demonstrated statistically significant improvements in gastric emptying, but they did not experience statistically significant improvements in gastroparesis symptoms. Velusetrag was shown to be generally well-tolerated, with 5 mg and placebo having comparable rates of adverse events and serious adverse events. Completion of the Phase 2b study was followed by dialogue with regulatory authorities in the US and EU regarding further development of velusetrag.

In late April 2018, Alfasigma exercised its exclusive option to develop and commercialize velusetrag. As a result, we received a \$10.0 million option fee. Additionally, we elected not to pursue further development of velusetrag, based on our planned pipeline investments and in light of the current FDA requirement that a chronically administered gastroparesis product in this class complete a large Phase 3 safety study. Global rights to develop, manufacture and commercialize velusetrag have transferred to Alfasigma under the terms of the existing collaboration agreement. Also under the terms of the collaboration with Alfasigma, we are entitled to receive future potential development, regulatory and commercial milestone payments of up to \$26.8 million, and tiered royalties on global net sales ranging from high single digits to the mid-teens.

VIBATIV® (telavancin)

VIBATIV is a bactericidal, once-daily injectable antibiotic to treat patients with serious, life-threatening infections due to *Staphylococcus aureus* and other Gram-positive bacteria, including methicillin-resistant (“MRSA”) strains. VIBATIV is approved in the US for the treatment of adult patients with complicated skin and skin structure infections (“cSSSI”) caused by susceptible Gram-positive bacteria and for the treatment of adult patients with hospital-acquired and ventilator-associated bacterial pneumonia (“HABP”/“VABP”) caused by susceptible isolates of *Staphylococcus aureus* when alternative treatments are not suitable. In addition, in 2016, the FDA allowed us to add new clinical data to the VIBATIV label concerning concurrent bacteremia in cases of HABP/VABP and cSSSI. VIBATIV is also indicated in Canada and Russia for cSSSI and HABP and VABP caused by Gram-positive bacteria, including MRSA.

Our acute care sales force markets VIBATIV in the US, and we maintain an independent marketing and medical affairs team. This same organization will support YUPELRI, if approved in the US, alongside our partner for the program. Outside of the US, our strategy is to market VIBATIV through a network of partners. To date, we have secured partners for VIBATIV in the following geographies: Canada, Middle East and North Africa, Israel, Russia, China and India. In 2016, we and Clinigen reached a mutual decision for Clinigen to return to us the commercial rights to market and distribute VIBATIV in the EU. We do not intend to commercialize VIBATIV in the EU without a partner, and we have been unable to secure another such partner. Accordingly, in early 2018 we filed a withdrawal notice with the EMA, and this notice was approved, thus extinguishing VIBATIV’s EU marketing authorization.

Given the challenges we have faced commercializing VIBATIV in the US in a highly competitive environment against a variety of generic drugs, we have reduced and are closely managing our overall spending related to the product while preparing for and investing in the potential commercial launch of YUPELRI as a treatment for COPD. We continue to view VIBATIV as an important medicine to treat serious infections in very sick patients, and we intend to continue to support the product.

Phase 3 Registrational Study in Staphylococcus aureus Bacteremia

As part of our effort to explore additional settings in which VIBATIV may offer patients therapeutic benefit, in February 2015, we initiated a Phase 3 registrational study for the treatment of patients with *Staphylococcus aureus* bacteremia. The 250-patient registrational study is a multi-center, randomized, open-label study designed to evaluate the non-inferiority of telavancin in treating *Staphylococcus aureus* bacteremia as compared to standard therapy. Key secondary outcome measures of the study include an assessment of the duration of bacteremia post-randomization and the incidence of development of metastatic complications, as compared to standard therapy.

In February 2018, the study stopped enrolling new patients following an interim analysis conducted by an independent review committee and company-wide review of investment priorities. The committee concluded the study was underpowered and therefore unlikely to achieve the primary study objective, without a significant increase in study size beyond the planned sample size of approximately 250 patients. Given the incremental investment required, we elected to close the study. No new safety issues were identified in the study, and as a result patients previously enrolled were allowed to complete dosing. We plan to submit data generated from the study for future scientific publication.

Telavancin Observational Use Registry (“TOUR™”) Study

Initiated in February 2015, the 1,000-patient TOUR™ study is designed to assess the manner in which VIBATIV is used by healthcare practitioners to treat patients. By broadly collecting and examining data related to VIBATIV treatment patterns, as well as clinical effectiveness and safety outcomes in medical practice, we aim to create an expansive knowledge base to guide clinical use and future development of the drug. Data from this study is providing information about the use of

VIBATIV in real-world clinical settings, including reports of positive clinical responses in patients with bacteremia, endocarditis, osteomyelitis, skin and respiratory infections. During 2017, we concluded the TOUR™ registry study and completed the data base. We have begun and plan to continue to analyze the data and publish in a number of areas reflecting real world use of VIBATIV at future medical meetings and medical journals.

Janssen Pharmaceutica License Agreement

In 2002, we entered into a License Agreement with Janssen Pharmaceutica N.V. (“Janssen Pharmaceutica”) pursuant to which we have licensed rights under certain patents owned by Janssen Pharmaceutica covering an excipient used in the formulation of telavancin. Pursuant to the terms of this license agreement, we are obligated to pay royalties to Janssen Pharmaceutica of 2.5% to 5% of any net commercial sales of VIBATIV (telavancin). The license will terminate in 2019 on the later of 10 years from first commercial sale of VIBATIV and the date of expiration of the last applicable Janssen Pharmaceutica patent covering VIBATIV. The license is terminable by us upon prior written notice to Janssen Pharmaceutica or upon an uncured breach or a liquidation event of one of the parties.

Neprilysin (NEP) Inhibitor Program (TD-0714 and TD-1439)

Neprilysin (“NEP”) is an enzyme that degrades natriuretic peptides. These peptides play a protective role in controlling blood pressure and preventing cardiovascular tissue remodeling. Inhibiting NEP may result in clinical benefit for patients, including diuresis, control of blood pressure, and reversing maladaptive changes in the heart and vascular tissue in patients with congestive heart failure. Our primary objective for this program is to develop a NEP inhibitor that could be used across a broad population of patients with cardiovascular and renal diseases, including acute and chronic heart failure and chronic kidney disease, including diabetic nephropathy. We aim to create a platform for multiple combination products with our NEP inhibitor with features that are differentiated from currently available products. Our NEP inhibitor program consists of two compounds (TD-0714 and TD-1439), each of which demonstrated characteristics in line with our target product profile in Phase 1 studies in healthy volunteers.

TD-0714

Phase 1 Single Ascending Dose (SAD) and Multiple Ascending Dose (MAD) Studies

In March 2016, we completed a Phase 1 randomized, double-blind, placebo-controlled, single ascending dose (“SAD”) study in healthy volunteers of our most advanced NEP inhibitor compound, TD-0714. The study was designed to assess the safety, tolerability and pharmacokinetics of TD-0714, as well as measure biomarker evidence of target engagement and the amount of the drug that is eliminated via the kidneys. Results from the SAD study of TD-0714 demonstrate that the compound achieved maximal and sustained levels of target engagement for 24 hours after a single-dose, supporting the drug’s potential for once-daily dosing. Target engagement was measured by dose-related increases in the levels of cyclic GMP (cGMP, a well-precedented biomarker of NEP engagement). TD-0714 also demonstrated very low levels of renal elimination, as evidenced by intravenous microtracer testing technology, and a favorable tolerability profile.

In October 2016, we completed a Phase 1 randomized, double-blind, placebo-controlled, multiple ascending dose (“MAD”) study in healthy volunteers of TD-0714. The findings from the MAD study were consistent with the Phase 1 randomized, double-blind, placebo-controlled, SAD study in healthy volunteers we completed in March 2016, demonstrating sustained target engagement, low levels of renal elimination, and a favorable tolerability profile.

TD-1439

TD-1439 is a second NEP inhibitor compound, which is structurally distinct from TD-0714. In the first half of 2017, we announced favorable results from Phase 1 SAD and a Phase 1 MAD studies of TD-1439. In both Phase 1 studies, TD-1439 demonstrated characteristics which met our target product profile, including sustained 24-hour target engagement, low levels of renal elimination and a favorable tolerability profile.

We are evaluating next steps for both compounds in our NEP inhibitor program clinical program. The results from the Phase 1 programs provide confidence for pursuing future efficacy studies of either compound in a broad range of cardiovascular and renal diseases, including in patients with compromised renal function.

Selective 5-HT₄ Agonist (TD-8954)

Takeda Collaborative Arrangement

In June 2016, we entered into a License and Collaboration Agreement with Millennium Pharmaceuticals, Inc., a Delaware corporation (“Millennium”) (the “Takeda Agreement”), in order to establish a collaboration for the development and commercialization of TD-8954 (TAK-954), a selective 5-HT₄ receptor agonist. Millennium is an indirect wholly-owned subsidiary of Takeda Pharmaceutical Company Limited (TSE: 4502), a publicly-traded Japanese corporation listed on the Tokyo Stock Exchange (collectively with Millennium, “Takeda”). TD-8954 is being developed for potential use in the treatment of gastrointestinal motility disorders, including short-term intravenous use for enteral feeding intolerance (“EFI”) to achieve early nutritional adequacy in critically ill patients at high nutritional risk, an indication for which the compound received FDA Fast Track designation. Under the terms of the Takeda Agreement, Takeda will be responsible for worldwide development and commercialization of TD-8954. We received an upfront cash payment of \$15.0 million and will be eligible to receive success-based development, regulatory and sales milestone payments by Takeda. The first \$110.0 million of potential milestones are associated with the development, regulatory and commercial launch milestones for EFI or other intravenously dosed indications. We will also be eligible to receive a tiered royalty on worldwide net sales by Takeda at percentage royalty rates ranging from low double-digits to mid-teens.

Other Programs

Economic Interest in GSK-Partnered Respiratory Programs

We are entitled to receive an 85% economic interest in any future payments that may be made by GSK (pursuant to its agreements with Innoviva) relating to the GSK-Partnered Respiratory Programs, which Innoviva partnered with GSK and assigned to Theravance Respiratory Company, LLC (“TRC”) in connection with Innoviva’s separation of its biopharmaceutical operations into its then wholly-owned subsidiary Theravance Biopharma. The GSK-Partnered Respiratory Programs consist primarily of the Trelegy Ellipta program and the inhaled Bifunctional Muscarinic Antagonist-Beta2 Agonist (“MABA”) program, each of which are described in more detail below. We are entitled to this economic interest through our equity ownership in TRC. Our economic interest does not include any payments associated with RELVAR® ELLIPTA®/BREO® ELLIPTA®, ANORO® ELLIPTA® or vilanterol monotherapy. The following information regarding the Trelegy Ellipta and MABA programs is based solely upon publicly available information and may not reflect the most recent developments under the programs.

Trelegy Ellipta (the combination of fluticasone furoate/umeclidinium bromide/vilanterol)

Trelegy Ellipta is the first treatment to provide the activity of an inhaled corticosteroid (FF) plus two bronchodilators (UMEC, a LAMA, and VI, a long-acting beta2 agonist, or LABA) in a single delivery device administered once-daily. Trelegy Ellipta is approved for use in the US and EU for the long-term, once-daily, maintenance treatment of appropriate patients with COPD. We are entitled to receive an 85% economic interest in the royalties payable by GSK to TRC on worldwide net sales. Those royalties are upward-tiering from 6.5% to 10%, resulting in cash flows to Theravance Biopharma of approximately 5.5% to 8.5% of worldwide net sales of Trelegy Ellipta. Theravance Biopharma is not responsible for any costs related to Trelegy Ellipta.

Innoviva and GSK conducted two global pivotal Phase 3 studies of Trelegy Ellipta in COPD, the IMPACT study and the FULFIL study.

The IMPACT study, which enrolled 10,355 COPD patients, was initiated in July 2014. In September 2017, GSK and Innoviva disclosed positive headline results from the IMPACT study, in which data demonstrated statistically significant reductions in the annual rate of on-treatment moderate/severe exacerbations for Trelegy Ellipta (100/62.5/25mcg) when compared with two, once-daily dual COPD therapies RELVAR® ELLIPTA®/BREO® ELLIPTA® (FF/VI), an ICS/LABA combination, and ANORO® ELLIPTA® (UMEC/VI), a LAMA/LABA combination. In addition, statistically significant improvements were observed across all pre-specified key secondary endpoints and associated treatment comparisons.

The FULFIL study, which enrolled 1,810 COPD patients, was initiated in February 2015. In June 2016, GSK and Innoviva disclosed positive top-line results from the FULFIL study, in which data demonstrated superiority of Trelegy Ellipta as compared to twice-daily SYMBICORT® TURBOHALER® (budesonide/formoterol) in improving lung function and health-related quality of life, as well as reducing exacerbations in COPD patients.

In September 2017, GSK and Innoviva announced that the US FDA approved Trelegy Ellipta for the long-term, once-daily, maintenance treatment of appropriate patients with COPD. In April 2018, GSK and Innoviva announced the FDA approved a sNDA containing data from the IMPACT study, resulting in an expanded indication for the product. The updated indication is for the long-term, once-daily, maintenance treatment of airflow obstruction in patients with COPD, including chronic bronchitis and/or emphysema. It is also indicated to reduce exacerbations of COPD in patients with a history of exacerbations. In addition, the FDA removed a boxed warning from Trelegy Ellipta prescribing information.

In December 2017, GSK and Innoviva announced the European Commission granted marketing authorization for Trelegy Ellipta as a maintenance treatment for appropriate patients with COPD.

In February 2018, GSK and Innoviva announced the submission of the IMPACT data to the EMA as part of a type II variation to support an expanded label for Trelegy Ellipta in Europe for the maintenance treatment of moderate to severe COPD. Approval of the submission would mean Trelegy Ellipta, the only once-daily single inhalation triple therapy for the treatment of COPD, could be used by physicians to treat a wider population of patients with the condition who are at risk of an exacerbation and require triple therapy.

Additionally, in December 2016, GSK and Innoviva announced the initiation of the Phase 3 (CAPTAIN) study of Trelegy Ellipta in patients with asthma. The CAPTAIN study is expected to be completed in 2019.

Inhaled Bifunctional Muscarinic Antagonist-Beta2 Agonist (MABA)

GSK961081 ('081), also known as bafenterol, is an investigational, single-molecule bifunctional bronchodilator with both muscarinic antagonist and beta2 receptor agonist activity that was discovered by us when we were part of Innoviva.

If a single-agent MABA medicine containing '081 is successfully developed and commercialized, we are entitled to receive an 85% economic interest in the royalties payable by GSK to TRC on worldwide net sales, which royalties range between 10% and 20% of annual global net sales up to \$3.5 billion, and 7.5% for all annual global net sales above \$3.5 billion. If a MABA medicine containing '081 is commercialized only as a combination product, such as '081/FF, the royalty rate is 70% of the rate applicable to sales of the single-agent MABA medicine. If a MABA medicine containing '081 is successfully developed and commercialized in multiple regions of the world, TRC is eligible to receive contingent milestone payments from GSK. The agreements allow for total milestones of up to \$125.0 million for a single-agent medicine and an incremental \$125.0 million for a combination medicine. Of these amounts, \$112.0 million in potential milestones remain for a single-agent medicine, and \$122.0 million remain for a combination medicine. In each case, we would be entitled to receive an 85% economic interest in any such payments.

Theravance Respiratory Company, LLC ("TRC")

Our equity interest in TRC is the mechanism by which we are entitled to the 85% economic interest in any future payments made by GSK under the strategic alliance agreement and under the portion of the collaboration agreement assigned to TRC by Innoviva. The drug programs assigned to TRC include all Trelegy Ellipta products and the MABA program, as monotherapy and in combination with other therapeutically active components, such as an inhaled corticosteroid ("ICS"), as well as any other product or combination of products that may be discovered and developed in the future under these GSK agreements.

Critical Accounting Policies and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our financial statements, which have been prepared in accordance with US generally accepted accounting principles ("GAAP"). The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported revenue generated and expenses incurred during the reporting periods. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. Other than the policies below, there have been no material changes to the critical accounting policies and estimates discussed in our Annual Report on Form 10-K for the year ended December 31, 2017.

Revenue Recognition

Effective January 1, 2018, we adopted Accounting Standards Codification, Topic 606, *Revenue from Contracts with Customers* (“ASC 606”) using the modified retrospective method. Under ASC 606, an entity recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that an entity determines are within the scope of ASC 606, the entity performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the entity satisfies a performance obligation.

At contract inception, once the contract is determined to be within the scope of ASC 606, we identify the performance obligations in the contract by assessing whether the goods or services promised within each contract are distinct. We then recognize revenue for the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied.

Product Sales

We sell VIBATIV in the US market by making the drug product available through a limited number of distributors, who sell VIBATIV to healthcare providers. Title and risk of loss transfer upon receipt by these distributors. We recognize VIBATIV product sales and related cost of product sales when the distributors obtain control of the drug product, which is at the time title transfers to the distributors.

Product sales are recorded on a net sales basis which includes estimates of variable consideration. The variable consideration results from sales discounts, government-mandated rebates and chargebacks, distribution fees, estimated product returns and other deductions. We reflect such reductions in revenue as either an allowance to the related account receivable from the distributor, or as an accrued liability, depending on the nature of the sales deduction. Sales deductions are based on management’s estimates that consider payor mix in target markets, industry benchmarks and experience to date. In general, these estimates take into consideration a range of possible outcomes which are probability-weighted in accordance with the expected value method in ASC 606. We monitor inventory levels in the distribution channel, as well as sales of VIBATIV by distributors to healthcare providers, using product-specific data provided by the distributors. Product return allowances are based on amounts owed or to be claimed on related sales. These estimates take into consideration the terms of our agreements with customers, historical product returns of VIBATIV, rebates or discounts taken, estimated levels of inventory in the distribution channel, the shelf life of the product, and specific known market events, such as competitive pricing and new product introductions. We update our estimates and assumptions each quarter and if actual future results vary from our estimates, we may adjust these estimates, which could have an effect on product sales and earnings in the period of adjustment.

Sales Discounts: We offer cash discounts to certain customers as an incentive for prompt payment. We expect our customers to comply with the prompt payment terms to earn the cash discount. In addition, we offer contract discounts to certain direct customers. We estimate sales discounts based on contractual terms, historical utilization rates, as available, and our expectations regarding future utilization rates. We account for sales discounts by reducing accounts receivable by the expected discount and recognizing the discount as a reduction of revenue in the same period the related revenue is recognized.

Chargebacks and Government Rebates: For VIBATIV sales in the US, we estimate reductions to product sales for qualifying federal and state government programs including discounted pricing offered to Public Health Service (“PHS”), as well as government-managed Medicaid programs. Our reduction for PHS is based on actual chargebacks that distributors have claimed for reduced pricing offered to such healthcare providers and our expectation about future utilization rates. Our accrual for Medicaid is based upon statutorily-defined discounts, estimated payor mix, expected sales to qualified healthcare providers, and our expectation about future utilization. The Medicaid accrual and government rebates that are invoiced directly to us are recorded in other accrued liabilities on the condensed consolidated balance sheets. For qualified programs that can purchase our products through distributors at a lower contractual government price, the distributors charge back to us

the difference between their acquisition cost and the lower contractual government price, which we record as an allowance against accounts receivable.

Distribution Fees: We have contracts with our distributors in the US that include terms for distribution-related fees. We determine distribution-related fees based on a percentage of the product sales price, and we record the distribution fees as an allowance against accounts receivable.

Product Returns: We offer our distributors a right to return product purchased directly from us, which is principally based upon the product's expiration date. Our policy is to accept product returns during the six months prior to and twelve months after the product expiration date on product that has been sold to our distributors. Product return allowances are based on amounts owed or to be claimed on related sales. These estimates take into consideration the terms of our agreements with customers, historical product returns of VIBATIV, rebates or discounts taken, estimated levels of inventory in the distribution channel, the shelf life of the product, and specific known market events, such as competitive pricing and new product introductions. We record our product return reserves as accrued other liabilities.

Allowance for Doubtful Accounts: We record allowances for potentially doubtful accounts for estimated losses resulting from the inability of our customers to make required payments. As of June 30, 2018, there was no allowance for doubtful accounts related to customer payments.

The following table summarizes activity in each of the product revenue allowance and reserve categories for the six months ended June 30, 2018.

(In thousands)	Chargebacks, Discounts and Fees	Government and Other Rebates	Returns	Total
Balance at December 31, 2017	\$ 992	\$ 352	\$ 947	\$ 2,291
Provision related to current period sales	3,571	393	249	4,213
Adjustment related to prior period sales	(80)	85	(449)	(444)
Credit or payments made during the period	(3,184)	(453)	(80)	(3,717)
Balance at June 30, 2018	<u>\$ 1,299</u>	<u>\$ 377</u>	<u>\$ 667</u>	<u>\$ 2,343</u>

We adopted ASC 606 on January 1, 2018 using the modified retrospective method. Our prior periods remain reported under Accounting Standards Codification, Topic 605, *Revenue Recognition* ("ASC 605"). Our revenue recognition policy under ASC 605 for the comparative 2017 periods is included in our Annual Report on Form 10-K for the year ended December 31, 2017.

Collaborative Arrangements

We enter into collaborative arrangements with partners that fall under the scope of Accounting Standards Codification, Topic 808, *Collaborative Arrangements* ("ASC 808"). While these arrangements are in the scope of ASC 808, we may analogize to ASC 606 for some aspects of the arrangements. We analogize to ASC 606 for certain activities within the collaborative arrangement for the delivery of a good or service (i.e., a unit of account) that is part of our ongoing major or central operations.

The terms of our collaborative arrangements typically include one or more of the following: (i) up-front fees; (ii) milestone payments related to the achievement of development, regulatory, or commercial goals; (iii) royalties on net sales of licensed products; (iv) reimbursements or cost sharing of R&D expenses; and (v) profit/loss sharing arising from co-promotion arrangements. Each of these payments results in collaboration revenues or an offset against R&D expense. Where a portion of non-refundable up-front fees or other payments received are allocated to continuing performance obligations under the terms of a collaborative arrangement, they are recorded as deferred revenue and recognized as collaboration revenue when (or as) the underlying performance obligation is satisfied.

As part of the accounting for these arrangements, we must develop estimates and assumptions that require judgment to determine the underlying stand-alone selling price for each performance obligation which determines how the transaction price is allocated among the performance obligations. The estimation of the stand-alone selling price may include such

estimates as, forecasted revenues or costs, development timelines, discount rates, and probabilities of technical and regulatory success. We evaluate each performance obligation to determine if they can be satisfied at a point in time or over time, and we measure the services delivered to our collaborative partner which are periodically reviewed based on the progress of the related program. The effect of any change made to an estimated input component and, therefore revenue or expense recognized, would be recorded as a change in estimate. In addition, variable consideration (e.g., milestone payments) must be evaluated to determine if it is constrained and, therefore, excluded from the transaction price.

Up-front Fees: If a license to our intellectual property is determined to be distinct from the other performance obligations identified in the arrangement, we recognize collaboration revenues from transaction price allocated to the license when the license is transferred to the licensee and the licensee is able to use and benefit from the license. For licenses that are bundled with other promises, we utilize judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring progress for purposes of recognizing revenue from the allocated transaction price. For example, when we receive up-front fees for the performance of research and development services, or when research and development services are not considered to be distinct from a license, we recognize collaboration revenue for those units of account over time using a measure of progress. We evaluate the measure of progress each at reporting period and, if necessary, adjust the measure of performance and related revenue or expense recognition as a change in estimate.

Milestone Payments: At the inception of each arrangement that includes milestone payments (variable consideration), we evaluate whether the milestones are considered probable of being reached and estimate the amount to be included in the transaction price using the most likely amount method. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price. Milestone payments that are not within our or the collaboration partner's control, such as non-operational developmental and regulatory approvals, are generally not considered probable of being achieved until those approvals are received. At the end of each reporting period, we re-evaluate the probability of achievement of milestones that are within our or the collaboration partner's control, such as operational developmental milestones and any related constraint, and if necessary, adjust our estimate of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which would affect collaboration revenues and earnings in the period of adjustment. Revisions to our estimate of the transaction price may also result in negative collaboration revenues and earnings in the period of adjustment.

Royalties: For arrangements that include sales-based royalties, including commercial milestone payments based on the level of sales, and the license is deemed to be the predominant item to which the royalties relate, we recognize revenue at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied). To date, we have not recognized any material royalty revenue resulting from any of our collaborative arrangements.

Reimbursement, cost-sharing and profit-sharing payments: Under certain collaborative arrangements, we have been reimbursed for a portion of our R&D expenses or participate in the cost sharing of such R&D expenses. Such reimbursements and cost sharing arrangements have been reflected as a reduction of R&D expense in our condensed consolidated statements of operations, as we do not consider performing research and development services for reimbursement to be a part of our ongoing major or central operations. Therefore, the reimbursement or cost sharing of research and development services are recorded as a reduction of R&D expense.

Under the terms of our collaboration agreement with Mylan for revefenacin, including YUPELRI™ inhalation solution, we are also entitled to a share of US profits and losses (65% Mylan/35% Theravance Biopharma) received in connection with commercialization of YUPELRI™, and we are entitled to low double-digit royalties on ex-US net sales (excluding China). If and when YUPELRI is approved, we expect that Mylan will be the principal in the sales transaction and will record the product sales. For the periods presented, our share of the losses under the co-promote arrangement are recorded within R&D expense and selling, general and administrative expense on our condensed consolidated statements of operations. See "Note 3. Collaborative Arrangements" in the notes to the condensed consolidated financial statements for additional information about our collaboration agreement with Mylan.

Results of Operations

Product Sales and Revenue from Collaborative Arrangements

Product sales and revenue from collaborative arrangements, as compared to the comparable period in the prior year, were as follows:

(In thousands)	Three Months Ended June 30,		Change		Six Months Ended June 30,		Change	
	2018	2017	\$	%	2018	2017	\$	%
Product sales	\$ 5,361	\$ 3,474	\$ 1,887	54 %	\$ 9,040	\$ 6,524	\$ 2,516	39 %
Revenue from collaborative arrangements	18,115	35	18,080	NM	22,755	72	22,683	NM
Total revenue	\$ 23,476	\$ 3,509	\$ 19,967	569 %	\$ 31,795	\$ 6,596	\$ 25,199	382 %

NM: Not Meaningful

Revenue from product sales increased by \$1.9 million and \$2.5 million for the three and six months ended June 30, 2018, respectively, compared to the same periods in 2017. The increases were primarily due to increased VIBATIV sales volume largely in the outpatient clinic setting.

Revenue from collaborative arrangements increased by \$18.1 million and \$22.7 million for the three and six months ended June 30, 2018, respectively, compared to the same periods in 2017. The \$18.1 million increase for the three months ended June 30, 2018 was primarily comprised of \$10.0 million attributed to the exercise by Alfasigma of its option to develop and commercialize velusetrag and \$7.6 million recognized to revenue as part of the \$100.0 million upfront payment from the Janssen collaboration agreement that was entered into in February 2018. The \$22.7 million increase for the six months ended June 30, 2018 was primarily comprised of the \$10.0 million related to Alfasigma and \$12.2 million related to Janssen as described above.

Cost of Goods Sold

Cost of goods sold, as compared to the comparable period in the prior year, was as follows:

(In thousands)	Three Months Ended June 30,		Change		Six Months Ended June 30,		Change	
	2018	2017	\$	%	2018	2017	\$	%
Cost of goods sold	\$(1,448)	\$ 1,364	\$(2,812)	(206)%	\$ (622)	\$ 1,929	\$(2,551)	(132)%

Cost of goods sold decreased by \$2.8 million and \$2.6 million for the three and six months ended June 30, 2018, respectively, compared to the same periods in 2017. The decreases for both periods were primarily due to a current quarter reversal of a \$2.3 million charge taken in the fourth quarter of 2017 related to inventory purchase commitments. In the fourth quarter of 2017, we accrued a \$2.3 million liability related to excess inventory purchase commitments based on our expected purchase obligations at the time. For the three months ended June 30, 2018, we reversed the expense related to the \$2.3 million purchase commitment liability due to the waiver of our minimum purchase commitment by our third-party manufacturer. In addition to the inventory charge reversal noted above, costs of goods sold also decreased for the three and six months ended June 30, 2018 due to a \$0.6 million write-off of inventory taken in the second quarter of 2017.

Research and Development

Our research and development (“R&D”) expenses consist primarily of employee-related costs, external costs, and various allocable expenses. We budget total R&D expenses on an internal department level basis, and we manage and report our R&D activities across the following four cost categories:

- 1) Employee-related costs, which include salaries, wages and benefits;
- 2) Share-based compensation, which includes expenses associated with our equity plans;

- 3) External-related costs, which include clinical trial related expenses, other contract research fees, consulting fees, and contract manufacturing fees; and
- 4) Facilities and other, which include laboratory and office supplies, depreciation and other allocated expenses, which include general and administrative support functions, insurance and general supplies.

The following table summarizes our R&D expenses incurred, net of reimbursements from collaboration partners, during the periods presented:

(In thousands)	Three Months Ended June 30,		Change		Six Months Ended June 30,		Change	
	2018	2017	\$	%	2018	2017	\$	%
Employee-related	\$ 15,591	\$ 14,669	\$ 922	6 %	\$ 32,385	\$ 26,822	\$ 5,563	21 %
Share-based compensation	6,903	4,917	1,986	40	13,463	10,018	3,445	34
External-related	17,570	15,799	1,771	11	32,334	32,055	279	1
Facilities, depreciation and other allocated expenses	8,557	7,542	1,015	13	18,204	14,597	3,607	25
Total research & development	\$ 48,621	\$ 42,927	\$ 5,694	13 %	\$ 96,386	\$ 83,492	\$ 12,894	15 %

R&D expenses increased by \$5.7 million for the three months ended June 30, 2018 compared to same period in 2017. The increase was primarily due to a \$2.0 million increase in share-based compensation and \$1.8 million increase in external-related expenses. The increase in share-based compensation was primarily due to our long-term retention and incentive bonus awards granted to certain employees in 2016 which are dependent on the Company meeting its critical operating goals and objectives during a five-year period from 2016 to December 31, 2020. The increase in external-related expenses was primarily due to the progression of TD-1473 (our intestinally restricted pan-JAK inhibitor) towards a Phase 2 study in Crohn’s disease and a Phase 2b/3 study in ulcerative colitis, continued development of TD-9855 (a norepinephrine serotonin reuptake inhibitor (“NSRI”)) in neurogenic orthostatic hypotension (“nOH”), and continued investment in our research and preclinical programs. In addition to the above, employee-related expense increased by \$0.9 million due primarily to an increase in compensation and a decrease in employee-related expense reimbursements under certain collaborative arrangements. Facilities and other allocated expenses increased by \$1.0 million primarily due to the extension of our lease of office and laboratory space in South San Francisco, which is amortized on a straight-line basis over the lease term.

R&D expenses increased by \$12.9 million for the six months ended June 30, 2018, compared to the same period in 2017. The increase was primarily attributed to a \$3.4 million in increase in share-based compensation and a \$3.6 million increase in facilities and other allocated expenses, as described above. In addition, employee-related expenses increased by \$5.6 million due to an increase in compensation and a decrease in employee-related expense reimbursements under certain collaborative arrangements.

Under certain of our collaborative arrangements, we receive partial reimbursement of employee-related costs and external costs, which have been reflected as a reduction of R&D expenses of \$1.4 million and \$4.8 million for the three months ended June 30, 2018 and 2017, respectively, and \$3.2 million and \$11.9 million for the six months ended June 30, 2018 and 2017, respectively. The decrease in expense reimbursements was primarily attributed to the completion of the Phase 3 program and submission of the NDA for YUPELRI, a program we are co-developing with Mylan.

Selling, General and Administrative Expenses

Selling, general and administrative expenses, as compared to the comparable period in the prior year, were as follows:

(In thousands)	Three Months Ended June 30,				Six Months Ended June 30,			
	2018		2017		2018		2017	
			Change				Change	
	\$	%	\$	%	\$	%	\$	%
Selling, general and administrative	\$ 25,007	\$ 24,339	\$ 668	3 %	\$ 49,711	\$ 45,125	\$ 4,586	10 %

For the three months ended June 30, 2018, selling, general and administrative expenses were relatively unchanged with a \$0.7 million increase, compared to the same period in 2017. For the six months ended June 30, 2018, selling, general and administrative expenses increased by \$4.6 million, compared to the same period in 2017. The increase was primarily attributed to a \$3.7 million increase in share-based compensation, a \$2.1 million increase in external-related expenses, and a \$1.5 million increase in employee-related expenses. The increases in share-based compensation and employee-related expenses were primarily due to compensation increases and our long-term retention and incentive bonus awards granted to certain employees in 2016 which are dependent on the Company meeting its critical operating goals and objectives during a five-year period from 2016 to December 31, 2020. The increase in external-related expenses was primarily due to an increase in legal and other consulting-related expenses.

Income from Investment in TRC, LLC

Income from investment in TRC, as compared to the comparable period in the prior year, was as follows:

(In thousands)	Three Months Ended June 30,				Six Months Ended June 30,			
	2018		2017		2018		2017	
			Change				Change	
	\$	%	\$	%	\$	%	\$	%
Income from investment in TRC, LLC	\$ 1,949	\$ —	\$ 1,949	NM %	\$ 2,635	\$ —	\$ 2,635	NM %

NM: Not Meaningful

Income from investment in TRC was \$1.9 million and \$2.6 million for the three and six months ended June 30, 2018, respectively. The investment income in TRC was generated by royalty payments from GSK to TRC arising from the net sales of Trelegy Ellipta which was launched in the fourth quarter of 2017. There was no income from TRC in the comparable prior year period.

Interest Expense

Interest expense, as compared to the comparable period in the prior year, was as follows:

(In thousands)	Three Months Ended June 30,				Six Months Ended June 30,			
	2018		2017		2018		2017	
			Change				Change	
	\$	%	\$	%	\$	%	\$	%
Interest expense	\$ 2,137	\$ 2,137	\$ —	— %	\$ 4,274	\$ 4,274	\$ —	— %

Interest expense for the three and six months ended June 30, 2018 was unchanged compared to the same periods in 2017 and was attributed to the November 2016 issuance of \$230.0 million principal amount of 3.250% convertible senior notes due 2023.

Interest and Other Income, net

Interest and other income, as compared to the comparable period in the prior year, was as follows:

(In thousands)	Three Months Ended June 30,				Six Months Ended June 30,			
	2018		2017		2018		2017	
			Change				Change	
	\$	%	\$	%	\$	%	\$	%
Interest and other income (expense), net	\$ 1,284	\$ 1,425	\$ (141)	(10)%	\$ 2,768	\$ 2,455	\$ 313	13 %

Interest and other income for the three and six months ended June 30, 2018 decreased by \$0.1 million and increased by \$0.3 million, respectively, compared to the same periods in 2017. The decrease and increase for both periods were primarily due to increases in interest income offset by net foreign currency losses.

Provision for Income Tax (Benefit)

The provision for income taxes, as compared to the comparable period in the prior year, was as follows:

(In thousands)	Three Months Ended June 30,		Change		Six Months Ended June 30,		Change	
	2018	2017	\$	%	2018	2017	\$	%
Provision for income tax (benefit)	\$(6,790)	\$ 454	\$(7,244)	(1,596)%	\$(6,646)	\$5,837	\$(12,483)	(214)%

Our effective tax rate for the six months ended June 30, 2018 was approximately 5.9%. The provision for income taxes was due to the uncertain tax positions taken with respect to transfer pricing and tax credits, offset by a tax benefit arising from an updated estimate of a tax filing position to be reported in our tax returns filed in 2018. The provision for income taxes decreased by \$7.2 million and \$12.5 million for the three and six months ended June 30, 2018, respectively, compared to the same period in 2017. The differences were primarily attributed to the aforementioned tax benefit, in addition to incrementally lower estimates of uncertain tax positions for 2018.

Liquidity and Capital Resources

We have financed our operations primarily through public offering of equity and debt securities, private placements of equity, revenue from collaboration arrangements and revenue from product sales. As of June 30, 2018, we had approximately \$371.2 million in cash, cash equivalents, and investments in marketable securities. Also, as of June 30, 2018, we had outstanding \$230.0 million in aggregate principal amount of 3.250% convertible senior notes due 2023.

We expect to continue to incur net losses over at least the next several years due to significant expenditures relating to our continuing drug discovery efforts, preclinical and clinical development of our current product candidates and, if YUPELRI is approved, commercialization costs relating to YUPELRI. In particular, to the extent we advance our product candidates into and through later-stage clinical studies without a partner, we will incur substantial expenses. We expect the clinical development of our key development programs will require significant investment in order to continue to advance in clinical development. In addition, we expect to invest strategically in our research efforts to continue to grow our development pipeline. In the past, we have received a number of significant payments from collaboration agreements and other significant transactions. In the future, we expect to receive revenues from product sales and potential substantial payments from future collaboration transactions if the drug candidates in our pipeline achieve positive clinical or regulatory outcomes. In addition, we recently began recognizing investment income arising from our economic interest in royalties payable by GSK to TRC. Our current business plan is subject to significant uncertainties and risks as a result of, among other factors, clinical program outcomes, whether, when and on what terms we are able to enter into new collaboration arrangements, expenses being higher than anticipated, the sales levels of VIBATIV, unplanned expenses, cash receipts being lower than anticipated, and the need to satisfy contingent liabilities, including litigation matters and indemnification obligations.

Adequacy of cash resources to meet future needs

We expect our cash and cash equivalents and marketable securities will fund our operations for at least the next 12 months from the issuance date of these condensed consolidated financial statements based on current operating plans and financial forecasts.

If our current operating plans or financial forecasts change, we may require additional funding sooner in the form of public or private equity offerings, debt financings or additional collaborations and licensing arrangements. However, future financing may not be available in amounts or on terms acceptable to us, if at all.

Without adequate financial resources to fund our operations as presently conducted, we may be required to relinquish rights to our technologies, product candidates or territories, or grant licenses on terms that are not favorable to us,

in order to raise additional funds through collaborations or licensing arrangements. We may also have to sequence pre-clinical and clinical studies as opposed to conducting them concomitantly in order to conserve resources, or delay, reduce or eliminate one or more of our research or development programs and reduce overall overhead expenses. In addition, we may have to make reductions in our workforce and may be prevented from continuing our discovery, development and commercialization efforts and exploiting other corporate opportunities.

Cash Flows

Cash flows, as compared to the comparable period in the prior year, were as follows:

<u>(In thousands)</u>	<u>Six Months Ended June 30,</u>		<u>Change</u>
	<u>2018</u>	<u>2017</u>	
Net cash used in operating activities	\$ (11,712)	\$ (94,551)	\$ 82,839
Net cash provided by (used in) investing activities	30,668	(112,346)	143,014
Net cash (used in) provided by financing activities	(4,082)	1,814	(5,896)

Cash flows used in operating activities

For the six months ended June 30, 2018, the \$11.7 million used in operating activities consisted primarily of net loss of \$105.9 million, adjusted for non-cash items such as \$27.9 million for share-based compensation expense, and \$68.6 million of net cash inflow related to changes in operating assets and liabilities. Overall, net cash used in operating activities decreased by \$82.8 million, compared to the same period in 2017, primarily driven by our receipt of the \$100.0 million upfront payment from our collaborative arrangement from Janssen in February 2018.

Net cash used in operating activities was \$94.6 million for the six months ended June 30, 2017, consisting primarily of net loss of \$131.6 million, adjusted for non-cash items such as \$20.7 million for share-based compensation expense and \$13.4 million of net cash inflow related to changes in operating assets and liabilities for the six months ended June 30, 2017.

Cash flows provided by (used in) investing activities

Net cash provided by investing activities was \$30.7 million for the six months ended June 30, 2018, consisting primarily of net cash inflow resulting from the purchases and maturities of marketable securities of \$34.5 million which was partially offset by \$3.9 million in cash outflow related to the acquisition of property and equipment.

Net cash used in investing activities was \$112.3 million for the six months ended June 30, 2017, consisting primarily of net cash outflow resulting from the purchases and maturities of marketable securities of \$111.0 million.

Cash flows (used in) provided by financing activities

Net cash used in financing activities was \$4.1 million for the six months ended June 30, 2018, primarily consisting of \$6.9 million of net cash outflow for the repurchase of shares to satisfy tax withholding obligations which was partially offset by \$2.7 million of net cash inflow from employee share plan purchase proceeds.

Net cash provided by financing activities was \$1.8 million for the six months ended June 30, 2017, consisting of net cash inflow of \$8.0 million from the proceeds of employee share option exercises and employee share plan purchases which was partially offset by the repurchase of shares to satisfy tax withholding obligations of \$6.2 million.

Commitments and Contingencies

We indemnify our officers and directors for certain events or occurrences, subject to certain limits. We believe the fair value of these indemnification agreements is minimal. Accordingly, we have not recognized any liabilities relating to these agreements as of June 30, 2018.

Performance-Contingent Awards

In 2016, we granted long-term retention and incentive restricted share awards (“RSAs”) and restricted share units (“RSUs”) to members of senior management and long-term retention and incentive cash bonus awards to certain employees. The vesting and payout of such awards is dependent on the Company meeting its critical operating goals and objectives during a five-year period from 2016 to December 31, 2020. These goals are strategically important for the Company, and we

believe the goals, if achieved, will increase shareholder value. The awards have dual triggers of vesting based upon the achievement of these goals and continued employment, and they are broken into three separate tranches. We have determined that achievement of the requisite performance conditions for the first tranche were completed as of June 30, 2018. The maximum potential expense associated with the remaining tranches of this program is \$21.4 million related to share-based compensation expense and \$36.9 million related to cash bonus expense, which would be recognized in increments based on achievement of the performance conditions. With the completed achievement of the first tranche's requisite performance conditions and the second tranche being probable due to achievement of certain performance conditions and multiple advancements of programs within our development pipeline, we have recognized \$1.5 million and \$3.5 million in share-based compensation expense and \$1.7 million and \$5.0 million in cash bonus expense for the three and six months ended June 30, 2018, respectively. We determined that the remaining third tranche was not probable of vesting and, as a result, no compensation expense related to this tranche has been recognized.

Off-Balance Sheet Arrangements

There have been no material changes in our off-balance sheet arrangements from those set forth in our Annual Report on Form 10-K for the year ended December 31, 2017, filed with the SEC on February 28, 2018.

Contractual Obligations and Commercial Commitments

There have been no material changes in our contractual obligations and commercial commitments from those set forth in our Annual Report on Form 10-K for the year ended December 31, 2017, filed with the SEC on February 28, 2018.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Our market risks as of June 30, 2018 have not changed materially from those discussed in Item 7A of our Annual Report on Form 10-K for the year ended December 31, 2017, filed with the SEC on February 28, 2018.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We conducted an evaluation required by paragraph (d) of Rule 13a-15 of the Exchange Act as of June 30, 2018, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as defined under Rule 13a-15(e) of the Exchange Act), which are controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files under the Exchange Act is recorded, processed, summarized and reported within required time periods. Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Limitations on the Effectiveness of Controls

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent all error and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefit of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within Theravance Biopharma have been detected. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting (as defined in Rule 13a-15(f) of the Exchange Act) identified in connection with the evaluation required by paragraph (d) of Rule 13a-15 of the Exchange Act, which occurred during the second quarter of the year ending December 31, 2018 which has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

We are not currently a party to any material litigation or other material legal proceedings.

ITEM 1A. RISK FACTORS

RISKS RELATING TO THE COMPANY

The risks described below and elsewhere in this Annual Report on Form 10-K and in our other public filings with the SEC are not the only risks facing the Company. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition and/or operating results.

We anticipate that we will incur losses for the foreseeable future. We may never achieve or sustain profitability.

First as part of Innoviva, Inc., and since June 2, 2014 as Theravance Biopharma, we have been engaged in discovery and development of compounds and product candidates since mid-1997. We may never generate sufficient revenue from the sale of medicines, royalties on sales by our partners or from our interest in Theravance Respiratory Company, LLC (“TRC”) to achieve profitability. During the three and six months ended June 30, 2018 and the years ended December 31, 2017 and 2016, we recognized losses of \$40.8 million, \$105.9 million, \$285.4 million and \$190.7 million, respectively, which are reflected in the Shareholders’ Equity on our consolidated balance sheets. We reflect cumulative net loss incurred after June 2, 2014, the effective date of our spin-off from Innoviva, Inc. (the “Spin-Off”), as accumulated deficit on our consolidated balance sheets. We expect to continue to incur net losses at least over the next several years as we continue our drug discovery and development efforts and incur significant preclinical and clinical development costs related to our current product candidates and commercialization and development costs relating to VIBATIV® (telavancin) and, in anticipation of potential approval, YUPELRI™ (revefenacin) inhalation solution. In particular, to the extent we advance our product candidates into and through additional clinical studies, and particularly if we do so without a partner, we will incur substantial expenses. For example, in August 2017, we announced our decision to accelerate funding associated with the next phase of development of our intestinally restricted pan-Janus kinase (“JAK”) inhibitor program, and in August 2018 we announced that we intend to progress TD-9855 into a Phase 3 registrational program. We are also making additional investments in YUPELRI in anticipation of potential approval. We incur all of the costs and expenses associated with the commercialization of VIBATIV in the US, including the maintenance of an independent sales and marketing organization with appropriate technical expertise, supporting infrastructure and distribution capabilities, a medical affairs presence, manufacturing and third-party vendor logistics and consultant support, and post-marketing studies. Our commitment of resources to the continued development of our existing product candidates, our discovery programs, YUPELRI and VIBATIV will require significant additional funding. Our operating expenses also will increase if, among other things:

- our earlier stage potential products move into later-stage clinical development, which is generally more expensive than early stage development;
- additional preclinical product candidates are selected for clinical development;
- we pursue clinical development of our potential or current products in new indications;
- we increase the number of patents we are prosecuting or otherwise expend additional resources on patent prosecution or defense; or
- we acquire or in-license additional technologies, product candidates, products or businesses.

Other than (i) revenues from sales of VIBATIV, our only approved medicine and, potentially, revenues from sales of YUPELRI, if it is approved, (ii) our economic interest in royalties from net sales of Trelegy Ellipta paid to TRC, and (iii) potential payments under collaboration agreements, we do not expect to generate revenues in the immediate future. Since we or our collaborators or licensees may not successfully develop additional products, obtain required regulatory approvals,

manufacture products at an acceptable cost or with appropriate quality, or successfully market and sell such products with desired margins, our expenses may continue to exceed any revenues we may receive.

In the absence of substantial licensing payments, contingent payments or other revenues from third-party collaborators, royalties on sales of products licensed under our intellectual property rights, future revenues from VIBATIV and those product candidates in development that receive regulatory approval or other sources of revenues, we will continue to incur operating losses and will require additional capital to execute our business strategy. The likelihood of reaching, and the time required to reach, and then to sustain, profitability are highly uncertain. As a result, we expect to continue to incur substantial losses for the foreseeable future. We are uncertain when or if we will ever be able to achieve or sustain profitability. Failure to become and remain profitable would adversely affect the price of our securities and our ability to raise capital and continue operations.

Any delay in commencing or completing clinical studies for product candidates and any adverse results from clinical or non-clinical studies or regulatory obstacles product candidates may face, would harm our business and the price of our securities could fall.

Each of our product candidates must undergo extensive non-clinical and clinical studies as a condition to regulatory approval. Non-clinical and clinical studies are expensive, take many years to complete and study results may lead to delays in further studies, new requirements for conducting future studies or decisions to terminate programs. The commencement and completion of clinical studies for our product candidates may be delayed and programs may be terminated due to many factors, including, but not limited to:

- lack of effectiveness of product candidates during clinical studies;
- adverse events, safety issues or side effects relating to the product candidates or their formulation into medicines;
- inability to raise additional capital in sufficient amounts to continue our development programs, which are very expensive;
- inability to enter into partnering arrangements relating to the development and commercialization of our programs and product candidates;
- the need to sequence clinical studies as opposed to conducting them concomitantly in order to conserve resources;
- our inability or the inability of our collaborators or licensees to manufacture or obtain from third parties materials sufficient for use in non-clinical and clinical studies;
- governmental or regulatory delays and changes in regulatory requirements, policy and guidelines;
- failure of our partners to advance our product candidates through clinical development;
- delays in patient enrollment and variability in the number and types of patients available for clinical studies;
- difficulty in maintaining contact with patients after treatment, resulting in incomplete data;
- varying regulatory requirements or interpretations of data among the US Food and Drug Administration (“FDA”) and foreign regulatory authorities; and
- a regional disturbance where we or our collaborative partners are enrolling patients in clinical trials, such as a pandemic, terrorist activities or war, political unrest or a natural disaster.

Any adverse developments or results or perceived adverse developments or results with respect to our clinical programs including, without limitation, any delays in development in our programs, any halting of development in our programs, any difficulties or delays encountered with regard to the FDA or other regulatory authorities with respect to our programs, or any indication from clinical or non-clinical studies that the compounds in our programs are not safe or efficacious, could have a material adverse effect on our business and cause the price of our securities to fall.

If our product candidates are not approved by regulatory authorities, including the FDA, we will be unable to commercialize them.

The FDA must approve any new medicine before it can be marketed and sold in the US. We will not obtain this approval for a product candidate unless and until the FDA approves an NDA. We, or our collaborative partners, must provide the FDA and similar foreign regulatory authorities with data from preclinical and clinical studies that demonstrate that our product candidates are safe and effective for a defined indication before they can be approved for commercial distribution. FDA or foreign regulatory authorities may disagree with our trial design and our interpretation of data from preclinical studies and clinical trials. The processes by which regulatory approvals are obtained from the FDA and foreign regulatory authorities to market and sell a new product are complex, require a number of years, depend upon the type, complexity and novelty of the product candidate and involve the expenditure of substantial resources for research, development and testing. The FDA has substantial discretion in the drug approval process and may require us to conduct additional nonclinical and clinical testing or to perform post-marketing studies. Further, the implementation of new laws and regulations, and revisions to FDA clinical trial design guidance may lead to increased uncertainty regarding the approvability of new drugs. In addition, the FDA has additional standards for approval of new drugs, including recommended advisory committee meetings for certain new molecular entities, and formal risk evaluation and mitigation requirements at the FDA's discretion. Even if we receive regulatory approval of a product, the approval may limit the indicated uses for which the drug may be marketed or impose significant restrictions or limitations on the use and/or distribution of such product.

In addition, in order to market our medicines in foreign jurisdictions, we, or our collaborative partners, must obtain separate regulatory approvals in each country. The approval procedure varies among countries and can involve additional testing, and the time required to obtain approval may differ from that required to obtain FDA approval. Approval by the FDA does not ensure approval by regulatory authorities in other countries, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other foreign countries or by the FDA. Conversely, failure to obtain approval in one or more jurisdictions may make approval in other jurisdictions more difficult. These laws, regulations, additional requirements and changes in interpretation could cause non-approval or further delays in the FDA's or other regulatory authorities' review and approval of our and our collaborative partner's product candidates, which would materially harm our business and financial condition and could cause the price of our securities to fall.

If additional capital is not available, we may have to curtail or cease operations or we could be forced to share our rights to commercialize our product candidates with third parties on terms that may not be favorable to us.

Based on our current operating plans and financial forecasts, we believe that our cash, cash equivalents and marketable securities will be sufficient to meet our anticipated operating needs for at least the next twelve months. However, our current operating plans or financial forecasts occasionally change. For example, in 2016, our actual operating loss exceeded our anticipated operating loss, primarily because of accelerated enrollment in TOUR, increased funding for the development of our JAK inhibitors and increased investment in our neprilysin ("NEP") inhibitor program. In August 2017, we announced an increase in our anticipated operating loss for 2017, primarily driven by our decision to accelerate funding associated with the next phase of development of our JAK inhibitor program. If our current operating plans or financial forecasts change, we may require or seek additional funding sooner in the form of public or private equity or equity-linked offerings, debt financings or additional collaborations and licensing arrangements.

We may need to raise additional capital in the future to, among other things:

- fund our discovery efforts and research and development programs;
- fund our commercialization strategies for VIBATIV and any additional approved products and to prepare for potential product approvals;

- support our independent sales and marketing organization and medical affairs team;
- support our additional investments in YUPELRI in anticipation of potential approval;
- progress any additional product candidates into later-stage development without funding from a collaboration partner;
- progress mid-to-late stage product candidates into later-stage development, if warranted;
- respond to competitive pressures; and
- acquire complementary businesses or technologies.

Our future capital needs depend on many factors, including:

- the scope, duration and expenditures associated with our discovery efforts and research and development programs;
- continued scientific progress in these programs;
- the extent to which we encounter technical obstacles in our research and development programs;
- the outcome of potential licensing or partnering transactions, if any;
- competing technological developments;
- the extent of our proprietary patent position in telavancin and our product candidates;
- our facilities expenses, which will vary depending on the time and terms of any facility lease or sublease we may enter into, and other operating expenses;
- the scope and extent of the expansion of our sales and marketing efforts;
- potential litigation and other contingencies; and
- the regulatory approval process for our product candidates.

We may seek to raise additional capital or obtain future funding through public or private equity offerings, debt financings or additional collaborations and licensing arrangements. We may not be able to obtain additional financing on terms favorable to us, if at all. General market conditions may make it difficult for us to seek financing from the capital markets. We may be required to relinquish rights to our technologies, product candidates or territories, or grant licenses on terms that are not favorable to us, in order to raise additional funds through collaborations or licensing arrangements. We may sequence pre-clinical and clinical studies as opposed to conducting them concomitantly in order to conserve resources, or delay, reduce or eliminate one or more of our research or development programs and reduce overall overhead expenses. If we are unable to raise additional capital or obtain future funding in sufficient amounts or on terms acceptable to us, we may have to make reductions in our workforce and may be prevented from continuing our discovery, development and commercialization efforts and exploiting other corporate opportunities. This would likely harm our business, prospects and financial condition and cause the price of our securities to fall.

We may seek to obtain future financing through the issuance of debt or equity, which may have an adverse effect on our shareholders or may otherwise adversely affect our business.

If we raise funds through the issuance of additional debt, including convertible debt or debt secured by some or all of our assets, or equity, any debt securities or preferred shares issued will have rights, preferences and privileges senior to those of holders of our ordinary shares in the event of liquidation. The terms of our existing 3.250% convertible senior notes due 2023 (“Notes”) do not restrict our ability to issue additional debt. In such event, there is a possibility that once all senior claims are settled, there may be no assets remaining to pay out to the holders of ordinary shares. In addition, if we raise funds through the issuance of additional equity, whether through private placements or public offerings, such an issuance would dilute ownership of our current shareholders that do not participate in the issuance. For example, since our Spin-Off in June 2014, we have raised an aggregate of \$583.9 million through the sale of approximately 17.5 million shares and \$230.0 million aggregate principal amount of Notes in a combination of private sale, public offerings and at-the-market sales. If we are unable to obtain any needed additional funding, we may be required to reduce the scope of, delay, or eliminate some or all of, our planned research, development and commercialization activities or to license to third parties the rights to develop and/or commercialize products or technologies that we would otherwise seek to develop and/or commercialize ourselves or on terms that are less attractive than they might otherwise be, any of which could materially harm our business.

Furthermore, the terms of any additional debt securities we may issue in the future may impose restrictions on our operations, which may include limiting our ability to incur additional indebtedness, pay dividends on or repurchase our share capital, or make certain acquisitions or investments. In addition, we may be subject to covenants requiring us to satisfy certain financial tests and ratios, and our ability to satisfy such covenants may be affected by events outside of our control.

If our partners do not satisfy their obligations under our agreements with them, or if they terminate our partnerships with them, we may not be able to develop or commercialize our partnered product candidates as planned.

We have an exclusive development and commercialization agreement with Alfasigma S.p.A. (“Alfasigma”) (formerly Alfa Wassermann S.p.A.) for velusetrag, our internally discovered 5-HT4 agonist for the treatment of gastromotility disorders, under which we will transfer to Alfasigma global rights for velusetrag. In January 2015, we entered into a collaboration agreement with Mylan for the development and commercialization of a nebulized formulation of our LAMA revefenacin, including YUPELRI. Under the terms of the agreement, we and Mylan will co-develop nebulized revefenacin, including YUPELRI, for COPD and other respiratory diseases. In June 2016, we entered into a License and Collaboration Agreement with Millennium Pharmaceuticals, Inc., an indirect wholly-owned subsidiary of Takeda Pharmaceutical Company Limited (collectively with Millennium, “Takeda”) in order to establish a collaboration for the development and commercialization of TD-8954, a selective 5-HT4 receptor agonist. Under the terms of the Agreement, Takeda is responsible for worldwide development and commercialization of TD-8954. In early February 2018, we announced a global co-development and commercialization agreement with Janssen for TD-1473 and related back-up compounds for inflammatory intestinal diseases, including ulcerative colitis and Crohn's disease. In connection with these agreements, these parties have certain rights regarding the use of patents and technology with respect to the compounds in our development programs, including development and marketing rights.

We also have commercialization agreements with various partners for the commercialization of VIBATIV outside of the US, including Canada, Middle East, North Africa, Israel, Russia, China and India. In August 2016, we and Clinigen reached a mutual decision that Clinigen will return commercial rights to market and distribute VIBATIV in the EU to Theravance Biopharma and, since we do not intend to commercialize VIBATIV in the EU without a partner and have been unable to secure another partner to commercialize VIBATIV in the EU, in early 2018 we withdrew VIBATIV's EU marketing authorization.

Our partners might not fulfill all of their obligations under these agreements, and, in certain circumstances, they or we may terminate our partnership with them as Astellas did in January 2012 with its VIBATIV agreement and as we and Clinigen did in August 2016 with the commercialization agreement for VIBATIV in the EU and certain other European countries. In either event, we may be unable to assume the development and commercialization responsibilities covered by the agreements or enter into alternative arrangements with a third-party to develop and commercialize such product candidates. If a partner elected to promote alternative products and product candidates such as its own products and product candidates in preference to those licensed from us, does not devote an adequate amount of time and resources to our product candidates or is otherwise unsuccessful in its efforts with respect to our products or product candidates, the development and

commercialization of product candidates covered by the agreements could be delayed or terminated, and future payments to us could be delayed, reduced or eliminated and our business and financial condition could be materially and adversely affected. Accordingly, our ability to receive any revenue from the product candidates covered by these agreements is dependent on the efforts of our partners. If a partner terminates or breaches its agreements with us, otherwise fails to complete its obligations in a timely manner or alleges that we have breached our contractual obligations under these agreements, the chances of successfully developing or commercializing product candidates under the collaboration could be materially and adversely affected. We could also become involved in disputes with a partner, which could lead to delays in or termination of our development and commercialization programs and time-consuming and expensive litigation or arbitration. Furthermore, termination of an agreement by a partner could have an adverse effect on the price of our ordinary shares or other securities even if not material to our business.

We do not control TRC and, in particular, have no control over the GSK-Partnered Respiratory Programs or access to non-public information regarding the development of the GSK-Partnered Respiratory Programs.

Innoviva has assigned to TRC its strategic alliance agreement with GSK and all of its rights and obligations under its LABA collaboration agreement other than with respect to RELVAR[®] ELLIPTA[®]/BREO[®] ELLIPTA[®], ANORO[®] ELLIPTA[®] and vilanterol monotherapy. Our equity interest in TRC entitles us to an 85% economic interest in any future payments made by GSK under the strategic alliance agreement and under the portion of the collaboration agreement assigned to TRC (the “GSK Agreements”), which agreements govern Innoviva’s and GSK’s respective interests in the GSK-Partnered Respiratory Programs. Our equity interest covers various drug programs including all Trelegy Ellipta (the combination of fluticasone furoate, umeclidinium, and vilanterol in a single ELLIPTA[®] inhaler, previously referred to as the Closed Triple) products and the MABA program, as monotherapy and in combination with other therapeutically active components, such as an inhaled corticosteroid (“ICS”), and any other product or combination of products that may be discovered and developed in the future under the GSK Agreements. Our economic interest does not include any payments by GSK associated with RELVAR[®] ELLIPTA[®]/BREO[®] ELLIPTA[®], ANORO[®] ELLIPTA[®] or vilanterol monotherapy. Innoviva controls TRC and, except for certain limited consent rights, we have no right to participate in the business and affairs of TRC. Innoviva has the exclusive right to appoint TRC’s manager who, among other things, is responsible for the day-to-day management of the GSK-Partnered Respiratory Programs and exercises the rights relating to the GSK-Partnered Respiratory Programs. As a result, we have no rights to participate in, or access to non-public information about, the development and commercialization work GSK and Innoviva are undertaking with respect to the GSK-Partnered Respiratory Programs and no right to enforce rights under the GSK Agreements assigned to TRC. Moreover, we have many of the same risks with respect to our and TRC’s dependence on GSK as we have with respect to our dependence on our own partners.

If there are any adverse developments or perceived adverse developments with respect to the GSK-Partnered Respiratory Programs in which we have a substantial economic interest, including Trelegy Ellipta and the MABA program, our business will be harmed, and the price of our securities could fall.

We have no access to confidential information regarding the development progress of, or plans for, the GSK-Partnered Respiratory Programs, including Trelegy Ellipta and the MABA program, and we have little, if any, ability to influence the progress of those programs because our interest in these programs is only through our economic interest in TRC, which is controlled by Innoviva. However, if any of the GSK-Partnered Respiratory Programs in which we have a substantial economic interest encounter delays, do not demonstrate safety and efficacy, are terminated, or if there are any adverse developments or perceived adverse developments with respect to such programs, our business will be harmed, and the price of our securities could fall. Examples of such adverse developments include, but are not limited to:

- GSK deciding to delay or halt of any of the GSK-Partnered Respiratory Programs in which we have a substantial economic interest;
- the FDA and/or other regulatory authorities determining that any of the studies under these programs do not demonstrate adequate safety or efficacy, or that additional non-clinical or clinical studies are required with respect to such programs;
- any safety, efficacy or other concerns regarding any of the GSK-Partnered Respiratory Programs in which we have a substantial economic interest;

- any particular FDA requirements or changes in FDA policy or guidance regarding these programs;
- the emergence of new closed triple or other alternative therapies or any developments regarding these potentially competitive therapies, comparative price or efficacy of such potentially competitive therapies;
- disappointing or lower than expected sales of Trelegy Ellipta; or
- disputes between GSK and Innoviva or between us and Innoviva.

Because GSK is a strategic partner of Innoviva, a strategic partner of TRC and a significant shareholder of us, it may take actions that in certain cases are materially harmful to our business and to our other shareholders.

Based on our review of publicly available filings, as of June 30, 2018, GSK beneficially owned approximately 17.5% of our outstanding ordinary shares. GSK is also a strategic partner to Innoviva with rights and obligations under the GSK Agreements, which include the strategic alliance agreement and the collaboration agreement assigned to TRC, that may cause GSK's interests to differ from our interests and those of our other shareholders. In particular, following the approval of Trelegy Ellipta in the US and if a MABA/ICS is approved in either the US or the EU, GSK's diligent efforts obligations under the GSK Agreements with regard to commercialization matters will have the objective of focusing on the best interests of patients and maximizing the net value of the overall portfolio of products under the GSK Agreements. GSK's commercialization efforts will be guided by a portfolio approach across products in which we have an indirect interest through TRC and products in which we have no interest. Accordingly, GSK's commercialization efforts may have the effect of reducing the value of our interest in TRC. Furthermore, GSK has a substantial respiratory product portfolio in addition to the products covered by the GSK Agreements. GSK may make respiratory product portfolio decisions or statements about its portfolio which may be, or may be perceived to be, harmful to the respiratory products partnered with Innoviva and TRC. For example, GSK could promote its own respiratory products and/or delay or terminate the development or commercialization of the respiratory programs covered by the GSK Agreements. Also, given the potential future royalty payments GSK may be obligated to pay under the GSK Agreements, GSK may seek to acquire us or acquire our interests in TRC in order to effectively reduce those payment obligations and the price at which GSK might seek to acquire us may not reflect our true value. Before 2018, the actions GSK could have taken to acquire us were limited under our governance agreement with GSK (the "Governance Agreement"), but this agreement expired on December 31, 2017. In May 2018, our shareholders approved a resolution authorizing our board of directors to adopt a shareholder rights plan in the future which may deter GSK from acquiring more than 19.9% of our outstanding ordinary shares. However, our board of directors might not adopt such shareholder rights plan, and we otherwise might not be able to respond successfully to a takeover attempt. The timing of when GSK may seek to acquire us could potentially be when it possesses information regarding the status of drug programs covered by the GSK Agreements that has not been publicly disclosed and is not otherwise known to us. As a result of these differing interests, GSK may take actions that it believes are in its best interest but which might not be in the best interests of either us or our other shareholders. In addition, GSK could also seek to challenge our or Innoviva's post-Spin-Off operations as violating or allowing it to terminate the GSK Agreements, including by violating the confidentiality provisions of those agreements or the master agreement between GSK, Innoviva and us entered into in connection with the Spin-Off (the "Master Agreement"), or otherwise violating its legal rights. While we believe our operations fully comply with the GSK Agreements, the Master Agreement and applicable law, there can be no assurance that we or Innoviva will prevail against any such claims by GSK. Moreover, regardless of the merit of any claims by GSK, we may incur significant cost and diversion of resources in defending them. In addition, any other action or inaction by either GSK or Innoviva that results in a material dispute, allegation of breach, litigation, arbitration, or significant disagreement between those parties may be interpreted negatively by the market or by our investors, could harm our business and cause the price of our securities to fall. Examples of these kinds of issues include but are not limited to non-performance of contractual obligations and allegations of non-performance, disagreements over the relative marketing and sales efforts for Innoviva's partnered products and other GSK respiratory products, disputes over public statements, and similar matters. In general, any uncertainty about the respiratory programs partnered with GSK, the enforceability of the GSK Agreements or the relationship/partnership between Innoviva and GSK could result in significant reduction in the market price of our securities and other material harm to our business.

Our ongoing drug discovery and development efforts might not generate additional successful product candidates or approvable drugs.

Our compounds in clinical trials and our future leads for potential drug compounds are subject to the risks and failures inherent in the development of pharmaceutical products. These risks include, but are not limited to, the inherent difficulty in selecting the right drug and drug target and avoiding unwanted side effects, as well as unanticipated problems relating to product development, testing, enrollment, obtaining regulatory approvals, maintaining regulatory compliance, manufacturing, competition and costs and expenses that may exceed current estimates.

Clinical studies involving our product candidates may reveal that those candidates are ineffective, inferior to existing approved medicines, unacceptably toxic, or that they have other unacceptable side effects. In addition, the results of preclinical studies do not necessarily predict clinical success, and larger and later-stage clinical studies may not produce the same results as earlier-stage clinical studies.

Frequently, product candidates that have shown promising results in early preclinical or clinical studies have subsequently suffered significant setbacks or failed in later non-clinical or clinical studies. In some instances, there can be significant variability in safety and/or efficacy results between different trials of the same product candidate due to numerous factors, including changes in trial protocols, differences in size and type of the patient populations, varying levels of adherence to the dosing regimen and other trial protocols and the rate of dropout among clinical trial participants. Clinical and non-clinical studies of product candidates often reveal that it is not possible or practical to continue development efforts for these product candidates. In addition, the design of a clinical trial can determine whether its results will support regulatory approval and flaws in the design of a clinical trial may not become apparent until the clinical trial is well underway or completed. If our ongoing clinical studies for our current product candidates, such as the clinical studies for our JAK inhibitor program or TD-9855 in patients with nOH, are substantially delayed or suggest that our product candidate may not be efficacious or well tolerated, we could choose to cease development of these product candidates. In addition, our product candidates may have undesirable side effects or other unexpected characteristics that could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restricted label or the delay or denial of regulatory approval by regulatory authorities.

We face substantial competition from companies with more resources and experience than we have, which may result in others discovering, developing, receiving approval for or commercializing products before or more successfully than we do.

Our ability to succeed in the future depends on our ability to demonstrate and maintain a competitive advantage with respect to our approach to the discovery, development and commercialization of medicines. Our objective is to discover, develop and commercialize new small molecule medicines with superior efficacy, convenience, tolerability and/or safety using our proprietary insight in chemistry, biology and multivalency, where applicable. We expect that any medicines that we commercialize with or without our collaborative partners will compete with existing or future market-leading medicines.

Many of our current and potential competitors have substantially greater financial, technical and personnel resources than we have. In addition, many of these competitors have significantly greater commercial infrastructures than we have. Our ability to compete successfully will depend largely on our ability to leverage our experience in drug discovery and development, and, more recently, commercialization, to:

- discover and develop medicines that are superior to other products in the market;
- attract and retain qualified personnel;
- obtain and enforce patent and/or other proprietary protection for our medicines and technologies;
- conduct effective clinical trials and obtain required regulatory approvals;
- develop and effectively implement commercialization strategies, with or without collaborative partners; and

- successfully collaborate with pharmaceutical companies in the discovery, development and commercialization of new medicines.

Pharmaceutical companies, including companies with which we collaborate, may invest heavily to quickly discover and develop or in-license novel compounds that could make our product candidates obsolete. Accordingly, our competitors may succeed in obtaining patent protection, receiving FDA or equivalent regulatory approval outside the United States or discovering, developing and commercializing medicines before we do. Other companies are engaged in the discovery of medicines that would compete with the product candidates that we are developing.

Any new medicine that competes with a generic or proprietary market leading medicine must demonstrate compelling advantages in efficacy, convenience, tolerability and/or safety in order to overcome severe price competition and be commercially successful. VIBATIV must demonstrate these advantages in certain circumstances, as it competes with vancomycin, linezolid and daptomycin, relatively inexpensive generic drugs that are manufactured by a number of companies, and a number of existing antibacterial drugs marketed by major and other pharmaceutical companies. If approved as the first once-daily nebulized LAMA, YUPELRI would be expected to compete predominantly with short-acting nebulized bronchodilators used three to four times per day and the nebulized LAMA Lonhala™ Magnair™ (SUN-101/eFlow®) used twice per day. If we are not able to compete effectively against our current and future competitors, our business will not grow, our financial condition and operations will suffer and the price of our securities could fall.

If we are unable to enter into future collaboration arrangements or if any such collaborations with third parties are unsuccessful, we will be unable to fully develop and commercialize all of our product candidates and our business will be adversely affected.

We have collaborations with a number of third parties including Janssen for TD-1473 and related back-up compounds for inflammatory intestinal diseases, including ulcerative colitis and Crohn's disease, Mylan for the development and commercialization of a nebulized formulation of revefenacin, our LAMA compound (including YUPELRI), Alfasigma for velusetrag, Takeda for the development and commercialization of a selective 5-HT4 receptor agonist (TD-8954) and other companies for regional development and commercialization of VIBATIV. Also, through our interest in TRC we may participate economically in Innoviva's collaborations with GSK with respect to the GSK-Partnered Respiratory Programs. Additional collaborations will likely be needed to fund later-stage development of certain programs that have not been licensed to a collaborator, such as our NEP inhibitor program, and to commercialize the product candidates in our programs if approved by the necessary regulatory authorities. We may also seek collaboration arrangements with additional third parties to pursue the future commercialization of VIBATIV, though we have been unable to reach an agreement with a replacement partner to commercialize VIBATIV in the EU and have withdrawn the marketing authorization for VIBATIV in the EU, which will make reaching any such an agreement with respect to the EU more difficult. We evaluate commercial strategy on a product by product basis either to engage pharmaceutical or other healthcare companies with an existing sales and marketing organization and distribution system to market, sell and distribute our products or to commercialize a product ourselves. However, we may not be able to establish these sales and distribution relationships on acceptable terms, or at all, or may encounter difficulties in commercializing a product ourselves. For any of our product candidates that receive regulatory approval in the future and are not covered by our current collaboration agreements, we will need a partner in order to commercialize such products unless we establish independent sales, marketing and distribution capabilities with appropriate technical expertise and supporting infrastructure.

Collaborations with third parties regarding our programs may require us to relinquish material rights, including revenue from commercialization of our medicines, or to assume material ongoing development obligations that we would have to fund. These collaboration arrangements are complex and time-consuming to negotiate, and if we are unable to reach agreements with third-party collaborators, we may fail to meet our business objectives and our financial condition may be adversely affected. We face significant competition in seeking third-party collaborators. We may be unable to find third parties to pursue product collaborations on a timely basis or on acceptable terms. Furthermore, for any collaboration, we may not be able to control the amount of time and resources that our partners devote to our product candidates and our partners may choose to prioritize alternative programs or otherwise be unsuccessful in their efforts with respect to our products or product candidates. Our inability to successfully collaborate with third parties would increase our development costs and may cause us to choose not to continue development of certain product candidates, would limit the likelihood of successful commercialization of some of our product candidates, may cause us not to continue commercialization of our authorized products and could cause the price of our securities to fall.

We depend on third parties in the conduct of our clinical studies for our product candidates.

We depend on independent clinical investigators, contract research and manufacturing organizations and other third-party service providers in the conduct of our non-clinical and clinical studies for our product candidates. We rely heavily on these parties for execution of our non-clinical and clinical studies, and control only certain aspects of their activities. Nevertheless, we are responsible for ensuring that our clinical studies are conducted in accordance with good clinical, laboratory and manufacturing practices (“GXPs”) and other regulations as required by the FDA and foreign regulatory authorities, and the applicable protocol. Failure by these parties to comply with applicable regulations and practices in conducting studies of our product candidates can result in a delay in our development programs or non-approval of our product candidates by regulatory authorities.

The FDA, and equivalent authorities in other countries, enforces GXPs and other regulations through periodic inspections of trial sponsors, clinical research organizations (“CROs”), principal investigators and trial sites. If we or any of the third parties on which we have relied to conduct our clinical studies are determined to have failed to comply with GXPs (or other equivalent regulations outside the United States), the study protocol or applicable regulations, the clinical data generated in our studies may be deemed unreliable. This could result in non-approval of our product candidates by the FDA, or equivalent authorities in other countries, or we, the FDA, or equivalent authorities in other countries may decide to conduct additional audits or require additional clinical studies, which would delay our development programs, could result in significant additional costs and cause the price of our securities to fall.

We rely on a single source of supply for a number of our product candidates, and our business will be harmed if any of these single-source manufacturers are not able to satisfy demand and alternative sources are not available.

We have limited in-house production capabilities for preclinical and clinical study purposes, and depend primarily on a number of third-party Active Pharmaceutical Ingredient (“API”) and drug product manufacturers. We may not have long-term agreements with these third parties and our agreements with these parties may be terminable at will by either party at any time. If, for any reason, these third parties are unable or unwilling to perform, or if their performance does not meet regulatory requirements, we may not be able to locate alternative manufacturers or enter into acceptable agreements with them. Any inability to acquire sufficient quantities of API and drug product in a timely manner from these third parties could delay preclinical and clinical studies and prevent us from developing our product candidates in a cost-effective manner or on a timely basis. In addition, manufacturers of our API and drug product are subject to the FDA’s current Good Manufacturing Practice (“cGMP”) regulations and similar foreign standards and we do not have control over compliance with these regulations by our manufacturers.

Our manufacturing strategy presents the following additional risks:

- because of the complex nature of many of our compounds, our manufacturers may not be able to successfully manufacture our APIs and/or drug products in a cost effective and/or timely manner and changing manufacturers for our APIs or drug products could involve lengthy technology transfer, validation and regulatory qualification activities for the new manufacturer;
- the processes required to manufacture certain of our APIs and drug products are specialized and available only from a limited number of third-party manufacturers;
- some of the manufacturing processes for our APIs and drug products have not been scaled to quantities needed for continued clinical studies or commercial sales, and delays in scale-up to higher quantities could delay clinical studies, regulatory submissions and commercialization of our product candidates; and
- because some of the third-party manufacturers are located outside of the US, there may be difficulties in importing our APIs and drug products or their components into the US as a result of, among other things, FDA import inspections, incomplete or inaccurate import documentation or defective packaging.

Servicing our Notes requires a significant amount of cash, and we may not have sufficient cash flow from our business to pay our debt. Additionally, holders may require us to repurchase our Notes under certain circumstances, and we may not have sufficient cash to do so.

Our ability to make interest or principal payments when due or to refinance the Notes depends on our future performance, which is subject to economic, financial, competitive and other factors beyond our control. Our business may not generate cash flow from operations sufficient to satisfy our obligations under the Notes and any future indebtedness we may incur and to make necessary capital expenditures. We may be required to adopt one or more alternatives, such as reducing or delaying investments or capital expenditures, selling assets, refinancing or obtaining additional equity capital on terms that may be onerous or highly dilutive. Our ability to refinance the Notes or future indebtedness will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities on desirable terms or at all, which could result in a default on the Notes or future indebtedness.

Additionally, holders of the Notes may have the right to require us to repurchase the Notes upon the occurrence of a “fundamental change” such as a change of control of our Company or the termination of trading of our ordinary shares, as defined in the indenture, as amended, governing the Notes. We may not have sufficient funds to repurchase the Notes in cash or have the ability to arrange necessary financing on acceptable terms. Our failure to repurchase the Notes when required would result in an event of default with respect to the Notes. Any acceleration of the repayment of the Notes or future indebtedness after any applicable notice or grace periods could have a material adverse effect on our business, results of operations and financial condition.

Our business and operations would suffer in the event of significant disruptions of information technology systems or security breaches.

We rely extensively on computer systems to maintain information and manage our finances and business. In the ordinary course of business, we collect, store and transmit large amounts of confidential information (including but not limited to trade secrets or other intellectual property, proprietary business information and personal information) and it is critical that we maintain the confidentiality and integrity of such confidential information. Although we have security measures in place, our internal information technology systems and those of our CROs and other service providers, including cloud-based and hosted applications, data and services, are vulnerable to service interruptions and security breaches from inadvertent or intentional actions by our employees, service providers and/or business partners, from cyber-attacks by malicious third parties, and/or from, natural disasters, terrorism, war and telecommunication and electrical failures. Cyber-attacks are increasing in their frequency, sophistication, and intensity, and have become increasingly difficult to detect. Significant disruptions of information technology systems or security breaches could adversely affect our business operations and result in financial, legal, business and reputational harm to us, including significant liability and/or significant disruption to our business. If a disruption of information technology systems or security breach results in a loss of or damage to our data or regulatory applications, unauthorized access, use, or disclosure of, or the prevention of access to, confidential information, or other harm to our business, we could incur liability and reputational harm, we could be required to comply with federal and/or state breach notification laws and foreign law equivalents, we may incur legal expenses to protect our confidential information, the further development of our product candidates could be delayed and the price of our securities could fall. For example, the loss of clinical trial data from completed or ongoing clinical trials of our product candidates could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. Although we have security and fraud prevention measures in place, we have been subject to immaterial payment fraud activity. In 2017, we filed a lawsuit (which has since been resolved) against a former employee for misappropriation of our confidential, proprietary and trade secret information. Moreover, there can be no assurance that such security measures will prevent service interruptions or security breaches that could adversely affect our business.

If we lose key management or scientific personnel, or if we fail to attract and retain key employees, our ability to discover and develop our product candidates and commercialize VIBATIV and any other products that may be approved in the future will be impaired.

We are highly dependent on principal members of our management team and scientific staff, and in particular, our Chief Executive Officer, Rick E Winningham, to operate our business. Mr. Winningham has significant pharmaceutical industry experience. The loss of Mr. Winningham’s services could impair our ability to discover, develop and commercialize new medicines.

If we fail to retain our qualified personnel or replace them when they leave, we may be unable to continue our discovery, development and commercialization activities, which may cause the price of our securities to fall.

In addition, our US operating subsidiary's facility and most of its employees are located in northern California, headquarters to many other biotechnology and biopharmaceutical companies and many academic and research institutions. As a result, competition for certain skilled personnel in our market is intense. None of our employees have employment commitments for any fixed period of time and they all may leave our employment at will. If we fail to retain our qualified personnel or replace them when they leave, we may be unable to continue our development and commercialization activities and the price of our securities could fall.

Global health and economic, political and social conditions may harm our ability to do business, increase our costs and negatively affect our stock price.

Worldwide economic conditions remain uncertain due to the decision by the United Kingdom to initiate the formal procedure of withdrawal from the EU (often referred to as "Brexit"), current economic challenges in Asia and other disruptions to global and regional economies and markets.

Brexit has created significant uncertainty about the future relationship between the United Kingdom and the EU, including with respect to the laws and regulations that will apply as the United Kingdom determines which EU laws to replace or replicate in the event of a withdrawal. From a regulatory perspective, the United Kingdom's withdrawal could bear significant complexity and risks. In addition, the exact terms of the United Kingdom's withdrawal and the laws and regulations that will apply after the United Kingdom withdraws from the EU would affect manufacturing sites that hold an EU manufacturing authorization issued by the United Kingdom competent authorities. The referendum has also given rise to calls for the governments of other EU Member States to consider withdrawal from the EU.

Our operations also depend upon favorable trade relations between the US and those foreign countries in which our materials suppliers have operations. A protectionist trade environment in either the US or those foreign countries in which we do business, such as a change in the current tariff structures, export compliance or other trade policies, may materially and adversely affect our operations. External factors, such as potential terrorist attacks, acts of war, geopolitical and social turmoil or epidemics and other similar outbreaks in many parts of the world, could also prevent or hinder our ability to do business, increase our costs and negatively affect our stock price. These geopolitical, social and economic conditions could harm our business.

Our US operating subsidiary's facility is located near known earthquake fault zones, and the occurrence of an earthquake, extremist attack or other catastrophic disaster could cause damage to our facilities and equipment, which could require us to cease or curtail operations.

Our US operating subsidiary's facility is located in the San Francisco Bay Area near known earthquake fault zones and therefore will be vulnerable to damage from earthquakes. In October 1989, a major earthquake struck this area and caused significant property damage and a number of fatalities. We are also vulnerable to damage from other types of disasters, including power loss, attacks from extremist organizations, fire, floods, communications failures and similar events. If any disaster were to occur, our ability to operate our business could be seriously impaired. In addition, the unique nature of our research activities and of much of our equipment could make it difficult and costly for us to recover from this type of disaster. We may not have adequate insurance to cover our losses resulting from disasters or other similar significant business interruptions and we do not plan to purchase additional insurance to cover such losses due to the cost of obtaining such coverage. Any significant losses that are not recoverable under our insurance policies could seriously impair our business and financial condition, which could cause the price of our securities to fall.

VIBATIV has not been broadly accepted by physicians, patients, third-party payors, or the medical community in general, and we may never generate significant revenue or profits from VIBATIV.

The commercial success of VIBATIV depends upon its acceptance by physicians, patients, third-party payors and the medical community in general. VIBATIV may not be sufficiently accepted by these parties. VIBATIV competes with vancomycin (which accounts for a substantial majority of patient treatment days), linezolid and daptomycin, all relatively inexpensive generic drugs that are manufactured by a variety of companies, and a number of existing antibacterials manufactured and marketed by major pharmaceutical companies and others, and may compete against new antibacterials that

are not yet on the market. To date, VIBATIV has not been broadly accepted by physicians, patients, third-party payors, or the medical community in general, we believe primarily due to the availability of low cost generic antibiotic products such as vancomycin and daptomycin. Although we continue to view VIBATIV as an important medicine to treat serious infections in very sick patients and we intend to continue to support the product, given the challenges we have faced commercializing VIBATIV in a highly competitive environment against generic drugs, we have reduced and are closely managing our overall spending related to the product. In the future, if we are unable to demonstrate to physicians, patients, hospitals, healthcare systems third-party payors and the medical community in general that, based on experience, clinical data, side effect profiles and other factors, VIBATIV is a preferred injectable treatment for treating the infections for which it is indicated, we may never generate significant revenue or profits from VIBATIV.

We are responsible for marketing, sales and distribution of VIBATIV in the US and we may bear similar costs with respect to additional products in the future, including YUPELRI if approved, which subjects us to certain risks.

We currently maintain a limited VIBATIV sales force in the US and plan to add US YUPELRI sales and marketing personnel throughout 2018 to support our co-promotion obligations under our agreement with Mylan should YUPELRI be approved. The risks of continuing to support VIBATIV in the US without a partner and fulfilling our US co-promotion obligations to Mylan if YUPELRI is approved include:

- costs and expenses associated with creating and maintaining an independent sales and marketing organization with appropriate technical expertise and supporting infrastructure and distribution capability, including third-party vendor logistics and consultant support, which costs and expenses could, depending on the scope and method of the marketing effort, exceed any product revenue from VIBATIV, YUPELRI or any future products for several years;
- our ability to retain effective sales and marketing personnel and medical science liaisons in the US;
- the ability of our sales and marketing personnel to obtain access to and educate adequate numbers of physicians about prescribing VIBATIV and, if approved, YUPELRI, or any future products, in appropriate clinical situations; and
- the lack of complementary products to be offered by sales personnel, which may put us at a competitive disadvantage relative to companies with more extensive product lines.

If we are not successful in maintaining an internal sales and marketing organization with appropriate experience, technical expertise, supporting infrastructure, distribution capability and the ability to obtain access to and educate adequate numbers of physicians about prescribing VIBATIV, or any future products such as YUPELRI (if approved), in appropriate clinical situations, we will have difficulty commercializing these products, which would adversely affect our business and financial condition and the price of our securities could fall.

We rely on a single manufacturer for the API for telavancin and a separate, single manufacturer for VIBATIV drug product supply. Our business will be harmed if either of these single-source manufacturers are not able to satisfy demand and alternative sources are not available.

We have a single source of supply of API for telavancin and another, separate single source of supply of VIBATIV drug product. If, for any reason, either single-source third-party manufacturer of telavancin API or of VIBATIV drug product is unable or unwilling to perform, or if the performance of either does not meet regulatory requirements, including maintaining cGMP compliance, we may not be able to obtain sufficient quantities of API or drug product in a timely manner. We expect it would take approximately 24 months for an alternative manufacturer to be qualified by us and begin producing drug product for us. We have sufficient quantities of VIBATIV drug product on hand to meet our currently anticipated needs until approximately the first quarter of 2020. This supply was manufactured by Pfizer, our single source manufacturer for VIBATIV, at its McPherson, Kansas facility. Pfizer received an FDA warning letter relating to a 2016 inspection of this facility and was notified that the FDA has upgraded the status of the facility to Voluntary Action Indicated (VAI) in early 2018. None of the lots cited in the warning letter were manufactured VIBATIV drug product. We have manufactured additional VIBATIV drug product at this facility in 2018, which is in the process of being released. Given the time required to locate and qualify another acceptable drug product manufacturer, any supply delay, suspension or cessation in the

manufacture and release of VIBATIV drug product could adversely affect the commercialization of VIBATIV and our obligations to our partners. Similarly, any inability to acquire sufficient quantities of API in a timely manner from current or future sources would adversely affect the commercialization of VIBATIV and our ability to satisfy our obligations to our partners. If either of these were to occur, our business would be harmed.

Our current agreement with Pfizer to supply VIBATIV drug product was entered into May 2012. In June 2013, the FDA approved Pfizer as a VIBATIV drug product manufacturer. In September 2016, we amended our agreement with Pfizer to extend the term of the agreement to December 31, 2020. In July 2018, Pfizer notified us that it will not renew our agreement after it expires at the end of 2020, though it remains committed to manufacturing under our agreement until the end of the contract's term. We are currently in the process of qualifying another manufacturer to supply VIBATIV drug product for us. Although we believe that our new supplier will be qualified and able to manufacture VIBATIV drug product for us after 2020, there can be no assurance in this regard. We may need to arrange for the advance manufacture and purchase of VIBATIV drug product in order to manage the transition to a new supplier and such advance manufacturing and purchasing entails significant uncertainties, including the risk of purchasing excess or insufficient quantities relative to our future needs and the possible expiration of excess inventories. Any difficulties in continuing or transitioning our single source suppliers would adversely affect the commercialization of VIBATIV and our ability to satisfy our obligations to our partners and the price of our securities could fall.

We are subject to extensive and ongoing regulation, oversight and other requirements by the FDA with respect to VIBATIV and failure to comply with these regulations and requirements may subject us to penalties that may adversely affect our financial condition or our ability to commercialize VIBATIV.

With VIBATIV approved in certain countries, we are subject to continuing regulatory obligations, such as safety reporting requirements and additional post-marketing obligations, including regulatory oversight of promotion and marketing. Prescription drug advertising and promotion are closely scrutinized by the FDA, including substantiation of promotional claims, disclosure of risks and safety information, and the use of themes and imagery in advertising and promotional materials. As with all companies selling and marketing products regulated by the FDA in the US, we are prohibited from promoting any uses of VIBATIV that are outside the scope of those uses that have been expressly approved by the FDA as safe and effective on the VIBATIV label.

The US labeling for VIBATIV contains a boxed warning. Products with boxed warnings are subject to more restrictive advertising regulations than products without such warnings and FDA regulations prohibit the use of reminder advertising for VIBATIV.

In addition, patients receive a medication guide with each course of antibiotic use in connection with the approved labeling for VIBATIV. Further, the VIBATIV labeling for hospital-acquired and ventilator associated bacterial pneumonia ("HABP/VABP") specifies that VIBATIV should be reserved for use when alternative treatments are not suitable. These restrictions add complexity to the marketing of VIBATIV.

The FDA has also required that we evaluate the safety of VIBATIV use during pregnancy by developing and maintaining a prospective, observational pregnancy exposure registry study conducted in the United States. This postmarketing study remains ongoing and will continue through the end of 2019.

Under the Pediatric Research Equity Act (PREA), the FDA also requires that we conduct two pediatric pharmacokinetic studies, one Phase 3 randomized, comparator-controlled study in pediatric patients with Gram-positive infections, as well as a study gathering data regarding the treatment of cSSSI in pediatric patients. If we are unable to meet the applicable deadlines for any of these studies, FDA may issue us a non-compliance letter, to which will be required to respond within 45 days. FDA's non-compliance letter and our response will be posted publicly on the FDA website. If we continue to be unable to meet our deadlines, FDA may deem VIBATIV to be misbranded and, on that basis, VIBATIV could be subject to injunction proceedings or seizure by FDA.

The manufacturing, labeling, packaging, adverse event reporting, advertising, promotion and recordkeeping for the approved product remain subject to extensive and ongoing regulatory requirements. If we become aware of previously unknown problems with an approved product in the US or overseas or at a contract manufacturer's facilities, a regulatory authority may impose restrictions on the product, the contract manufacturers or on us, including requiring us to reformulate

the product, conduct additional clinical studies, change the labeling of the product, withdraw the product from the market or require the contract manufacturer to implement changes to its facilities.

We are also subject to regulation by regional, national, state and local agencies, including the Department of Justice, the Federal Trade Commission, the Office of Inspector General of the US Department of Health and Human Services (“OIG”) and other regulatory bodies with respect to VIBATIV, as well as governmental authorities in those foreign countries in which any of our product candidates are approved for commercialization. The Federal Food, Drug, and Cosmetic Act, the Public Health Service Act and other federal and state statutes and regulations govern to varying degrees the research, development, manufacturing and commercial activities relating to prescription pharmaceutical products, including non-clinical and clinical testing, approval, production, labeling, sale, distribution, import, export, post-market surveillance, advertising, dissemination of information and promotion. If we or any third parties that provide these services for us are unable to comply, we may be subject to regulatory or civil actions or penalties that could significantly and adversely affect our business.

Regulatory approval for our product candidates, if any, may include similar or other limitations on the indicated uses for which we can market our medicines or the patient population that may utilize our medicines, which may limit the market for our medicines or put us at a competitive disadvantage relative to alternative therapies.

Failure to satisfy required post-approval requirements and/or commitments may have implications for a product’s approval and may carry civil monetary penalties. Any failure to maintain regulatory approval will limit our ability to commercialize VIBATIV or our product candidates and if we fail to comply with FDA regulations and requirements regarding VIBATIV or any of our product candidates, the FDA could potentially take a number of enforcement actions against us, including the issuance of untitled letters, warning letters, preventing the introduction or delivery of VIBATIV into interstate commerce in the United States, misbranding charges, product seizures, injunctions, and civil monetary penalties, which would materially and adversely affect our business and financial condition and may cause the price of our securities to fall.

The risks identified in this risk factor relating to regulatory actions and oversight by agencies in the US and throughout the world also apply to the commercialization of any partnered products by our collaboration partners, and such regulatory actions and oversight may limit our collaboration partners’ ability to commercialize such products, which could materially and adversely affect our business and financial condition, and which may cause the price of our securities to fall.

We may face competition from companies seeking to market generic versions of VIBATIV.

Under the Drug Price Competition and Patent Term Restoration Act of 1984, a company may submit an abbreviated new drug application (ANDA) under section 505(j) of the Federal Food, Drug, and Cosmetic Act to market a generic version of an approved drug. Because a generic applicant does not conduct its own clinical studies, but instead relies on the FDA’s finding of safety and effectiveness for the approved drug, it is able to introduce a competing product into the market at a cost significantly below that of the original drug. Although we have multiple patents protecting VIBATIV until at least 2027 that are listed in the FDA’s Approved Drug Products with Therapeutic Equivalence Evaluations, commonly known as the Orange Book, generic applicants could potentially submit “paragraph IV certifications” to FDA stating that such patents are invalid or will not be infringed by the applicant’s product. We have not received any such paragraph IV notifications but if any competitors successfully challenge our patents, we would face substantial competition. If we are not able to compete effectively against such future competition, our business will not grow, our financial condition and operations will suffer and the price of our securities could fall.

For additional discussion of the risk of generic competition to VIBATIV, please see the following risk factor below “*If our efforts to protect the proprietary nature of the intellectual property related to our technologies are not adequate, we may not be able to compete effectively in our current or future markets.*”

We may be treated as a US corporation for US federal income tax purposes.

For US federal income tax purposes, a corporation generally is considered tax resident in the place of its incorporation. Theravance Biopharma is incorporated under Cayman Islands law and established tax residency in Ireland effective July 1, 2015. Therefore, it should be a non-US corporation under this general rule. However, Section 7874 of the

Internal Revenue Code of 1986, as amended (the “Code”), contains rules that may result in a foreign corporation being treated as a US corporation for US federal income tax purposes. The application of these rules is complex and there is little guidance regarding certain aspects of their application.

Under Section 7874 of the Code, a corporation created or organized outside the US will be treated as a US corporation for US federal tax purposes if (i) the foreign corporation directly or indirectly acquires substantially all of the properties held directly or indirectly by a US corporation, (ii) the former shareholders of the acquired US corporation hold at least 80% of the vote or value of the shares of the foreign acquiring corporation by reason of holding stock in the US acquired corporation, and (iii) the foreign corporation’s “expanded affiliated group” does not have “substantial business activities” in the foreign corporation’s country of incorporation relative to its expanded affiliated group’s worldwide activities. For this purpose, “expanded affiliated group” generally means the foreign corporation and all subsidiaries in which the foreign corporation, directly or indirectly, owns more than 50% of the stock by vote and value, and “substantial business activities” generally means at least 25% of employees (by number and compensation), assets and gross income of our expanded affiliated group are based, located and derived, respectively, in the country of incorporation.

We do not expect to be treated as a US corporation under Section 7874 of the Code, because we do not believe that the assets contributed to us by Innoviva constituted “substantially all” of the properties of Innoviva (as determined on both a gross and net fair market value basis). However, the Internal Revenue Service may disagree with our conclusion on this point and assert that, in its view, the assets contributed to us by Innoviva did constitute “substantially all” of the properties of Innoviva. In addition, there could be legislative proposals to expand the scope of US corporate tax residence and there could be changes to Section 7874 of the Code or the Treasury Regulations promulgated thereunder that could apply retroactively and could result in Theravance Biopharma being treated as a US corporation.

If it were determined that we should be treated as a US corporation for US federal income tax purposes, we could be liable for substantial additional US federal income tax on our post-Spin-Off taxable income. In addition, though we have no current plans to pay any dividends, payments of any dividends to non-US holders may be subject to US withholding tax.

Taxing authorities may challenge our structure and transfer pricing arrangements.

We are incorporated in the Cayman Islands, maintain subsidiaries in the Cayman Islands, the United States, the United Kingdom and Ireland, and effective July 1, 2015, we migrated our tax residency from the Cayman Islands to Ireland. Due to economic and political conditions various countries are actively considering changes to existing tax laws. We cannot predict the form or timing of potential legislative changes that could have a material adverse impact on our results of operations. We are aware that Ireland is expected to implement certain tax law changes to comply with the European Union Anti-Tax Avoidance Directives. These changes will include the first ever Irish controlled foreign company rules which are expected to be effective on January 1, 2019. It is also expected that Ireland will implement certain transfer pricing rule changes, most likely with effect from 2020. Proposed statutory language has not yet been provided for either set of rules, and as a result, we have not yet been able to determine the impact, if any, of such future legislation on our operations.

In addition, significant judgment is required in determining our worldwide provision for income taxes. Various factors may have favorable or unfavorable effects on our income tax rate including, but not limited to the performance of certain functions and ownership of certain assets in tax-efficient jurisdictions such as the Cayman Islands and Ireland, together with intra-group transfer pricing agreements. Taxing authorities may challenge our structure and transfer pricing arrangements through an audit or lawsuit. Responding to or defending such a challenge could be expensive and consume time and other resources, and divert management’s time and focus from operating our business. We cannot predict whether taxing authorities will conduct an audit or file a lawsuit challenging this structure, the cost involved in responding to any such audit or lawsuit, or the outcome. We may be required to pay taxes for prior periods, interest, fines or penalties, and may be obligated to pay increased taxes in the future which could result in reduced cash flows and have a material adverse effect on our business, financial condition and growth prospects.

We were a passive foreign investment company, or “PFIC,” for 2014, but we were not a PFIC from 2015 through 2017, and we do not expect to be a PFIC for the foreseeable future.

For US federal income tax purposes, we generally would be classified as a PFIC for any taxable year if either (i) 75% or more of our gross income (including gross income of certain 25% or more owned corporate subsidiaries) is

“passive income” (as defined for such purposes) or (ii) the average percentage of our assets (including the assets of certain 25% or more owned corporate subsidiaries) that produce passive income or that are held for the production of passive income is at least 50%. In addition, whether our Company will be a PFIC for any taxable year depends on our assets and income over the course of each such taxable year and, as a result, cannot be predicted with certainty until after the end of the year.

Based upon our assets and income during the course of 2014, we believe that our Company and one of our Company’s wholly-owned subsidiaries, Theravance Biopharma R&D, Inc. was a PFIC for 2014. Based upon our assets and income from 2015 through 2017, we do not believe that our Company is a PFIC during these three years. We do not expect to be a PFIC for the foreseeable future based on our current business plans and current business model. For any taxable year (or portion thereof) in which our Company is a PFIC that is included in the holding period of a US holder, the US holder is generally subject to additional US federal income taxes plus an interest charge with respect to certain distributions from Theravance Biopharma or gain recognized on a sale of Theravance Biopharma shares. Similar rules would apply with respect to distributions from or gain recognized on an indirect sale of Theravance Biopharma R&D, Inc. US holders of our ordinary shares may have filed an election with respect to Company shares held at any time during 2014 to be treated as owning an interest in a “qualified electing fund” (“QEF”) or to “mark to market” their ordinary shares to avoid the otherwise applicable interest charge consequences of PFIC treatment with respect to our ordinary shares. A foreign corporation will not be treated as a QEF for any taxable year in which such foreign corporation is not treated as a PFIC. QEF and mark to market elections generally apply to the taxable year for which the election is made and all subsequent taxable years unless the election is revoked with consent of the Secretary of Treasury. US holders of our ordinary shares should consult their tax advisers regarding the tax reporting implications with respect to any QEF and mark to market elections made with respect to our Company and with respect to their indirect interests in Theravance Biopharma R&D, Inc.

If we are unable to maintain effective internal controls, our business, financial position and results of operations could be adversely affected.

If we are unable to maintain effective internal controls, our business, financial position and results of operations could be adversely affected. We are subject to the reporting and other obligations under the Exchange Act, including the requirements of Section 404 of the Sarbanes-Oxley Act of 2002, which require annual management assessments of the effectiveness of our internal control over financial reporting. Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) under the Exchange Act. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States. Any failure to achieve and maintain effective internal controls could have an adverse effect on our business, financial position and results of operations. In addition, our independent registered public accounting firm is required to attest to the effectiveness of our internal control over financial reporting annually. If our independent registered public accounting firm is unable to attest to the effectiveness of our internal control over financial reporting, investor confidence in our reported results will be harmed and the price of our securities may fall. These reporting and other obligations place significant demands on our management and administrative and operational resources, including accounting resources.

Agreements entered into with or for the benefit of GSK in connection with the Spin-Off may significantly restrict our business and affairs.

On March 3, 2014, in connection with the Spin-Off, we, Innoviva and GSK entered into a number of agreements that may significantly restrict our business and affairs. In particular, we, Innoviva and GSK entered into the Master Agreement which, among other things, requires GSK’s consent to make any changes to (A) a Separation and Distribution Agreement and ancillary agreements that would, individually or in the aggregate, reasonably be expected to adversely affect GSK in any material respect or (B) the TRC Limited Liability Company Agreement, which consent is not to be unreasonably withheld, conditioned or delayed, provided that GSK may withhold, condition or delay such consent in its sole discretion with respect to certain sections of the TRC Limited Liability Company Agreement and any changes to the governance structure of TRC, the confidentiality restrictions, the consent rights, and the transfer restrictions in the TRC Limited Liability Company Agreement. We and GSK also entered into (i) the Governance Agreement that expired on December 31, 2017, (ii) a registration rights agreement that gives GSK certain registration rights with respect to our ordinary shares held by GSK and (iii) an extension agreement that extends to us certain restrictive covenants similar to those applicable to Innoviva under

the GSK Agreements. There can be no assurance that these restrictions will not materially harm our business, particularly given that GSK's interests may not be aligned with the interests of our business or our other shareholders.

Certain of our directors and officers may have actual or potential conflicts of interest because of their equity ownership in Innoviva, which actual or potential conflicts may harm our business, prospects and financial condition and result in the diversion of corporate opportunities to Innoviva.

Certain of our directors and executive officers hold shares of Innoviva's common stock or rights to acquire such shares, and these holdings may be significant for some of these individuals compared to their total assets. This ownership of Innoviva common stock by most of our officers and directors may create, or may create the appearance of, conflicts of interest when these directors and officers are faced with decisions that could have different implications for Innoviva and for us. For example, potential or actual conflicts could arise relating to: our relationship with Innoviva, including Innoviva's and our respective rights and obligations under agreements entered into in connection with the Spin-Off; Innoviva's management of TRC, particularly given that we and Innoviva have different economic interests in TRC; and corporate opportunities that may be available to both companies in the future. Although we and Innoviva have implemented policies and procedures to identify and properly address such potential and actual conflicts of interest, there can be no assurance that, when such conflicts are resolved in accordance with applicable laws, such conflicts of interest will not harm our business, prospects and financial condition and result in the diversion of corporate opportunities to Innoviva.

If we are required to indemnify Innoviva, or if we are not able to collect on indemnification rights from Innoviva, our business prospects and financial condition may be harmed.

We agreed to indemnify Innoviva from and after the Spin-Off with respect to (i) all debts, liabilities and obligations transferred to us in connection with the Spin-Off (including our failure to pay, perform or otherwise promptly discharge any such debts, liabilities or obligations after the Spin-Off), (ii) any misstatement or omission of a material fact resulting in a misleading statement in our Information Statement distributed to Innoviva stockholders in connection with the Spin-Off and (iii) any breach by us of certain agreements entered into with Innoviva in connection with the Spin-Off (namely, the Separation and Distribution Agreement, a Transition Services Agreement, an Employee Matters Agreement, a Tax Matters Agreement, and a Facility Sublease Agreement). We are not aware of any existing indemnification obligations at this time, but any such indemnification obligations that may arise could be significant. Under the terms of the Separation and Distribution Agreement, Innoviva agreed to indemnify us from and after the Spin-Off with respect to (i) all debts, liabilities and obligations retained by Innoviva after the Spin-Off (including its failure to pay, perform or otherwise promptly discharge any such debts, liabilities or obligations after the Spin-Off) and (ii) any breach by Innoviva of the Separation and Distribution Agreement, the Transition Services Agreement, the Employee Matters Agreement, the Tax Matters Agreement, and the Facility Sublease Agreement. Our and Innoviva's ability to satisfy these indemnities, if called upon to do so, will depend upon our and Innoviva's future financial strength. If we are required to indemnify Innoviva, or if we are not able to collect on indemnification rights from Innoviva, our business prospects and financial condition may be harmed.

RISKS RELATED TO LEGAL AND REGULATORY UNCERTAINTY

If our efforts to protect the proprietary nature of the intellectual property related to our technologies are not adequate, we may not be able to compete effectively in our current or future markets.

We rely upon a combination of patents, patent applications, trade secret protection and confidentiality agreements to protect the intellectual property related to our technologies. Any involuntary disclosure to or misappropriation by third parties of this proprietary information could enable competitors to quickly duplicate or surpass our technological achievements, thus eroding our competitive position in our market. The status of patents in the biotechnology and pharmaceutical field involves complex legal and scientific questions and is very uncertain. As of June 30, 2018, we owned 469 issued United States patents and 2,453 granted foreign patents, as well as additional pending United States and foreign patent applications. Our patent applications may be challenged or fail to result in issued patents and our existing or future patents may be invalidated or be too narrow to prevent third parties from developing or designing around these patents. If the sufficiency of the breadth or strength of protection provided by our patents with respect to a product candidate is threatened, it could dissuade companies from collaborating with us to develop product candidates and threaten our ability to commercialize products. Further, if we encounter delays in our clinical trials or in obtaining regulatory approval of our product candidates, the patent lives of the related product candidates would be reduced.

In addition, we rely on trade secret protection and confidentiality agreements to protect proprietary know-how that is not patentable, for processes for which patents are difficult to enforce and for any other elements of our drug discovery and development processes that involve proprietary know-how, information and technology that is not covered by patent applications. Although we require our employees, consultants, advisors and any third parties who have access to our proprietary know-how, information and technology to enter into confidentiality agreements, we cannot be certain that this know-how, information and technology will not be misappropriated, disclosed or used for unauthorized purposes or that competitors will not otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. For example, in 2017, we filed a lawsuit (which has since been resolved) against a former employee for misappropriation of our confidential, proprietary and trade secret information. Further, the laws of some foreign countries do not protect proprietary rights to the same extent as the laws of the United States. As a result, we may encounter significant problems in protecting and defending our intellectual property both in the United States and abroad. If we are unable to prevent material disclosure of the intellectual property related to our technologies to third parties, we will not be able to establish or, if established, maintain a competitive advantage in our market, which could materially adversely affect our business, financial condition and results of operations, which could cause the price of our securities to fall.

Litigation to protect or defend our intellectual property or third-party claims of intellectual property infringement would require us to divert resources and may prevent or delay our drug discovery and development efforts.

Our commercial success depends in part on us and our partners not infringing the patents and proprietary rights of third parties. Third parties may assert that we or our partners are using their proprietary rights without authorization. There are third-party patents that may cover materials or methods for treatment related to our product candidates. At present, we are not aware of any patent infringement claims with merit that would adversely and materially affect our ability to develop our product candidates, but nevertheless the possibility of third-party allegations cannot be ruled out. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. Furthermore, parties making claims against us or our partners may obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize one or more of our product candidates. Defense against these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business.

In the event of a successful claim of infringement against us, we may have to pay substantial damages, obtain one or more licenses from third parties or pay royalties. In addition, even in the absence of litigation, we may need to obtain licenses from third parties to advance our research or allow commercialization of our product candidates, and we have done so from time to time. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all. In that event, we would be unable to further develop and commercialize one or more of our product candidates, which could harm our business significantly.

In addition, in the future we could be required to initiate litigation to enforce our proprietary rights against infringement by third parties, prevent the unauthorized use or disclosure of our trade secrets and confidential information, or defend the validity of our patents. For example, in 2017, we filed a lawsuit against a former employee for misappropriation of certain of our confidential, proprietary and trade secret information. While this litigation has since been resolved, prosecution of claims to enforce or defend our rights against others involve substantial litigation expenses and divert substantial employee resources from our business but may not result in adequate remedy to us or sufficiently mitigate the harm to our business caused by any intellectual property infringement, unauthorized access, use or disclosure of trade secrets. If we fail to effectively enforce our proprietary rights against others, our business will be harmed and the price of our securities could fall.

If the efforts of our partners or future partners to protect the proprietary nature of the intellectual property related to collaboration assets are not adequate, the future commercialization of any medicines resulting from collaborations could be delayed or prevented, which would materially harm our business and could cause the price of our securities to fall.

The risks identified in the two preceding risk factors may also apply to the intellectual property protection efforts of our partners or future partners and to GSK with respect to the GSK-Partnered Respiratory Programs in which we hold an economic interest. To the extent the intellectual property protection of any partnered assets are successfully challenged or encounter problems with the United States Patent and Trademark Office or other comparable agencies throughout the world, the future commercialization of these potential medicines could be delayed or prevented. Any challenge to the intellectual

property protection of a late-stage development asset, particularly those of the GSK-Partnered Respiratory Programs in which we hold an economic interest, could harm our business and cause the price of our securities to fall.

Product liability and other lawsuits could divert our resources, result in substantial liabilities and reduce the commercial potential of our medicines.

The risk that we may be sued on product liability claims is inherent in the development and commercialization of pharmaceutical products. Side effects of, or manufacturing defects in, products that we or our partners develop or commercialize could result in the deterioration of a patient's condition, injury or even death. The VIBATIV prescribing information describes several potential adverse effects observed during clinical trials, including increased mortality versus vancomycin in patients with HABP/VABP who had pre-existing moderate to severe renal impairment, decreased clinical response in patients with cSSSI who had pre-existing moderate/severe renal impairment, and other renal adverse events. The prescribing information includes a black box warning regarding increased mortality in patients with pre-existing moderate/severe renal impairment who were treated with VIBATIV for HABP/VABP, new onset or worsening renal impairment, use in women of childbearing potential or during pregnancy and adverse developmental outcomes observed in 3 animal species. Once a product is approved for sale and commercialized, the likelihood of product liability lawsuits tends to increase. Claims may be brought by individuals seeking relief for themselves or by individuals or groups seeking to represent a class, asserting injuries based both on potential adverse effects described in the label as well as adverse events not yet observed. We also face an inherent risk of product liability exposure related to the testing of our product candidates in human clinical trials. In addition, changes in laws outside the US are expanding our potential liability for injuries that occur during clinical trials. Product liability claims could harm our reputation, regardless of the merit or ultimate success of the claim, which may adversely affect our and our partners' ability to commercialize our products and cause the price of our securities to fall. These lawsuits may divert our management from pursuing our business strategy and may be costly to defend. In addition, if we are held liable in any of these lawsuits, we may incur substantial liabilities and may be forced to limit or forgo further commercialization of the applicable products.

Although we maintain general liability and product liability insurance, this insurance may not fully cover potential liabilities and we cannot be sure that our insurer will not disclaim coverage as to a future claim. In addition, inability to obtain or maintain sufficient insurance coverage at an acceptable cost or to otherwise protect against potential product liability claims could prevent or inhibit the commercial production and sale of our products, which could adversely affect our business.

We may also be required to prosecute or defend general commercial, intellectual property, securities and other lawsuits. Litigation typically involves substantial expenses and diverts substantial employee resources from our business. The cost of defending any product liability litigation or engaging in any other legal proceeding, even if resolved in our favor, could be substantial and uncertainties resulting from the initiation and continuation of the litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace and achieve our business goals.

If we fail to comply with data protection laws and regulations, we could be subject to government enforcement actions (which could include civil or criminal penalties), private litigation and/or adverse publicity, which could negatively affect our operating results and business.

We are subject to data protection laws and regulations (i.e., laws and regulations that address privacy and data security). In the US, numerous federal and state laws and regulations, including state data breach notification laws, state health information privacy laws, and federal and state consumer protection laws (e.g., Section 5 of the FTC Act), govern the collection, use, disclosure, and protection of health-related and other personal information. Failure to comply with data protection laws and regulations could result in government enforcement actions and create liability for us (which could include civil and/or criminal penalties), private litigation and/or adverse publicity that could negatively affect our operating results and business. In addition, we may obtain health information from third parties (e.g., healthcare providers who prescribe our products) that are subject to privacy and security requirements under the Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act ("HIPAA"). Although we are not directly subject to HIPAA—other than with respect to providing certain employee benefits—we could be subject to criminal penalties if we knowingly obtain or disclose individually identifiable health information maintained by a HIPAA-covered entity in a manner that is not authorized or permitted by HIPAA. HIPAA generally requires that healthcare providers and other covered entities obtain written authorizations from patients prior to

disclosing protected health information of the patient (unless an exception to the authorization requirement applies). If authorization is required and the patient fails to execute an authorization or the authorization fails to contain all required provisions, then we may not be allowed access to and use of the patient's information and our research efforts could be impaired or delayed. Furthermore, use of protected health information that is provided to us pursuant to a valid patient authorization is subject to the limits set forth in the authorization (e.g., for use in research and in submissions to regulatory authorities for product approvals). In addition, HIPAA does not replace federal, state, international or other laws that may grant individuals even greater privacy protections.

EU Member States and other jurisdictions where we operate have adopted data protection laws and regulations, which impose significant compliance obligations. For example, the General Data Protection Regulation (GDPR) which became applicable on 25 May 2018, replacing the EU Data Protection Directive, imposes strict obligations and restrictions on the ability to collect, analyze and transfer personal data, including health data from clinical trials and adverse event reporting.

Switzerland has adopted similar restrictions. These obligations and restrictions concern, in particular, the consent of the individuals to whom the personal data relate, the information provided to the individuals, the transfer of personal data out of the EU, security breach notifications, security and confidentiality of the personal data, as well as substantial potential fines for breaches of the data protection obligations. Data protection authorities from the different EU Member States may interpret the GDPR and applicable related national laws differently and impose requirements additional to those provided in the GDPR. In addition, guidance on implementation and compliance practices may be updated or otherwise revised, which adds to the complexity of processing personal data in the EU. When processing personal data of subjects in the EU, we have to comply with the applicable data protection laws. In particular, as we rely on services providers processing personal data of subjects in the EU, we have to enter into suitable contract terms with such providers and receive sufficient guarantees that such providers meet the requirements of the applicable data protection laws, particularly the GDPR which imposes specific and relevant obligations.

Although there are legal mechanisms to allow for the transfer of personal data from the EEA to the US, a decision of the European Court of Justice in the Schrems case (Case C-362/14 Maximilian Schrems v. Data Protection Commissioner) that invalidated the safe harbor framework has increased uncertainty around compliance with EU privacy law requirements. As a result of the decision, it was no longer possible to rely on the safe harbor certification as a legal basis for the transfer of personal data from the EU to entities in the US. On February 29, 2016, however, the European Commission announced an agreement with the United States Department of Commerce (DOC) to replace the invalidated Safe Harbor framework with a new EU-US "Privacy Shield." On July 12, 2016, the European Commission adopted a decision on the adequacy of the protection provided by the Privacy Shield. The Privacy Shield is intended to address the requirements set out by the European Court of Justice in its ruling by imposing more stringent obligations on companies, providing stronger monitoring and enforcement by the DOC and Federal Trade Commission, and making commitments on the part of public authorities regarding access to information. US companies have been able to certify to the US Department of Commerce their compliance with the privacy principles of the Privacy Shield since August 1, 2016.

On September 16, 2016, an Irish privacy advocacy group brought an action for annulment of the EC decision on the adequacy of the Privacy Shield before the European Court of Justice (Case T-670/16). In October 2016, a further action for annulment was brought by three French digital rights advocacy groups (Case T-738/16). Case T-670/16 was declared inadmissible and Case T-738/16 is still pending before the European Court of Justice. If, however, the European Court of Justice invalidates the Privacy Shield, it will no longer be possible to rely on the Privacy Shield certification to support transfer of personal data from the EU to entities in the US. Adherence to the Privacy Shield is not, however, mandatory. US-based companies are permitted to rely either on their adherence to the Privacy Shield or on the other authorized means and procedures to transfer personal data provided by the GDPR. If we or our vendors fail to comply with applicable data privacy laws, or if the legal mechanisms we or our vendors rely upon to allow for the transfer of personal data from the EEA or Switzerland to the US (or other countries not considered by the European Commission to provide an adequate level of data protection) are not considered adequate, we could be subject to government enforcement actions and significant penalties against us, and our business could be adversely impacted if our ability to transfer personal data outside of the EEA or Switzerland is restricted, which could adversely impact our operating results.

Changes in healthcare law and implementing regulations, including government restrictions on pricing and reimbursement, as well as healthcare policy and other healthcare payor cost-containment initiatives, may negatively impact our ability to generate revenues.

The continuing efforts of the government, insurance companies, managed care organizations and other payors of health care costs to contain or reduce costs of health care may adversely affect one or more of the following:

- our or our collaborators' ability to set and collect a price we believe is reasonable for our product;
- our ability to generate revenues and achieve profitability; and
- the availability of capital.

The pricing and reimbursement environment for VIBATIV and any future products may change in the future and become more challenging due to, among other reasons, policies advanced by the current or new presidential administrations, federal agencies, new healthcare legislation passed by Congress or fiscal challenges faced by all levels of government health administration authorities. Among policy makers and payors in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality and expanding access to healthcare. In the United States, the pharmaceutical industry has been a particular focus of these efforts and has been and may in the future be significantly affected by major legislative initiatives. We expect to experience pricing pressures in connection with the sale of VIBATIV and other products we may bring to market, due to the trend toward managed healthcare, the increasing influence of health maintenance organizations and additional legislative enactments.

The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010 (together the "Healthcare Reform Act"), is a sweeping measure intended to expand healthcare coverage within the United States, primarily through the imposition of health insurance mandates on employers and individuals and expansion of the Medicaid program. This law substantially changes the way healthcare is financed by both governmental and private insurers, and significantly impacts the pharmaceutical industry. The Healthcare Reform Act contains a number of provisions that impact our business and operations, including those governing enrollment in federal healthcare programs, reimbursement changes, benefits for patients within a coverage gap in the Medicare Part D prescription drug program (commonly known as the "donut hole"), rules regarding prescription drug benefits under the health insurance exchanges, changes to the Medicare Drug Rebate program, expansion of the Public Health Service's 340B drug pricing program, fraud and abuse and enforcement. These changes impact existing government healthcare programs and are resulting in the development of new programs, including Medicare payment for performance initiatives and improvements to the physician quality reporting system and feedback program.

Details of the changes to the Medicaid Drug Rebate program and the 340B program are discussed below under the risk factor "*If we fail to comply with our reporting and payment obligations under the Medicaid Drug Rebate program or other governmental pricing programs, we could be subject to additional reimbursement requirements, penalties, sanctions and fines, which could have a material adverse effect on our business, financial condition, results of operations and growth prospects.*" In particular, the Centers for Medicare and Medicaid Services ("CMS"), the federal agency that administers the Medicare and Medicaid programs, issued final regulations to implement the changes to the Medicaid Drug Rebate program under the Healthcare Reform Act. These regulations became effective on April 1, 2016. Congress could enact additional legislation that further increases Medicaid drug rebates or other costs and charges associated with participating in the Medicaid Drug Rebate program. The issuance of regulations and coverage expansion by various governmental agencies relating to the Medicaid Drug Rebate program has and will continue to increase our costs and the complexity of compliance, has been and will be time-consuming, and could have a material adverse effect on our results of operations.

Some states have elected not to expand their Medicaid programs by raising the income limit to 133% of the federal poverty level, as is permitted under the Healthcare Reform Act. For each state that does not choose to expand its Medicaid program, there may be fewer insured patients overall, which could impact our sales, business and financial condition. Where Medicaid patients receive insurance coverage under any of the new options made available through the Healthcare Reform Act, manufacturers may be required to pay Medicaid rebates on drugs used under these circumstances, which could impact manufacturer revenues. In addition, the federal government has also announced delays in the implementation of key

provisions of the Healthcare Reform Act. The implications of these delays for our sales, business and financial condition, if any, are not yet clear.

Moreover, certain legislative changes to and regulatory changes under the Health Reform Act have occurred in the 115th US Congress and under the Trump Administration. For example, the Tax Cuts and Jobs Act enacted on December 22, 2017, eliminated the shared responsibility payment for individuals who fail to maintain minimum essential coverage under section 5000A of the Internal Revenue Code of 1986, commonly referred to as the individual mandate, beginning in 2019. Additional legislative changes to and regulatory changes under the Health Reform Act remain possible, but the nature and extent of such potential additional changes are uncertain at this time. We expect that the Healthcare Reform Act, as currently enacted or as it may be amended in the future, and other healthcare reform measures that may be adopted in the future, could have a material adverse effect on our industry generally and on our ability to maintain or increase sales of our existing products or to successfully commercialize our product candidates, if approved.

In addition, there have been proposals to impose federal rebates on Medicare Part D drugs, requiring federally-mandated rebates on all drugs dispensed to Medicare Part D enrollees or on only those drugs dispensed to certain groups of lower income beneficiaries. If any of these proposals are adopted they could result in Theravance owing additional rebates, which could have a negative impact on revenues from sales of our products.

Beginning on April 1, 2013, Medicare payments for all items and services under Part A and B, including drugs and biologicals, were reduced by 2% under the sequestration (i.e., automatic spending reductions) as required by federal law, which requires sequestration for most federal programs, excluding Medicaid, Social Security, and certain other programs. The law caps the cuts to Medicare payments for items and services at 2% and this will continue to 2027. As long as these cuts remain in effect, they could adversely impact payment for VIBATIV and, if approved, our product candidates. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our product candidates or additional pricing pressures.

If we fail to comply with our reporting and payment obligations under the Medicaid Drug Rebate program or other governmental pricing programs, we could be subject to additional reimbursement requirements, penalties, sanctions and fines, which could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

We participate in and have certain price reporting obligations to the Medicaid Drug Rebate program and other governmental pricing programs, and we have obligations to report average sales price under the Medicare program.

Under the Medicaid Drug Rebate program, we are required to pay a rebate to each state Medicaid program for our covered outpatient drugs that are dispensed to Medicaid beneficiaries and paid for by a state Medicaid program as a condition of having federal funds being made available to the states for our drugs under Medicaid and Medicare Part B. Those rebates are based on pricing data reported by us on a monthly and quarterly basis to CMS, the federal agency that administers the Medicaid Drug Rebate program. These data include the average manufacturer price and, in the case of innovator products, the best price for each drug which, in general, represents the lowest price available from the manufacturer to any entity in the US in any pricing structure, calculated to include all sales and associated rebates, discounts and other price concessions.

The Healthcare Reform Act made significant changes to the Medicaid Drug Rebate program, such as expanding rebate liability from fee-for-service Medicaid utilization to include the utilization of Medicaid managed care organizations as well and changing the definition of average manufacturer price. The Healthcare Reform Act also increased the minimum Medicaid rebate; changed the calculation of the rebate for certain innovator products that qualify as line extensions of existing drugs; and capped the total rebate amount at 100% of the average manufacturer price. Finally, the Healthcare Reform Act requires pharmaceutical manufacturers of branded prescription drugs to pay a branded prescription drug fee to the federal government.

CMS issued final regulations to implement the changes to the Medicaid Drug Rebate program under the Healthcare Reform Act. These regulations became effective on April 1, 2016. The issuance of the final regulations and coverage expansion by various governmental agencies relating to the Medicaid Drug Rebate program has and will continue to increase our costs and the complexity of compliance, has been and will continue to be time-consuming to implement, and could have a

material adverse effect on our results of operations, particularly if CMS challenges the approach we take in our implementation of the final regulations.

Federal law requires that any company that participates in the Medicaid Drug Rebate program also participate in the Public Health Service's 340B drug pricing program in order for federal funds to be available for the manufacturer's drugs under Medicaid and Medicare Part B. The 340B program requires participating manufacturers to agree to charge no more than the 340B "ceiling price" for the manufacturer's covered outpatient drugs to a variety of community health clinics and other entities that receive health services grants from the Public Health Service, as well as hospitals that serve a disproportionate share of low-income patients. The Healthcare Reform Act expanded the list of covered entities to include certain free-standing cancer hospitals, critical access hospitals, rural referral centers and sole community hospitals. The 340B ceiling price is calculated using a statutory formula based on the average manufacturer price and rebate amount for the covered outpatient drug as calculated under the Medicaid Drug Rebate program. Changes to the definition of average manufacturer price and the Medicaid rebate amount under the Healthcare Reform Act and CMS's final regulations implementing those changes also could affect our 340B ceiling price calculations and negatively impact our results of operations.

The Healthcare Reform Act obligates the Secretary of the HHS to update the agreement that manufacturers must sign to participate in the 340B program to obligate a manufacturer to offer the 340B price to covered entities if the manufacturer makes the drug available to any other purchaser at any price and to report to the government the ceiling prices for its drugs. The Health Resources and Services Administration ("HRSA"), the federal agency that administers the 340B program, has updated the agreement with participating manufacturers. The Healthcare Reform Act also obligates the Secretary of the HHS to create regulations and processes to improve the integrity of the 340B program. On January 5, 2017, HRSA issued a final regulation regarding the calculation of 340B ceiling price and the imposition of civil monetary penalties on manufacturers that knowingly and intentionally overcharge covered entities. The effective date of the regulation has been delayed until July 1, 2019. Implementation of this final rule and the issuance of any other final regulations and guidance could affect our obligations under the 340B program in ways we cannot anticipate. In addition, legislation may be introduced that, if passed, would further expand the 340B program to additional covered entities or would require participating manufacturers to agree to provide 340B discounted pricing on drugs used in the inpatient setting.

Federal law also requires that a company that participates in the Medicaid Drug Rebate program report average sales price information each quarter to CMS for certain categories of drugs that are paid under the Medicare Part B program. Manufacturers calculate the average sales price based on a statutorily defined formula as well as regulations and interpretations of the statute by CMS. CMS uses these submissions to determine payment rates for drugs under Medicare Part B. Statutory or regulatory changes or CMS guidance could affect the average sales price calculations for our products and the resulting Medicare payment rate, and could negatively impact our results of operations. Also, the Medicare Part B drug payment methodology is subject to change based on potential demonstration projects undertaken by CMS or potential legislation enacted by Congress.

Pricing and rebate calculations vary across products and programs, are complex, and are often subject to interpretation by us, governmental or regulatory agencies and the courts. In the case of our Medicaid pricing data, if we become aware that our reporting for a prior quarter was incorrect, or has changed as a result of recalculation of the pricing data, we are obligated to resubmit the corrected data for up to three years after those data originally were due. Such restatements and recalculations increase our costs for complying with the laws and regulations governing the Medicaid Drug Rebate program and could result in an overage or underage in our rebate liability for past quarters. Price recalculations also may affect the ceiling price at which we are required to offer our products under the 340B program.

We are liable for errors associated with our submission of pricing data. In addition to retroactive rebates and the potential for 340B program refunds, if we are found to have knowingly submitted any false price information to the government, we may be liable for significant civil monetary penalties per item of false information. If we are found to have made a misrepresentation in the reporting of our average sales price, the Medicare statute provides for significant civil monetary penalties for each misrepresentation for each day in which the misrepresentation was applied. Our failure to submit the required price data on a timely basis could result in a significant civil monetary penalty per day for each day the information is late beyond the due date. Such failure also could be grounds for CMS to terminate our Medicaid drug rebate

agreement, pursuant to which we participate in the Medicaid program. In the event that CMS terminates our rebate agreement, federal payments may not be available under Medicaid or Medicare Part B for our covered outpatient drugs.

CMS and the OIG have pursued manufacturers that were alleged to have failed to report these data to the government in a timely manner. Governmental agencies may also make changes in program interpretations, requirements or conditions of participation, some of which may have implications for amounts previously estimated or paid. We cannot assure you that our submissions will not be found by CMS to be incomplete or incorrect.

In order to be eligible to have our products paid for with federal funds under the Medicaid and Medicare Part B programs and purchased by the Department of Veterans Affairs (“VA”), Department of Defense (“DoD”), Public Health Service, and Coast Guard (the “Big Four agencies”) and certain federal grantees, we are required to participate in the VA Federal Supply Schedule (“FSS”) pricing program, established under Section 603 of the Veterans Health Care Act of 1992. Under this program, we are obligated to make VIBATIV available for procurement on an FSS contract and charge a price to the Big Four agencies that is no higher than the Federal Ceiling Price (“FCP”), which is a price calculated pursuant to a statutory formula. The FCP is derived from a calculated price point called the “non-federal average manufacturer price” (“Non-FAMP”), which we calculate and report to the VA on a quarterly and annual basis. Pursuant to applicable law, knowing provision of false information in connection with a Non-FAMP filing can subject a manufacturer to significant penalties for each item of false information. The FSS contract also contains extensive disclosure and certification requirements.

Under Section 703 of the National Defense Authorization Act for FY 2008, we are required to pay quarterly rebates to DoD on utilization of innovator products that are dispensed through DoD’s Tricare network pharmacies to Tricare beneficiaries. The rebates are calculated as the difference between the annual Non-FAMP and FCP for the calendar year that the product was dispensed. If we overcharge the government in connection with the FSS contract or Tricare Retail Pharmacy Rebate Program, whether due to a misstated FCP or otherwise, we are required to refund the difference to the government. Failure to make necessary disclosures and/or to identify contract overcharges can result in allegations against us under the False Claims Act and other laws and regulations. Unexpected refunds to the government, and any response to government investigation or enforcement action, would be expensive and time-consuming, and could have a material adverse effect on our business, financial condition, results of operations and growth prospects.

Our relationships with customers and third-party payors are subject to applicable anti-kickback, fraud and abuse, transparency and other healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, exclusion, contractual damages, reputational harm and diminished profits and future earnings.

Healthcare providers, physicians, distributors and third-party payors play a primary role in the distribution, recommendation and prescription of any pharmaceutical product for which we obtain marketing approval. Our arrangements with third-party payors and customers expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements through which we market, sell and distribute any products for which we have obtained or may obtain marketing approval. Restrictions under applicable federal and state healthcare laws and regulations include the following:

- The federal healthcare Anti-Kickback Statute prohibits any person from, among other things, knowingly and willfully offering, paying, soliciting, or receiving remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchasing, leasing, ordering or arranging for or recommending of any good or service for which payment may be made, in whole or in part, under federal and state healthcare programs such as Medicare and Medicaid. The term “remuneration” has been broadly interpreted to include anything of value. The Anti-Kickback Statute is subject to evolving interpretation and has been applied by government enforcement officials to a number of common business arrangements in the pharmaceutical industry. The government can establish a violation of the Anti-Kickback Statute without proving that a person or entity had actual knowledge of the statute or specific intent to violate it. There are a number of statutory exemptions and regulatory safe harbors protecting some common activities from prosecution; however, those exceptions and safe harbors are drawn narrowly. Failure to meet all of the requirements of a particular statutory exception or regulatory safe harbor does not make the conduct per se illegal under the Anti-Kickback Statute, but the legality of the arrangement will be evaluated on a case-by-case basis based on the totality of the facts and circumstances. We seek to comply with the available statutory

exemptions and safe harbors whenever possible, but our practices may not in all cases meet all of the criteria for safe harbor protection from anti-kickback liability. Moreover, there are no safe harbors for many common practices, such as educational and research grants or patient assistance programs.

- The federal civil False Claims Act imposes civil penalties, and provides for whistleblower or qui tam actions, against individuals or entities for, among other things, knowingly presenting, or causing to be presented, claims for payment of government funds that are false or fraudulent, or knowingly making, or using or causing to be made or used, a false record or statement material to a false or fraudulent claim to avoid, decrease, or conceal an obligation to pay money to the federal government. In recent years, several pharmaceutical and other healthcare companies have faced enforcement actions under the federal False Claims Act for, among other things, allegedly submitting false or misleading pricing information to government health care programs and providing free product to customers with the expectation that the customers would bill federal programs for the product. Federal enforcement agencies also have showed increased interest in pharmaceutical companies' product and patient assistance programs, including reimbursement and co-pay support services, and a number of investigations into these programs have resulted in significant civil and criminal settlements. Other companies have faced enforcement actions for causing false claims to be submitted because of the company's marketing the product for unapproved, and thus non-reimbursable, uses. In addition, a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal civil False Claims Act. False Claims Act liability is potentially significant in the healthcare industry because the statute provides for treble damages and significant mandatory penalties per false claim or statement for violations. Because of the potential for large monetary exposure, healthcare and pharmaceutical companies often resolve allegations without admissions of liability for significant and material amounts to avoid the uncertainty of treble damages and per claim penalties that may be awarded in litigation proceedings. Companies may be required, however, to enter into corporate integrity agreements with the government, which may impose substantial costs on companies to ensure compliance. Criminal prosecution is also possible for making or presenting a false or fictitious or fraudulent claim to the federal government.
- HIPAA, among other things, imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program and also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information. HIPAA also prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement or representation, or making or using any false writing or document knowing the same to contain any materially false fictitious or fraudulent statement or entry in connection with the delivery of or payment for healthcare benefits, items or services.
- The federal Physician Payment Sunshine Act, being implemented as the Open Payments Program, imposes annual reporting requirements on certain manufacturers of drugs, devices, or biologics for payments and other transfers of value by them, directly or indirectly, to physicians (including physician family members) and teaching hospitals, as well as ownership and investment interests held by physicians. A manufacturer's failure to submit timely, accurately and completely the required information for all payments, transfers of value or ownership or investment interests may result in civil monetary penalties of up to an aggregate of \$150,000 per year, and up to an aggregate of \$1 million per year for "knowing failures." Manufacturers must submit reports by the 90th day of each calendar year.
- Analogous state laws and regulations, such as state anti-kickback and false claims laws, may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers. Several states also require pharmaceutical companies to report expenses relating to the marketing and promotion of pharmaceutical products in those states and to report gifts and payments to individual health care providers in those states. Some of these states also prohibit certain marketing-related activities, including the provision of gifts, meals, or other items to certain health care providers, and restrict the ability of manufacturers to offer co-pay support to patients for certain prescription drugs. Some states and cities require identification or licensing of sales representatives. In addition, several states require pharmaceutical companies to implement compliance programs or marketing codes.

Similar restrictions are imposed on the promotion and marketing of medicinal products in the EU Member States and other countries, including restrictions prohibiting the promotion of a compound prior to its approval. Laws (including those governing promotion, marketing and anti-kickback provisions), industry regulations and professional codes of conduct often are strictly enforced. Even in those countries where we may decide not to directly promote or market our products, inappropriate activity by our international distribution partners could have implications for us.

The shifting commercial compliance environment and the need to build and maintain robust and expandable systems to comply with different compliance or reporting requirements in multiple jurisdictions increase the possibility that we or our partners may fail to comply fully with one or more of these requirements. Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations may involve substantial costs. It is possible that governmental authorities will conclude that our business practices may not comply with applicable fraud and abuse or other healthcare laws and regulations or guidance. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, exclusion from government funded healthcare programs, such as Medicare and Medicaid, and the curtailment or restructuring of our operations. If any of the physicians or other providers or entities with whom we do or expect to do business are found to not be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs. Even if we are not determined to have violated these laws, government investigations into these issues typically require the expenditure of significant resources and generate negative publicity, which could harm our financial condition and divert resources and the attention of our management from operating our business.

Our business and operations, including the use of hazardous and biological materials may result in liabilities with respect to environmental, health and safety matters.

Our research and development activities involve the controlled use of potentially hazardous substances, including chemical, biological and radioactive materials. In addition, our operations produce hazardous waste products, including hazardous waste. Federal, state and local laws and regulations govern the use, manufacture, management, storage, handling and disposal of hazardous materials and wastes. We may incur significant additional costs or liabilities to comply with, or for violations of, these and other applicable laws in the future. Also, even if we are in compliance with applicable laws, we cannot completely eliminate the risk of contamination or injury resulting from hazardous materials and we may incur liability as a result of any such contamination or injury. Further, in the event of a release of or exposure to hazardous materials, including at the sites we currently or formerly operate or at sites such as landfills where we send wastes for disposal, we could be held liable for cleanup costs or damages or subject to other costs or penalties and such liability could exceed our resources. We do not have any insurance for liabilities arising from hazardous materials or under environmental laws. Compliance with or liability under applicable environmental laws and regulations or with respect to hazardous materials may be expensive, and current or future environmental regulations may impair our research, development and production efforts, which could harm our business, which could cause the price of our securities to fall.

RISKS RELATING TO OUR ORDINARY SHARES

The market price for our shares has and may continue to fluctuate widely, and may result in substantial losses for purchasers of our ordinary shares.

Our ordinary shares began trading on June 3, 2014, and the market price for our shares has and may continue to fluctuate widely, and may result in substantial losses for purchasers of our ordinary shares. To the extent that historically low trading volumes for our ordinary shares continues, our stock price may fluctuate significantly more than the stock market as a whole or the stock prices of similar companies. Without a larger public float of actively traded shares, our ordinary shares are likely to be more sensitive to changes in sales volumes, market fluctuations and events or perceived events with respect to our business, than the shares of common stock of companies with broader public ownership, and as a result, the trading prices for our ordinary shares may be more volatile. Among other things, trading of a relatively small volume of ordinary shares may have a greater effect on the trading price than would be the case if our public float of actively traded shares were larger. In addition, as further described below under the risk factor entitled “—*Concentration of ownership will limit your ability to influence corporate matters,*” a number of shareholders hold large concentrations of our shares which, if sold within a relatively short timeframe, could cause the price of our shares to drop significantly.

Market prices for securities of biotechnology and biopharmaceutical companies have been highly volatile, and we expect such volatility to continue for the foreseeable future, so that investment in our ordinary shares involves substantial risk. Additionally, the stock market from time to time has experienced significant price and volume fluctuations unrelated to the operating performance of particular companies.

The following are some of the factors that may have a significant effect on the market price of our ordinary shares:

- any adverse developments or results or perceived adverse developments or results with respect to our pending NDA for YUPELRI;
- any adverse developments or results or perceived adverse developments or results with respect to our key clinical programs, for example our JAK inhibitor program or TD-9855, including, without limitation, any delays in development in these programs, any halting of development in these programs, any difficulties or delays encountered with regard to the FDA or other regulatory authorities in these programs, or any indication from clinical or non-clinical studies that the compounds in such programs are not safe or efficacious;
- any adverse developments or results or perceived adverse developments or results with respect to the GSK-Partnered Respiratory Programs, including, without limitation, any delays in development in these programs, any halting of development in these programs, any difficulties or delays encountered with regard to the FDA or other regulatory authorities in these programs, any indication from clinical or non-clinical studies that the compounds in such programs are not safe or efficacious or lower than expected sales of Trelegy Ellipta;
- any further adverse developments or perceived adverse developments with respect to the commercialization of VIBATIV;
- whether we achieve increased sales for VIBATIV;
- any announcements of developments with, or comments by, the FDA or other regulatory authorities with respect to products we or our partners have under development, are manufacturing or have commercialized;
- any adverse developments or agreements or perceived adverse developments or agreements with respect to our relationship with Innoviva, or the relationship of Innoviva or TRC on the one hand and GSK on the other hand, including any such developments or agreements resulting from or relating to the Spin-Off;
- any adverse developments or perceived adverse developments with respect to our relationship with any of our research, development or commercialization partners, including, without limitation, disagreements that may arise between us and any of those partners;
- any adverse developments or perceived adverse developments in our programs with respect to partnering efforts or otherwise;
- announcements of patent issuances or denials, technological innovations or new commercial products by us or our competitors;
- publicity regarding actual or potential study results or the outcome of regulatory review relating to products under development by us, our partners or our competitors;
- regulatory developments in the United States and foreign countries;
- announcements with respect to governmental or private insurer reimbursement policies;
- announcements of equity or debt financings;

- possible impairment charges on non-marketable equity securities;
- economic and other external factors beyond our control, such as fluctuations in interest rates;
- loss of key personnel;
- likelihood of our ordinary shares to be more sensitive to changes in sales volume, market fluctuations and events or perceived events with respect to our business due to our small public float;
- low public market trading volumes for our ordinary shares related in part to the concentration of ownership of our shares;
- the sale of large concentrations of our shares;
- developments or disputes as to patent or other proprietary rights;
- approval or introduction of competing products and technologies;
- results of clinical trials;
- failures or unexpected delays in timelines for our potential products in development, including the obtaining of regulatory approvals;
- delays in manufacturing adversely affecting clinical or commercial operations;
- fluctuations in our operating results;
- market reaction to announcements by other biotechnology or pharmaceutical companies;
- initiation, termination or modification of agreements with our collaborators or disputes or disagreements with collaborators;
- litigation or the threat of litigation;
- public concern as to the safety of drugs developed by us; and
- comments and expectations of results made by securities analysts or investors.

If any of these factors causes us to fail to meet the expectations of securities analysts or investors, or if adverse conditions prevail or are perceived to prevail with respect to our business, the price of the ordinary shares would likely drop significantly. A significant drop in the price of a company's securities often leads to the filing of securities class action litigation against the company. This type of litigation against us could result in substantial costs and a diversion of management's attention and resources.

Concentration of ownership will limit your ability to influence corporate matters.

Based on our review of publicly available filings, as of June 30, 2018 GSK beneficially owned approximately 17.5% of our outstanding ordinary shares and our directors, executive officers and investors affiliated with these individuals beneficially owned approximately 7.1% of our outstanding ordinary shares. Based on our review of publicly available filings, as of June 30, 2018 our three largest shareholders other than GSK collectively owned approximately 53.0% of our outstanding ordinary shares. These shareholders and GSK could control the outcome of actions taken by us that require shareholder approval, including a transaction in which shareholders might receive a premium over the prevailing market price for their shares.

Certain provisions in our constitutional and other documents may discourage our acquisition by a third-party, which could limit your opportunity to sell shares at a premium.

Our constitutional documents include provisions that could limit the ability of others to acquire control of us, modify our structure or cause us to engage in change-of-control transactions, including, among other things, provisions that:

- require supermajority shareholder voting to effect certain amendments to our amended and restated memorandum and articles of association;
- establish a classified board of directors;
- restrict our shareholders from calling meetings or acting by written consent in lieu of a meeting;
- limit the ability of our shareholders to propose actions at duly convened meetings; and
- authorize our board of directors, without action by our shareholders, to issue preferred shares and additional ordinary shares.

In addition, in May 2018, our shareholders approved a resolution authorizing our board of directors to adopt a shareholder rights plan in the future intended to deter any person from acquiring more than 19.9% of our outstanding ordinary shares without the approval of our board of directors.

These provisions could have the effect of depriving you of an opportunity to sell your ordinary shares at a premium over prevailing market prices by discouraging third parties from seeking to acquire control of us in a tender offer or similar transaction.

Our shareholders may face difficulties in protecting their interests because we are incorporated under Cayman Islands law.

Our corporate affairs are governed by our amended and restated memorandum and articles of association, by the Companies Law (2016 Revision) of the Cayman Islands and by the common law of the Cayman Islands. The rights of our shareholders and the fiduciary responsibilities of our directors under the laws of the Cayman Islands are different from those under statutes or judicial precedent in existence in jurisdictions in the US. Therefore, you may have more difficulty in protecting your interests than would shareholders of a corporation incorporated in a jurisdiction in the US, due to the different nature of Cayman Islands law in this area.

Shareholders of Cayman Islands exempted companies such as our Company have no general rights under Cayman Islands law to inspect corporate records and accounts or to obtain copies of lists of shareholders. Our directors have discretion under our amended and restated memorandum and articles of association to determine whether or not, and under what conditions, our corporate records may be inspected by our shareholders, but are not obliged to make them available to our shareholders. This may make it more difficult for you to obtain the information needed to establish any facts necessary for a shareholder motion or to solicit proxies from other shareholders in connection with a proxy contest.

Our Cayman Islands counsel, Maples and Calder, is not aware of any reported class action having been brought in a Cayman Islands court. Derivative actions have been brought in the Cayman Islands courts, and the Cayman Islands courts have confirmed the availability for such actions. In most cases, the company will be the proper plaintiff in any claim based on a breach of duty owed to it, and a claim against (for example) our officers or directors usually may not be brought by a shareholder. However, based on English authorities, which would in all likelihood be of persuasive authority and be applied by a court in the Cayman Islands, exceptions to the foregoing principle apply in circumstances in which:

- a company is acting, or proposing to act, illegally or beyond the scope of its authority;
- the act complained of, although not beyond the scope of the authority, could be effected if duly authorized by more than the number of votes which have actually been obtained; or

- those who control the company are perpetrating a “fraud on the minority.”

A shareholder may have a direct right of action against the company where the individual rights of that shareholder have been infringed or are about to be infringed.

There is uncertainty as to shareholders’ ability to enforce certain foreign civil liabilities in the Cayman Islands.

We are incorporated as an exempted company limited by shares with limited liability under the laws of the Cayman Islands. A material portion of our assets are located outside of the United States. As a result, it may be difficult for our shareholders to enforce judgments against us or judgments obtained in US courts predicated upon the civil liability provisions of the federal securities laws of the United States or any state of the United States.

We have been advised by our Cayman Islands legal counsel, Maples and Calder, that the courts of the Cayman Islands are unlikely (i) to recognize or enforce against Theravance Biopharma judgments of courts of the United States predicated upon the civil liability provisions of the securities laws of the United States or any State; and (ii) in original actions brought in the Cayman Islands, to impose liabilities against Theravance Biopharma predicated upon the civil liability provisions of the securities laws of the United States or any State, on the grounds that such provisions are penal in nature. However, in the case of laws that are not penal in nature, although there is no statutory enforcement in the Cayman Islands of judgments obtained in the United States, the courts of the Cayman Islands will recognize and enforce a foreign money judgment of a foreign court of competent jurisdiction without retrial on the merits based on the principle that a judgment of a competent foreign court imposes upon the judgment debtor an obligation to pay the sum for which judgment has been given provided certain conditions are met. For a foreign judgment to be enforced in the Cayman Islands, such judgment must be final and conclusive and for a liquidated sum, and must not be in respect of taxes or a fine or penalty, inconsistent with a Cayman Islands’ judgment in respect of the same matter, impeachable on the grounds of fraud or obtained in a manner, and or be of a kind the enforcement of which is, contrary to natural justice or the public policy of the Cayman Islands (awards of punitive or multiple damages may well be held to be contrary to public policy). A Cayman Islands court, including the Grand Court of the Cayman Islands, may stay proceedings if concurrent proceedings are being brought elsewhere, which would delay proceedings and make it more difficult for our shareholders to bring action against us.

We do not anticipate paying any cash dividends on our capital shares in the foreseeable future; as a result, capital appreciation, if any, of our ordinary shares will be your sole source of gain for the foreseeable future.

We have never declared or paid cash dividends on our capital shares. We do not anticipate paying any cash dividends on our capital shares in the foreseeable future. We currently intend to retain all available funds and any future earnings to fund the development and growth of our business. In addition, the terms of any future debt financing arrangement may contain terms prohibiting or limiting the amount of dividends that may be declared or paid on our ordinary shares. As a result, capital appreciation, if any, of our ordinary shares will be your sole source of gain for the foreseeable future.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

None.

ITEM 6. EXHIBITS

Exhibit No.	Description of Exhibit	Filed Herewith	Incorporated by Reference	
			Form	Filing Date/Period End Date
3.1	Amended and Restated Memorandum and Articles of Association		10-12B	April 30, 2014
10.1+	Memorandum to Brett K. Haumann regarding Transfer to Theravance Biopharma US, Inc., executed April 5, 2018	X		
10.2	Amendments to Lease for 901 Gateway Boulevard between Theravance Biopharma US, Inc. and ARE-901/951 Gateway Boulevard, LLC	X		
10.3	Amendments to Lease for 951 Gateway Boulevard between Theravance Biopharma US, Inc. and ARE-901/951 Gateway Boulevard, LLC	X		
31.1	Certification of Chief Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) promulgated pursuant to the Securities Exchange Act of 1934, as amended	X		
31.2	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) promulgated pursuant to the Securities Exchange Act of 1934, as amended	X		
32(1)	Certifications Pursuant to 18 U.S.C. Section 1350	X		
101	Financial statements from the quarterly report on Form 10-Q of the Company for the quarter ended June 30, 2018, formatted in XBRL: (i) the Condensed Consolidated Balance Sheets, (ii) the Condensed Consolidated Statements of Operations and Comprehensive Loss, (iii) the Condensed Consolidated Statements of Cash Flows and (iv) the Notes to the Condensed Consolidated Financial Statements	X		

+ Management contract or compensatory plan or arrangement required to be filed pursuant to Item 15(b) of Form 10-K.

(1) The certifications provided as Exhibit 32 are being furnished to accompany the Report pursuant to 18 U.S.C. Section 1350 and shall not be deemed filed by the Company for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing.

SIGNATURES

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

Theravance Biopharma, Inc.

Date: August 2, 2018

/s/ Rick E Winningham

Rick E Winningham

Chairman of the Board and Chief Executive Officer
(Principal Executive Officer)

Date: August 2, 2018

/s/ Renee D. Gala

Renee D. Gala

Senior Vice President and Chief Financial Officer
(Principal Financial Officer)

MEMORANDUM

DATE: March 30, 2018

TO: Brett Haumann

FROM: Dennis Driver
Senior Vice President, Chief Human Resources Officer, Theravance Biopharma US, Inc.

Rick E Winningham
Chief Executive Officer, Theravance Biopharma US, Inc.
Director and Chief Executive Officer, Theravance Biopharma UK Limited

SUBJECT: Transfer to Theravance Biopharma US, Inc.

This memorandum is to memorialize the terms and conditions of your transfer from Theravance Biopharma UK Limited (“Theravance UK”) to Theravance Biopharma US, Inc. (“Theravance US”) consistent with our earlier discussions. Please carefully review the terms and conditions stipulated below.

1. The anticipated effective date of your transfer to the US is April 6, 2018 (“US Employment Date”).
 2. By mutual agreement, your employment with Theravance UK will terminate on April 5, 2018 or the date immediately before you commence working at Theravance US, whichever is the earlier date (“UK Termination Date”).
 3. As you will continue working for a Theravance company, we mutually agree that a) Theravance UK has complied with any notice of termination of employment you might be entitled to under English law and/or your employment agreement with Theravance UK, and no further notice or payment *in lieu* of notice is due to you; b) you will not be eligible for nor be paid any termination payments (including severance or redundancy payments) by Theravance UK; and c) only for the purposes of determining employee benefits that are calculated on the basis of years of service, your date of hire with Theravance US will be deemed to be October 29, 2013.
 4. At Theravance US, your title will be Chief Medical Officer and Senior Vice President, Development, reporting to Rick Winningham.
 5. Beginning on your US Employment Date, your salary on an annualized basis will be \$525,000, which will be paid in accordance with the regular payroll practices of Theravance US.
 6. Theravance US provides a comprehensive company-paid benefits package that begins on your US Employment Date. Benefits are provided to you and your dependents at a minimal cost. Included are medical, vision and dental coverage, life insurance, long-term disability insurance and a flexible spending plan.
 7. As an employee of Theravance US, you will be entitled to paid vacation in accordance with our employee policies in addition to the public holidays observed by Theravance US. Theravance
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8. UK will pay you out for any accrued but unused paid holidays you have to your credit by the UK Termination Date.
9. Discretionary bonus – You will be eligible to receive an annual discretionary bonus, currently of up to 50% of your annual salary, based on Theravance Biopharma, Inc.’s performance against its annual goals and a review of your individual performance. You must be an active employee in good standing at the time the discretionary bonus is paid in order to receive the bonus. The bonus percentage targets and other performance objectives may change from time-to-time at the sole discretion of the Board of Directors.
10. Stock Awards –You will continue to vest in your equity awards notwithstanding your transfer to Theravance US, and such awards will continue to be subject to the terms and provisions of your equity award agreements; provided, however, you will be required to satisfy any withholding taxes that may be due from a US perspective for awards that vest or settle following your transfer to Theravance US prior to the distribution of any shares pursuant thereto (and which will be in addition to any tax liabilities you are required to satisfy for such awards in the United Kingdom). Your satisfaction of such US withholding taxes may be satisfied in any manner currently set forth in your equity award agreement with regard to tax liabilities in the United Kingdom.
11. Theravance US will pay you a gross stipend of \$12,000 each month (starting on the US Employment Date, pro-rated) through October 31, 2018. Effective November 1, 2018, the stipend will decrease to the gross amount of \$6,000 per month and continue until July 31, 2019. The stipend is intended to provide supplemental compensation to enable you to pay for the costs associated with your travel to the United Kingdom, such as airfare, local ground transportation, housing in the bay area and family medical benefits coverage. The stipend will be a taxable benefit and Theravance US will withhold such amount for income taxes as might be required under applicable law. The stipend will end July 31, 2019; *provided however* this stipend will end immediately upon termination of employment and *provided further* that Theravance US reserves the right in its sole discretion to reduce or to eliminate the stipend upon fourteen (14) days of advance written notice by the Company. You must remain a full time employee in good standing to be eligible to receive the stipend.
12. We will engage and cover the expense of a tax advisor to assist you with the preparation and filing of your tax return for the 2018 tax year.
13. Your employment with Theravance US is for no specific period of time, and will be *at-will*. As a result, either you or Theravance US may terminate your employment relationship at any time for any reason or no reason, with or without notice.
14. As an employee of Theravance US, you will be expected to acknowledge and abide by the Company’s policies and procedures applicable to its employees working in California in the United States.

This is the full and complete agreement between you and Theravance UK and Theravance US. Although your job duties, title, compensation and benefits, as well as Theravance US’s personnel policies and procedures to which you will be subject, may change from time-to-time, the “at-will” nature of your employment may only be changed in an express writing signed by you and the CEO of the Company.

Please carefully review and consider the above terms and conditions regarding the termination of your employment with Theravance UK and the offer of employment at Theravance US. Please sign the acknowledgment below and return a copy of this letter agreement to Dennis Driver.

Sincerely,

Theravance Biopharma UK Limited

Theravance Biopharma US, Inc.

/s/ Rick E Winningham

Rick E Winningham

Director and Chief Executive Officer

/s/ Rick E Winningham

Rick E Winningham

Chief Executive Officer

Acknowledgment:

I, the undersigned, Brett Haumann, hereby acknowledge and agree that:

1. I have carefully reviewed and considered the terms and conditions stated above;
2. I voluntarily agree to all the terms and conditions stated above;
3. I understand and agree that my employment with Theravance Biopharma UK Limited will terminate by mutual agreement on the date stipulated above; and
4. I understand and agree that on the date immediately following the termination of my employment with Theravance Biopharma UK Limited, my employment will commence with Theravance Biopharma US, Inc. and Theravance Biopharma US, Inc. will be my sole employer going forward.

Signed: /s/ Brett Haumann

Date: 05 April 2018

FIRST AMENDMENT TO LEASE

THIS FIRST AMENDMENT TO LEASE (this "**First Amendment**") is made as of June 1, 2010 ("**Effective Date**"), by and between **ARE-901/951 GATEWAY BOULEVARD, LLC**, a Delaware limited liability company ("**Landlord**"), and **THERAVANCE, INC.**, a Delaware corporation ("**Tenant**").

RECITALS

A. Landlord and Tenant are now parties to that certain Lease Agreement dated January 1, 2001 (the "**Lease**"). Pursuant to the Lease, Tenant leases certain premises consisting of approximately 110,428 rentable square feet ("**Premises**") in a building located at 901 Gateway Boulevard, South San Francisco, California. The Premises are more particularly described in the Lease. Capitalized terms used herein without definition shall have the meanings defined for such terms in the Lease.

B. Landlord and Tenant desire, subject to the terms and conditions set forth below, to amend the Lease to, among other things, (i) extend the Term of the Lease, and (ii) provide Tenant with an additional tenant improvement allowance.

NOW, THEREFORE, in consideration of the foregoing Recitals, which are incorporated herein by this reference, the mutual promises and conditions contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant hereby agree as follows:

- Term.** The "**Expiration Date**" of the Term of the Lease is hereby extended from March 31, 2012, until May 31, 2020. From and after the Effective Date, references in the Lease to "Term" shall mean the one hundred twenty (120) months commencing on June 1, 2010 and expiring on May 31, 2020.
- Monthly Base Rent.** Notwithstanding anything to the contrary contained in the Lease, commencing on the Effective Date of this First Amendment, Monthly Base Rent shall be payable pursuant to the following table:

Time Period	Monthly Base Rent
6/1/10 — 5/31/11	\$287,112.80 per month
6/1/11 — 3/31/12	\$309,198.40 per month
4/1/12 — 3/31/13	\$325,762.60 per month
4/1/13 — 3/31/14	\$335,535.48 per month
4/1/14 — 3/31/15	\$345,601.54 per month
4/1/15 — 3/31/16	\$355,969.59 per month
4/1/16 — 3/31/17	\$366,648.68 per month
4/1/17 — 3/31/18	\$377,648.14 per month
4/1/18 — 3/31/19	\$388,977.58 per month
4/1/19 — 3/31/20	\$400,646.91 per month
4/1/20 — 5/31/20	\$412,666.32 per month

Notwithstanding the foregoing, the above-referenced Monthly Base Rent payable by Tenant (i) shall be reduced by \$55,556.00 per month for the period commencing June 1, 2010, through November 30, 2011, and (ii) shall be increased by \$62,223.00 for the period commencing December 1, 2011, through May 31, 2013.

- Additional Tenant Improvement Allowance.** From and after the Effective Date, Landlord shall make available to Tenant a tenant improvement allowance of up to \$2,606,840.00 (the "**Additional TI Allowance**") for the design and construction of fixed and permanent



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improvements in the Premises and in Tenant's premises located on the third floor of the adjacent Building located at 951 Gateway Boulevard ("**951 Premises**") desired by and performed by Tenant (provided that Tenant may not spend more than \$782,052.00 of the Additional TI Allowance in the 951 Premises), and which improvements shall be of a fixed and permanent nature (the "**Additional Tenant Improvements**"). Tenant acknowledges that (i) the Additional Tenant Improvements shall be constructed pursuant to space plans mutually agreed upon by Landlord and Tenant pursuant to this paragraph, and (ii) upon the expiration of the Term of the Lease, the Additional Tenant Improvements shall become the property of Landlord and Tenant shall not be obligated to remove, and may not remove, the Additional Tenant Improvements at any time during the Term, including upon the expiration or earlier termination of the Lease. Tenant shall deliver to Landlord space plans detailing Tenant's requirements for the Additional Tenant Improvements following the preparation of the same by Tenant's architect. Not more than ten (10) days thereafter, Landlord shall deliver to Tenant either written consent to the space plans, which consent of the space plans shall not be unreasonably withheld, conditioned or delayed, or the written objections, questions or comments of Landlord with regard to the space plans. Representatives of both parties shall promptly make themselves available to discuss and resolve any such objections, questions or comments. In the event the parties cannot reach agreement and resolve all disputed matters relating to any such documents, the parties shall promptly meet and confer and negotiate in good faith to reach agreement on any disputed matters. Tenant shall cause the space plans to be revised to address any agreed-upon changes and shall resubmit said space plans to Landlord for approval within five (5) business days thereafter. Such process shall continue until Landlord has reasonably approved the space plans. The foregoing process also shall apply to Tenant's preparation of final plans and specifications which describe the Additional Tenant Improvements and are based on the approved space plans, and Landlord's approval of the final plans and specifications shall not be unreasonably withheld, conditioned or delayed. Notwithstanding anything to the contrary contained herein, Tenant shall have the right to use up to \$250,000 of the Additional TI Allowance to purchase and install within the Premises furniture, cubicles and other personal property and non-Building system materials and equipment, including, but not limited to, Tenant's voice or data cabling, non-ducted biological safety cabinets and other scientific equipment. Except for the Additional TI Allowance, Tenant shall be solely responsible for all of the costs of the Additional Tenant Improvements. The Additional Tenant Improvements shall be treated as Alterations and shall be undertaken pursuant to Paragraph 12 of the Lease, except to the extent the provisions of Paragraph 12 conflict with the provisions of this Section 3, in which case the provisions of this Section 3 shall control. The contractor for the Additional Tenant Improvements shall be selected by Tenant, subject to Landlord's approval, which approval shall not be unreasonably withheld, conditioned or delayed. Prior to the commencement of construction of the Additional Tenant Improvements, Tenant shall deliver to Landlord a copy of any contract with Tenant's contractors (including the architect), and certificates of insurance from any contractor performing any part of the Additional Tenant Improvements evidencing industry standard commercial general liability, automotive liability, "builder's risk", and workers' compensation insurance. Tenant shall cause the general contractor to provide a certificate of insurance naming Tenant, Landlord, Alexandria Real Estate Equities, Inc., and Landlord's lender (if any) as additional insureds for the general contractor's liability coverages required above.

During the course of design and construction of the Additional Tenant Improvements, Landlord shall reimburse Tenant for the cost of the Additional Tenant Improvements once a month against a draw request in Landlord's commercially reasonable standard form, containing evidence of payment of the applicable costs and such certifications, lien waivers (including a conditional lien release for each progress payment and unconditional lien releases for the prior month's progress payments), inspection reports and other matters as Landlord reasonably and customarily obtains, to the extent of Landlord's approval thereof for payment, no later than thirty (30) days following receipt of such draw request. Upon completion of the Additional Tenant Improvements (and prior to any final disbursement of the Additional TI Allowance), Tenant shall provide to Landlord the following items: (i) sworn statements setting forth the names of all contractors and subcontractors

who did work on the Additional Tenant Improvements and final lien waivers from all such contractors and subcontractors; and (ii) "as built" plans for the Additional Tenant Improvements. Notwithstanding the foregoing, if the cost of the Additional Tenant Improvements exceeds the Additional TI Allowance, Tenant shall be required to pay such excess. Except as specifically provided in the immediately following paragraph, the Additional TI Allowance shall only be available for use by Tenant for the construction of the Additional Tenant Improvements for a period of twenty-four (24) months following the Effective Date of this First Amendment and any portion of the Additional TI Allowance which has not been requested by Tenant for disbursement by Landlord on or before June 30, 2012 shall be forfeited and shall not be available for use by Tenant.

Notwithstanding anything to the contrary contained herein, Tenant may elect to apply a portion of the Additional TI Allowance, up to \$1,042,736.00, to the payment of Monthly Base Rent due under the Lease. Tenant shall notify Landlord in writing not later than thirty (30) days prior to the first day of the month in which Tenant desires that the credit against Monthly Base Rent commence (provided; however, that in no event shall Tenant deliver such notice after June 30, 2012), and Tenant's notice shall state the amount of the Additional TI Allowance that Tenant will take as a credit against Monthly Base Rent ("**Rent Credit**"). The Rent Credit shall be applied to Monthly Base Rent next coming due after the date of Tenant's notice until credited in full.

4. **Letter of Credit.** The definition of "**Letter of Credit**" in the Basic Lease Information is hereby deleted and replaced with the following:

"Letter of Credit: \$833,333.33"

5. **Security Deposit.** Effective as of the Effective Date of this First Amendment, Paragraph 7 of the Lease is hereby deleted in its entirety and replaced with the following:

"7. **Security Deposit.** Tenant has deposited with Landlord a security deposit (the "**Security Deposit**") for the performance of all of Tenant's obligations hereunder in the amount set forth in the Letter of Credit section in the Basic Lease Information, which Security Deposit shall be in the form of an unconditional and irrevocable stand-by letter of credit (the "**Letter of Credit**"): (i) in form and substance reasonably satisfactory to Landlord, (ii) naming Landlord as beneficiary, (iii) expressly allowing Landlord to draw upon it at any time from time to time by delivering to the issuer notice that Landlord is entitled to draw thereunder pursuant to the terms of this Lease, (iv) issued by an FDIC-insured financial institution reasonably satisfactory to Landlord ("**LC Issuing Bank**"), (v) redeemable by presentation of LC Issuing Bank's sight draft in person, by nationally recognized overnight courier or by facsimile; and (vi) having an expiration date not earlier than ninety (90) days after the Expiration Date or, in the alternative, have a term of not less than one (1) year and be automatically renewable for an additional one (1) year periods (provided, however, that the final Letter of Credit shall not expire earlier than ninety (90) days after the Expiration Date) unless, on or before the date forty-five (45) days prior to the expiration of the term of such Letter of Credit, the LC Issuer gives notice to Landlord of its election not to renew such Letter of Credit for any additional period pursuant thereto. If Tenant does not provide Landlord with a substitute Letter of Credit complying with all of the requirements hereof at least 10 days before the stated expiration date of any then current Letter of Credit, Landlord shall have the right to draw the full amount of the current Letter of Credit and hold the funds drawn in cash without obligation for interest thereon as the Security Deposit. The Security Deposit shall be held by Landlord as security for the performance of Tenant's obligations under this Lease. The Security Deposit is not an advance rental deposit or a measure of Landlord's damages in case of Tenant's default. Upon each occurrence of a Default (as defined in Paragraph 24) by Tenant under this Lease, Landlord may use all or any part of the Security Deposit to pay delinquent payments due under this Lease, future rent damages under California Civil Code Section 1951.2, and the cost of any damage, injury, expense or liability caused by such Default, without prejudice

to any other remedy provided herein or provided by law. Landlord's right to use the Security Deposit under this Paragraph 7 includes the right to use the Security Deposit to pay future rent damages following the termination of this Lease pursuant to Paragraph 25.5 below. Upon any use of all or any portion of the Security Deposit, Tenant shall pay Landlord within twenty (20) days after receipt of written demand the amount that will restore (by delivery of a replacement or amended Letter of Credit) the Security Deposit to the amount set forth in the definition of "Letter of Credit" set forth in the Basic Lease Information of this Lease. Tenant hereby waives the provisions of any law, now or hereafter in force, including, without limitation, California Civil Code Section 1950.7, which provide that Landlord may claim from a security deposit only those sums reasonably necessary to remedy defaults in the payment of rent, to repair damage caused by Tenant or to clean the Premises, it being agreed that Landlord may, in addition, claim those sums reasonably necessary to compensate Landlord for any other loss or damage, foreseeable or unforeseeable, caused by the Default of Tenant or any of Tenant's Agents under this Lease. Upon bankruptcy or other debtor-creditor proceedings against Tenant, the Security Deposit shall be deemed to be applied first to the payment of Rent and other charges due Landlord for periods prior to the filing of such proceedings, subject to applicable bankruptcy law. If Tenant shall fully perform every provision of this Lease to be performed by Tenant and Landlord is holding cash in the amount of the Letter of Credit or cash proceeds therefrom, the Security Deposit, or any balance thereof (i.e., after deducting therefrom all amounts to which Landlord is entitled under the provisions of this Lease), shall be returned to Tenant within ninety (90) days after the expiration or earlier termination of this Lease. If, in lieu of a cash Security Deposit, Landlord is holding the Letter of Credit upon the expiration or earlier termination of this Lease, Landlord shall comply with the LC Issuer's requirements necessary to cancel the Letter of Credit by the date that is ninety (90) days after the expiration or earlier termination of this Lease.

Notwithstanding anything contained in this Paragraph 7 to the contrary, if Landlord draws on the Letter of Credit for any reason, then Tenant shall have the right, upon ten (10) days' prior written notice to Landlord, to obtain a refund from Landlord of any unapplied proceeds of the Letter of Credit which Landlord has drawn upon, any such refund being conditioned upon Tenant simultaneously delivering to Landlord a replacement Letter of Credit in the amount required by, and otherwise meeting the requirements contained in, this Paragraph 7.

Notwithstanding anything to the contrary contained herein or in the 951 Gateway Lease, if requested by Landlord at any time following the date of this Lease, Tenant shall cause the LC Issuing Bank to bifurcate the Letter of Credit into two separate letters of credit, one securing Tenant's obligations under the 951 Gateway Lease and the other securing Tenant's obligations under this Lease. Such bifurcated letters of credit shall each be in an amount specified by Landlord, provided that the aggregate amount of such letters of credit shall equal the amount of the Letter of Credit immediately prior to such bifurcation. Concurrently with the bifurcation of the Letter of Credit, Landlord and Tenant shall enter into a modification of the 951 Gateway Lease and a modification of this Lease, which modifications shall amend Paragraph 7 of the 951 Gateway Lease and this Paragraph 7 to provide for separate, stand-alone security deposit provisions in the 951 Gateway Lease and this Lease.

If Landlord transfers its interest in the Project or this Lease, Landlord shall either (a) transfer any Security Deposit then held by Landlord to a person or entity assuming Landlord's obligations under this Paragraph 7, or (b) return to Tenant any Security Deposit then held by Landlord and remaining after the deductions permitted herein. Upon such transfer to such transferee or the return of the Security Deposit to Tenant, Landlord shall have no further obligation with respect to the Security Deposit, and Tenant's right to the return of the Security Deposit shall apply solely against Landlord's transferee. Landlord's obligation respecting the Security Deposit is that of a debtor, not a trustee, and no interest shall accrue thereon.

Notwithstanding anything to the contrary contained in this Lease, Landlord shall have the right to apply all or any portion of the Security Deposit in connection with any Defaults (as such term is defined in the 951 Gateway Lease) under the 951 Gateway Lease.

For avoidance of doubt, "Security Deposit" shall mean both the Letter of Credit any cash proceeds therefrom."

Tenant shall have up to sixty (60) days from the date of Tenant's execution of this First Amendment to provide Landlord with an amendment to the Letter of Credit which complies with the requirements set forth in the first paragraph of Section 7, as set forth above.

6. **Surrender Plan.** Effective as of the Effective Date of this First Amendment, Paragraph 32.9 of the Lease hereby is deleted in its entirety and replaced with the following:

"32.9 Condition of Premises upon Expiration or Termination. Upon the expiration of the Term or earlier termination of Tenant's right of possession, Tenant shall surrender the Premises to Landlord (y) free of Hazardous Materials brought upon, kept, used, stored, handled, treated, generated in, or released or disposed of from, the Premises by Tenant or Tenant's Agents ("**Tenant HazMat Operations**") in a manner consistent with prudent commercial practices and such that no Hazardous Materials resulting from Tenant HazMat Operations remain at the Premises in violation of Environmental Requirements and the continued presence of such Hazardous Materials are not in excess of industry standards for the occupancy and re-use of the Premises for research and scientific purposes by a subsequent tenant of the Premises, and (z) released of any license, clearance or other authorization of any kind issued by any governmental authority having jurisdiction over the use, storage, handling, treatment, generation, release, disposal, removal or remediation of Hazardous Materials in, on or about the Premises (collectively referred to herein as "**Hazardous Materials Clearances**"). At least 3 months prior to the surrender of the Premises, Tenant shall deliver to Landlord a narrative description of the actions proposed (or required by any governmental authority) to be taken by Tenant in order to surrender the Premises (including any installations permitted by Landlord to remain in the Premises) at the expiration or earlier termination of the Term, free from any residual impact from the Tenant HazMat Operations and in a manner consistent with prudent commercial practices and such that no Hazardous Materials resulting from Tenant HazMat operations remain at the Premises in violation of Environmental Requirements and the continued presence of such Hazardous Materials are not in excess of industry standards for the occupancy and re-use of the Premises for research and scientific purposes by a subsequent tenant of the Premises (the "**Surrender Plan**"). Such Surrender Plan shall be accompanied by a current listing of (i) all Hazardous Materials licenses and permits held by or on behalf of any of Tenant or Tenant's Agents with respect to the Premises, and (ii) all Hazardous Materials used, stored, handled, treated, generated, released or disposed of or from the Premises by Tenant or Tenant's Agents, and shall be subject to the review and approval of Landlord's environmental consultant, which approval shall not be unreasonably withheld, conditioned or delayed. In connection with the review and approval of the Surrender Plan, upon the request of Landlord, Tenant shall deliver to Landlord or its consultant such additional non-proprietary information concerning Tenant HazMat Operations as Landlord reasonably shall request. On or before such surrender, Tenant shall deliver to Landlord commercially reasonable evidence that the approved Surrender Plan has been satisfactorily completed and Landlord shall have the right, subject to reimbursement at Tenant's expense as set forth below, to cause Landlord's environmental consultant to inspect the Premises and perform such additional procedures as may be deemed reasonably necessary to confirm that the Premises are, as of the effective date of such surrender or early termination of the Lease, free from any residual impact from Tenant HazMat Operations as required pursuant to this Paragraph 7. Tenant shall reimburse Landlord, as Additional Rent, for the actual out-of-pocket expense incurred by Landlord for Landlord's environmental consultant to review and approve the Surrender Plan and to visit the Premises and verify satisfactory completion of the same, which cost shall not exceed \$5,000. Landlord shall have the unrestricted right to deliver

such Surrender Plan (subject to any standard non-reliance letter, if any, prepared by Tenant and delivered by Tenant to Landlord concurrently with Tenant's delivery of the Surrender Plan to Landlord, which non-reliance letter shall be applicable only to third parties other than Landlord) and any report by Landlord's environmental consultant with respect to the surrender of the Premises to Landlord's potential tenants, purchasers, lenders and other third parties with a need to know in connection with Landlord's business; provided, however, that Landlord instructs such parties to treat the same as confidential.

If Tenant shall fail to prepare or submit a Surrender Plan reasonably approved by Landlord, or if Tenant shall fail to complete the approved Surrender Plan, or if such Surrender Plan, whether or not approved by Landlord, shall fail to adequately address any residual effect of Tenant HazMat Operations in, on or about the Premises, shall fail to adequately address any Hazardous Materials resulting from Tenant's HazMat Operations remaining at the Premises in violation of Environmental Requirements or in a manner not consistent with prudent commercial practices or such that the continued presence of such Hazardous Materials are in excess of industry standards for the occupancy and re-use of the Premises for research and scientific purposes by a subsequent tenant of the Premises, Landlord shall have the right to take such actions as Landlord reasonably may deem reasonable or appropriate to assure that the Premises and the Project are surrendered free from any such residual impact from Tenant HazMat Operations, the cost of which actions shall be reimbursed by Tenant as Additional Rent, without regard to the limitation set forth in the first paragraph of this Paragraph 32.9.

All obligations of Tenant hereunder not fully performed as of the expiration or earlier termination of this Lease, including the obligations of Tenant under Paragraph 32 of this Lease, shall survive the expiration or earlier termination of the Term, including, without limitation, indemnity obligations, payment obligations with respect to rent and obligations concerning the condition and repair of the Premises."

7. **Option to Renew.** Tenant shall have two (2) options (each a "**Renewal Option**") to extend the term of this Lease with respect to the entire Premises for successive periods of five (5) years each (each a "**Renewal Term**") pursuant to the provisions of Paragraph 49 of the Lease.
8. **Right of First Offer.** Notwithstanding anything to the contrary contained herein or in the Lease, Paragraph 51 of the Lease is hereby deleted in its entirety and of no further force or effect and Tenant shall have no further right of first offer or other right to purchase the Building.
9. **Additional Modifications to Lease.** From and after the Effective Date of this First Amendment, the Lease shall be modified as follows:
 - a. **Modification to Basic Lease Information.** The Tenant's Contact Person shall be "General Counsel" rather than "Marty Glick".
 - b. **Modification to Paragraph 2.2(a), "Changes to Common Area".** The following shall be added at the end of Paragraph 2.2(a): "Notwithstanding the foregoing, Landlord's exercise of the foregoing rights shall not materially interfere with Tenant's access to or use of the Premises to the extent that Tenant's business operations are materially interrupted thereby."
 - c. **Modification to Paragraph 2.2(b), "Changes to Common Area".** The second sentence of Paragraph 2.2(b) hereby is deleted and revised to state in its entirety as follows: "During periods of construction only, Landlord shall have the right to provide parking to Tenant on properties reasonably proximate to the Project (the "**Adjacent Properties**") or through the use of valets or parking attendants on the Parking Areas or the Adjacent Properties,

provided that Tenant shall at all times have parking for the number of automobiles contemplated under the Lease.”

- d. Modification to Paragraph 4.2, “Additional Rent”. There shall be added to Paragraph 4.2 a new Paragraph 4.2.10, “Exclusions from Expenses”, which reads as follows:

“4.2.11 Exclusions from Expenses. Notwithstanding anything to the contrary contained in this Paragraph 4.2, and in addition to the exclusions set forth in the preceding paragraph, there shall be excluded from Expenses and Additional Rent the following: (i) leasing commissions, advertising expenses, promotional expenses, attorneys’ fees, disbursements, and other costs and expenses incurred in procuring prospective tenants, negotiating and executing leases, and constructing improvements required to prepare for a new tenant’s occupancy for the Building or the Project, if any; (ii) finance and debt service fees, principal and/or interest on debt or amortization payments on any mortgages executed by Landlord covering Landlord’s property, any other indebtedness of Landlord, and rental under any ground lease or leases for the Building or the Project; (iii) any depreciation allowance or expense, amortization (except for expenditures permitted under this Lease) or expense reserve; (iv) the costs of Landlord’s third party property manager or, if there is no third party property manager, administration rent in excess of the amount of 3.0% of Base Rent); (v) except for management fees, Landlord’s general overhead and any overhead or profit increment to any subsidiary or affiliate of Landlord for services on or to the Project to the extent that the cost of such service exceeds competitive costs for such services rendered by persons or entities of similar skill, competence and experience other than a subsidiary or affiliate of Landlord; (vi) any costs or expenses representing any amount paid for services and materials to a (personal or business) related person, firm, or entity to the extent such amount exceeds the amount that would have been paid for such service or materials at the then existing market rates in the absence of such relationship; (vii) compensation paid to any employee of Landlord above the grade of Property Manager/Building Superintendent, including officers and executives of Landlord (provided that Landlord may pass through as Expenses compensation paid to employees at or below the grade of Property Manager/Building Superintendent or affiliates of Landlord providing services to the Project); (viii) costs of electrical energy furnished and metered directly to tenants of the Project or for which Landlord is entitled to be reimbursed by tenants as additional rental over and above tenant’s Monthly Base Rent or pass-through of Expenses; (ix) the cost of any work or service furnished to any tenant or occupant of the Project to a materially greater extent or in a materially more favorable manner than that furnished generally to the tenants and other occupants of the Project, or the costs of work or service furnished exclusively for the benefit of any tenant or occupant of the Project or at such tenant’s cost; (x) the costs and expenses incurred in resolving disputes with other tenants, other occupants, or prospective tenants or occupants of the Project, collecting rents or otherwise enforcing leases of the tenants of the Project; (xi) the costs of any work or service performed for any facility other than a facility located within the Project; (xii) the costs of repairs, alterations, and general maintenance necessitated by the gross negligence or willful misconduct of Landlord or its agents, employees, or contractors or repairs; (xiii) interest or penalties due to the late payment by Landlord of taxes, utility bills or other such costs (except to the extent caused by Tenant’s action or inaction); (xiv) any of the following tax or assessment expenses: (a) estate, inheritance, transfer, gift, federal, state or franchise taxes of Landlord, or (b) penalties and interest, other than those attributable to Tenant’s failure to comply timely with its obligations pursuant to this Lease; and (xv) bad debt expenses and charitable contributions and donations. Landlord agrees that (a) Landlord will not collect or be entitled to collect more than one hundred percent (100%) of the Expenses actually paid by Landlord in connection with the operation of the Project in any calendar year, and (b) Landlord shall make no profit from Landlord’s collection of Expenses.”

- e. Modifications to Paragraph 15, "Tenant's Insurance". The third sentence of Paragraph 15.2 hereby is revised in its entirety to state: "No such policy shall contain a deductible greater than Twenty-Five Thousand Dollars (\$25,000.00). Paragraph 15.5 hereby is deleted and revised to state in its entirety as follows: "All insurance required to be carried by Tenant hereunder shall be maintained with insurance companies authorized to do business in the State of California for the issuance of the applicable type of insurance coverage and rated A-VII or better in Best's Key Rating Guide. Tenant shall deliver to Landlord certificates of insurance and true and complete copies of any and all endorsements required herein for all insurance required to be maintained by Tenant hereunder at the execution of this Lease by Tenant. Tenant shall, at least thirty (30) days prior to expiration of each policy, furnish Landlord and the other parties named as additional insureds with certificates of renewal thereof. Tenant shall (i) provide Landlord with 30 days advance written notice of cancellation of each policy, and (ii) require Tenant's insurer to endeavor to provide 30 days advance written notice of cancellation of each policy."
- f. Modification to Paragraph 23.2, "Assignment and Subletting — Requirements of Request for Consent". Paragraph 23.2 shall be amended to provide that if Tenant requests consent to a proposed assignment or subletting (except in connection with a Permitted Transfer), whether or not the term of the proposed transfer is for the balance of the Term, Landlord shall have the right to recapture that portion of the Premises that is the subject of the proposed assignment or subletting and terminate the Lease with respect thereto; provided, however, that subsection (3) of Paragraph 23.2 shall be of no further force or effect and Landlord shall not have the right to sublease or take an assignment, as the case may be, of the interest in the Lease that is at issue.
- g. Modification to Paragraph 24, "Tenant's Default". The following is hereby added at the end of Paragraph 24. (a): "provided, however, that if Tenant vacates the Premises at any time during the last nine (9) months of the Term but continues to perform all of its obligations hereunder, including, without limitation, maintaining all insurance policies required by this Lease and complying with all of the surrender requirements of Paragraph 32.9, Tenant shall not be deemed to be in default under this Paragraph 24.(a);".
- h. Modification to Paragraph 32.2, "Tenant's Obligation to Update Disclosure Certificates". The first sentence of Paragraph 32.2 hereby is deleted and revised to state in its entirety as follows: "Within ten (10) business days after receipt of Landlord's written request, Tenant shall complete, execute and deliver to Landlord an updated Disclosure Certificate (each, an "Updated Disclosure Certificate") describing Tenant's then current and proposed future uses of Hazardous Materials on or about the Premises, which Update Disclosure Certificates shall be in the same format as that which is set forth in Exhibit D or in such other form as is reasonably acceptable to Landlord".
- i. Modification to Paragraph 34, "Waiver". The last two sentences of Paragraph 34 hereby are deleted and revised to state in their entirety as follows: "No delay or omission in the exercise of any right or remedy of Landlord or Tenant in regard to any default by the other shall impair such right or remedy or be construed as a waiver. Any waiver by Landlord or Tenant of any default must be in writing and shall not be a waiver of any other default concerning the same or any other provisions of this Lease."
- j. Modification to Paragraph 40, "Financial Statements". Paragraph 40 hereby is deleted and revised to state in its entirety as follows: "Within ten (10) days after Landlord's request, Tenant shall deliver to Landlord the then current, or if Tenant is a publicly traded company, the most recent publicly available financial statements of Tenant prepared, compiled or reviewed by a certified public accountant, including a balance sheet and

profit and loss statement for the most recent prior year, all prepared in accordance with GAAP.”.

k. New Paragraphs. The following new paragraphs are hereby added to the Lease:

“54. **Commercially Reasonable**. Where Landlord or Tenant are required to use “best efforts” in the performance of any obligation under this Lease, “best efforts” shall mean “commercially reasonable good faith efforts.”

“55. **Force Majeure**. Whenever a period of time is herein prescribed for action (other than the payment of money) to be taken by Landlord or Tenant, such party shall not be liable or responsible for, and there shall be excluded from the computation for any such period of time, any delays due to strikes, riots, acts of God, shortages of labor or materials, war, terrorist activity, governmental laws, regulations or restrictions”.

10. **Brokers**. Landlord and Tenant each represents and warrants that it has not dealt with any broker, agent or other person (collectively, “**Broker**”) in connection with this First Amendment and that no Broker brought about this transaction, other than BT Cassidy/Turley. Landlord and Tenant each hereby agree to indemnify and hold the other harmless from and against any claims by any Broker, other than the broker, if any named in this Section 11, claiming a commission or other form of compensation by virtue of having dealt with Tenant or Landlord, as applicable, with regard to this First Amendment. Landlord shall pay any commission due to BT Cassidy/Turley in connection with this First Amendment pursuant to a separate written agreement between Landlord and BT Cassidy/Turley.

11. **OFAC**. To Tenant’s knowledge, without any duty of inquiry, as of the date of Tenant’s execution of this First Amendment, Tenant is currently (a) in compliance with and shall at all times during the Term of the Lease remain in compliance with the regulations of the Office of Foreign Assets Control (“**OFAC**”) of the U.S. Department of Treasury and any statute, executive order, or regulation relating thereto (collectively, the “**OFAC Rules**”), (b) not listed on, and shall not during the term of the Lease be listed on, the Specially Designated Nationals and Blocked Persons List maintained by OFAC and/or on any other similar list maintained by OFAC or other governmental authority pursuant to any authorizing statute, executive order, or regulation, and (c) not a person or entity with whom a U.S. person is prohibited from conducting business under the OFAC Rules.

12. **Miscellaneous**.

a. This First Amendment is the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior and contemporaneous oral and written agreements and discussions. This First Amendment may be amended only by an agreement in writing, signed by the parties hereto.

b. This First Amendment is binding upon and shall inure to the benefit of the parties hereto, their respective agents, employees, representatives, officers, directors, divisions, subsidiaries, affiliates, assigns, heirs, successors in interest and shareholders.

c. Landlord and Tenant each acknowledge that it has read the provisions of this First Amendment, understands them, and is bound by them. Time is of the essence in this First Amendment.

d. This First Amendment may be executed in any number of counterparts, each of which shall be deemed an original, but all of which when taken together shall constitute one and the same instrument. The signature page of any counterpart may be detached therefrom without impairing the legal effect of the signature(s) thereon provided such signature page is attached to

any other counterpart identical thereto except having additional signature pages executed by other parties to this First Amendment attached thereto.

e. Except as amended and/or modified by this First Amendment, the Lease is hereby ratified and confirmed and all other terms of the Lease shall remain in full force and effect, unaltered and unchanged by this First Amendment. In the event of any conflict between the provisions of this First Amendment and the provisions of the Lease, the provisions of this First Amendment shall prevail. Whether or not specifically amended by this First Amendment, all of the terms and provisions of the Lease are hereby amended to the extent necessary to give effect to the purpose and intent of this First Amendment.

[Signatures are on the next page.]

IN WITNESS WHEREOF, the parties hereto have executed this First Amendment as of the day and year first above written.

TENANT:

THERAVANCE, INC.,
a Delaware corporation

/s/ Rick E Winningham

By: Rick E Winningham
Its: Chief Executive Officer

LANDLORD:

ARE-901/951 GATEWAY BOULEVARD, LLC,
a Delaware limited liability company

By: ALEXANDRIA REAL ESTATE EQUITIES, L.P.,
a Delaware limited partnership,
managing member

By: ARE-QRS CORP.,
a Maryland corporation,
general partner

/s/ Eric S. Johnson

By: Eric S. Johnson
Its: Vice President, Real Estate Legal Affairs

SECOND AMENDMENT TO LEASE

THIS SECOND AMENDMENT TO LEASE (this "**Second Amendment**") is made as of November 13, 2017 ("**Effective Date**"), by and between **ARE-901/951 GATEWAY BOULEVARD, LLC**, a Delaware limited liability company ("**Landlord**"), and **THERAVANCE BIOPHARMA US, INC.**, a Delaware corporation ("**Tenant**").

RECITALS

A. Landlord and Tenant are now parties to that certain Lease Agreement dated January 1, 2001, as amended by that certain First Amendment to Lease dated as of June 1, 2010 (as amended, the "**Lease**"). Pursuant to the Lease, Tenant leases certain premises consisting of approximately 110,428 rentable square feet ("**Premises**") comprising the building located at 901 Gateway Boulevard, South San Francisco, California 94080 (the "**Building**"). The Premises are more particularly described in the Lease. Capitalized terms used herein without definition shall have the meanings defined for such terms in the Lease.

B. Landlord and Tenant are also parties to that certain Lease Agreement dated January 1, 2001, as amended by that certain First Amendment to Lease dated as of June 1, 2010, as further amended by that certain Second Amendment to Lease dated as of October 1, 2010, as further amended by that certain Third Amendment to Lease dated as of September 27, 2013, and as further amended by that certain Fourth Amendment to Lease dated as of the Effective Date (the "**Fourth Amendment to 951 Lease**") (as amended, the "**951 Lease**"). Pursuant to the 951 Lease, Tenant leases from Landlord certain premises consisting of approximately 59,816 rentable square feet (the "**951 Premises**") comprising the building located at 951 Gateway Boulevard, South San Francisco, California 94080.

C. Landlord and Tenant desire, subject to the terms and conditions set forth below, to amend the Lease to, among other things, (i) extend the Term of the Lease, and (ii) provide for the construction of certain improvements in the Premises by Tenant.

NOW, THEREFORE, in consideration of the foregoing Recitals, which are incorporated herein by this reference, the mutual promises and conditions contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant hereby agree as follows:

- 1. Term.** The "**Expiration Date**" of the Term of the Lease is hereby extended from June 1, 2020 (the "**Extension Term Commencement Date**"), until May 31, 2030 (the "**Extension Term Expiration Date**"). From and after the Effective Date, references in the Lease to "**Term**" shall mean the two hundred forty (240) months commencing on June 1, 2010, and expiring on the Extension Term Expiration Date.
- 2. Monthly Base Rent.** Tenant shall continue paying Monthly Base Rent as provided under the Lease through May 31, 2020. Commencing on the Extension Term Commencement Date, Monthly Base Rent shall be payable pursuant to the following table:

<u>Time Period</u>	<u>Monthly Rent PSF</u>	<u>Monthly Base Rent</u>
6/1/20 – 8/30/20	\$0.00	\$0 per month*
9/1/20 – 5/31/21	\$4.35	\$480,361.80 per month
6/1/21 – 5/31/22	\$4.48	\$494,717.44 per month
6/1/22 – 5/31/23	\$4.61	\$509,073.08 per month
6/1/23 – 5/31/24	\$4.75	\$524,533.00 per month
6/1/24 – 5/31/25	\$4.89	\$539,992.92 per month
6/1/25 – 5/31/26	\$5.04	\$556,557.12 per month

6/1/26 – 5/31/27	\$5.19	\$573,121.32 per month
6/1/27 – 5/31/28	\$5.35	\$590,789.80 per month
6/1/28 – 5/31/29	\$5.51	\$608,458.28 per month
6/1/29 – 5/31/30	\$5.68	\$627,231.04 per month

*For the avoidance of doubt, Tenant shall be required to pay the management fee payable by Tenant pursuant Section 4.2 of the original Lease during this period based on the amount of Monthly Base Rent that would have been payable during this period had the Monthly Base Rent not been abated (i.e., Monthly Base Rent in the amount of \$480,361.00 per month).

3. **Second Amendment Tenant Improvements; TI Allowance.** Tenant shall have the right to construct certain tenant improvements in the Premises (the “**Second Amendment Tenant Improvements**”) subject to the terms of the Second Amendment Work Letter attached hereto as **Exhibit A**. Commencing on the Effective Date, Landlord shall make the TI Allowance (as defined in the Second Amendment Work Letter) available to Tenant for the design and construction of the Second Amendment Tenant Improvements. Notwithstanding anything to the contrary contained in the Lease, Tenant shall not be required to remove the Second Amendment Tenant Improvements from the Premises at the expiration or earlier termination of the Term, nor shall Tenant have any right to remove the Second Amendment Tenant Improvements at any time during the Term.
4. **Additional Tenant Improvement Allowance.** In addition to the Tenant Improvement Allowance (as defined in the Second Amendment Work Letter), commencing on the Effective Date, Landlord shall, subject to the terms of the Second Amendment Work Letter, also make available to Tenant the Additional Tenant Improvement Allowance (as defined in the Second Amendment Work Letter). Commencing on the first day of the month following the date that Landlord first disburses all or a portion of the Additional Tenant Improvement Allowance, and continuing thereafter on the first day of each month of the Term through the Extension Term Expiration Date, Tenant, as Additional Rent, shall pay the amount necessary to fully amortize the portion of the Additional Tenant Improvement Allowance actually funded by Landlord, if any, in equal monthly payments with interest at a rate of 8% per annum through the Extension Term Expiration Date, which interest shall begin to accrue on the date that Landlord first disburses the applicable portion of such Additional Tenant Improvement Allowance. Any of the Additional Tenant Improvement Allowance and applicable interest remaining unpaid as of the expiration or earlier termination of the Lease shall be paid to Landlord in a lump sum at the expiration or earlier termination of this Lease. For the avoidance of doubt, the Additional Tenant Improvement Allowance does not constitute Monthly Base Rent under the Lease shall not be included in determining the annual three percent (3%) increases in Monthly Base Rent.
5. **Option to Renew.** Tenant shall continue to have two (2) options (each a “**Renewal Option**”) to extend the term of the Lease with respect to the entire Premises for successive periods of five (5) years each (each a “**Renewal Term**”) pursuant to the provisions of Paragraph 49 of the Lease.
6. **Additional Rent.** The final paragraph of Section 4.2 of the Lease is hereby deleted in its entirety and replaced with the following:

“Notwithstanding anything in this Paragraph 4.2 to the contrary, (i) Tenant shall not be responsible for the payment of any Expenses which relate to or benefit solely another building within the Project occupied or intended to be occupied by other tenants or for which Landlord receives full reimbursement from other tenants, and (ii) with respect to all sums payable by Tenant as Additional Rent under this Paragraph 4.2 for the replacement of any item or the construction of any new item in connection with the physical operation of the Premises, the Building or the Project (i.e., HVAC, roof membrane or coverings and parking area) or as required by applicable Laws (including , without limitation, ADA) which is a capital item the replacement of which would be capitalized under generally accepted accounting principles consistently applied, Tenant shall be

required to pay its pro rata share of the cost of the item falling due within the Term (including any Renewal Term) based upon the amortization of the same over the useful life of such item, as reasonably determined by Landlord. Such pro rata share shall be paid by Tenant on a monthly basis throughout the Term (rather than in a lump sum when incurred by Landlord).”

7. **Compliance with Laws.** To the extent that alterations or modifications to the Building exterior, path of travel outside the Building or Building access existing as of the date of the Second Amendment (collectively, “**Triggered Improvements**”) are triggered by Tenant’s performance of the Second Amendment Tenant Improvements, the cost of the Triggered Improvements shall be paid for by Landlord as part of Expenses under the Lease, and Tenant shall be required to pay its pro rata share of the cost of the Triggered Improvements on a monthly basis (on the same day that Monthly Base Rent is due) over the remaining balance of the Term.
8. **Encumbrances.** As of the Effective Date, there are no existing Encumbrances encumbering the Project.
9. **Brokers.** Landlord and Tenant each represents and warrants that it has not dealt with any broker, agent or other person (collectively, “**Broker**”) in connection with this Second Amendment and that no Broker brought about this transaction, other than CBRE. Landlord and Tenant each hereby agree to indemnify and hold the other harmless from and against any claims by any Broker, other than the broker, if any named in this Section 6, claiming a commission or other form of compensation by virtue of having dealt with Tenant or Landlord, as applicable, with regard to this Second Amendment. Landlord shall pay any commission due to CBRE in connection with this Second Amendment pursuant to a separate written agreement between Landlord and CBRE.
10. **OFAC.** To Tenant’s knowledge, without any duty of inquiry, as of the date of Tenant’s execution of this Second Amendment, Tenant is currently (a) in compliance with and shall at all times during the Term of the Lease remain in compliance with the regulations of the Office of Foreign Assets Control (“**OFAC**”) of the U.S. Department of Treasury and any statute, executive order, or regulation relating thereto (collectively, the “**OFAC Rules**”), (b) not listed on, and shall not during the term of the Lease be listed on, the Specially Designated Nationals and Blocked Persons List, Foreign Sanctions Evaders List or the Sectoral Sanctions Identifications List, which are all maintained by OFAC and/or on any other similar list maintained by OFAC or other governmental authority pursuant to any authorizing statute, executive order, or regulation, and (c) not a person or entity with whom a U.S. person is prohibited from conducting business under the OFAC Rules.
11. **California Accessibility Disclosure.** For purposes of Section 1938(a) of the California Civil Code, Landlord hereby discloses to Tenant, and Tenant hereby acknowledges, that the Project has not undergone inspection by a Certified Access Specialist (CASp). In addition, the following notice is hereby provided pursuant to Section 1938(e) of the California Civil Code: “A Certified Access Specialist (CASp) can inspect the subject premises and determine whether the subject premises comply with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the subject premises, the commercial property owner or lessor may not prohibit the lessee or tenant from obtaining a CASp inspection of the subject premises for the occupancy or potential occupancy of the lessee or tenant, if requested by the lessee or tenant. The parties shall mutually agree on the arrangements for the time and manner of the CASp inspection, the payment of the fee for the CASp inspection, and the cost of making any repairs necessary to correct violations of construction-related accessibility standards within the premises.” In furtherance of and in connection with such notice: (i) Tenant, having read such notice and understanding Tenant’s right to request and obtain a CASp inspection, hereby elects not to obtain such CASp inspection and forever waives its rights to obtain a CASp inspection with respect to the Premises, Building and/or Project to the extent permitted by Legal Requirements; and (ii) if the waiver set forth in clause (i) hereinabove is not enforceable pursuant to Legal Requirements, then Landlord and Tenant hereby agree as follows (which constitute the mutual agreement of the parties as to the matters described in the last sentence of the foregoing

notice): (A) Tenant shall have the one-time right to request for and obtain a CASp inspection, which request must be made, if at all, in a written notice delivered by Tenant to Landlord; (B) any CASp inspection timely requested by Tenant shall be conducted (1) at a time mutually agreed to by Landlord and Tenant, (2) in a professional manner by a CASp designated by Landlord and without any testing that would damage the Premises, Building or Project in any way, and (3) at Tenant's sole cost and expense, including, without limitation, Tenant's payment of the fee for such CASp inspection, the fee for any reports prepared by the CASp in connection with such CASp inspection (collectively, the "**CASp Reports**") and all other costs and expenses in connection therewith; (C) the CASp Reports shall be delivered by the CASp simultaneously to Landlord and Tenant; (D) Tenant, at its sole cost and expense, shall be responsible for making any improvements, alterations, modifications and/or repairs to or within the Premises to correct violations of construction-related accessibility standards including, without limitation, any violations disclosed by such CASp inspection; and (E) if such CASp inspection identifies any improvements, alterations, modifications and/or repairs necessary to correct violations of construction-related accessibility standards relating to those items of the Building and Project located outside the Premises that are Landlord's obligation to repair as set forth in the Lease, then Landlord shall perform such improvements, alterations, modifications and/or repairs as and to the extent required by Legal Requirements to correct such violations, and Tenant shall reimburse Landlord for the cost of such improvements, alterations, modifications and/or repairs within 30 days after Tenant's receipt of an invoice therefor from Landlord.

12. Miscellaneous.

a. This Second Amendment is the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior and contemporaneous oral and written agreements and discussions. This Second Amendment may be amended only by an agreement in writing, signed by the parties hereto.

b. This Second Amendment is binding upon and shall inure to the benefit of the parties hereto, their respective agents, employees, representatives, officers, directors, divisions, subsidiaries, affiliates, assigns, heirs, successors in interest and shareholders.

c. Landlord and Tenant each acknowledge that it has read the provisions of this Second Amendment, understands them, and is bound by them. Time is of the essence in this Second Amendment.

d. This Second Amendment may be executed in any number of counterparts, each of which shall be deemed an original, but all of which when taken together shall constitute one and the same instrument. The signature page of any counterpart may be detached therefrom without impairing the legal effect of the signature(s) thereon provided such signature page is attached to any other counterpart identical thereto except having additional signature pages executed by other parties to this Second Amendment attached thereto.

e. Except as amended and/or modified by this Second Amendment, the Lease is hereby ratified and confirmed and all other terms of the Lease shall remain in full force and effect, unaltered and unchanged by this Second Amendment. In the event of any conflict between the provisions of this Second Amendment and the provisions of the Lease, the provisions of this Second Amendment shall prevail. Whether or not specifically amended by this Second Amendment, all of the terms and provisions of the Lease are hereby amended to the extent necessary to give effect to the purpose and intent of this Second Amendment.

f. Commencing on June 1, 2020, Innoviva, Inc., a Delaware corporation formerly known as Theravance, Inc., the original tenant under the Lease, is excused from any obligations under the Lease first arising after May 31, 2020, excepting only the payment of Monthly Base Rent, Additional Rent and other amounts under the Lease coming due prior to June 1, 2020, and such other

obligations arising under the Lease which would survive a termination of the Lease if the Lease were to terminate on May 31, 2020.

[Signatures are on the next page.]

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IN WITNESS WHEREOF, the parties hereto have executed this Second Amendment as of the day and year first above written.

TENANT:

THERAVANCE BIOPHARMA US, INC.,
a Delaware corporation

By: /s/ Renee Gala

Its: SVP & Chief Financial Officer

LANDLORD:

ARE-901/951 GATEWAY BOULEVARD, LLC,
a Delaware limited liability company

By: ALEXANDRIA REAL ESTATE EQUITIES, L.P.,
a Delaware limited partnership,
managing member

By: ARE-QRS CORP.,
a Maryland corporation,
general partner

By: /s/ Eric S. Johnson

Its: Senior Vice President, RE Leal Affairs

Second Amendment Work Letter

THIS SECOND AMENDMENT WORK LETTER (this "**Second Amendment Work Letter**") is incorporated into that certain Lease Agreement dated January 1, 2001, as amended by that certain First Amendment to Lease dated as of June 1, 2010, and as further amended by that certain Second Amendment to Lease dated of even date herewith (the "**Second Amendment**") (as amended, the "**Lease**") by and between **ARE-901/951 GATEWAY BOULEVARD, LLC**, a Delaware limited liability company ("**Landlord**"), and **THERAVANCE BIOPHARMA US, INC.**, a Delaware corporation ("**Tenant**"). Any initially capitalized terms used but not defined herein shall have the meanings given them in the Lease.

1. **General Requirements.**

(a) **Tenant's Authorized Representative.** Tenant designates Jeffrey Lang ("**Tenant's Representative**") as the only person authorized to act for Tenant pursuant to this Second Amendment Work Letter. Landlord shall not be obligated to respond to or act upon any request, approval, inquiry or other communication ("**Communication**") from or on behalf of Tenant in connection with this Second Amendment Work Letter unless such Communication is in writing from Tenant's Representative. Tenant may change Tenant's Representative at any time upon not less than 5 business days advance written notice to Landlord.

(b) **Landlord's Authorized Representative.** Landlord designates Hong Leahey and Greg Gehlen (either such individual acting alone, "**Landlord's Representative**") as the only persons authorized to act for Landlord pursuant to this Second Amendment Work Letter. Tenant shall not be obligated to respond to or act upon any request, approval, inquiry or other Communication from or on behalf of Landlord in connection with this Second Amendment Work Letter unless such Communication is in writing from Landlord's Representative. Landlord may change either Landlord's Representative at any time upon not less than 5 business days advance written notice to Tenant.

(c) **Architects, Consultants and Contractors.** Landlord and Tenant hereby acknowledge and agree that the architect (the "**TI Architect**") for the Second Amendment Tenant Improvements (as defined in Section 2(a) below), the general contractor and any subcontractors for the Second Amendment Tenant Improvements shall be selected by Tenant, subject to Landlord's approval, which approval shall not be unreasonably withheld, conditioned or delayed. Landlord shall be named a third party beneficiary of any contract entered into by Tenant with the TI Architect, any consultant, any contractor or any subcontractor, and of any warranty made by any contractor or any subcontractor.

2. **Second Amendment Tenant Improvements.**

(a) **Second Amendment Tenant Improvements Defined.** As used herein, "**Second Amendment Tenant Improvements**" shall mean all improvements to the Premises desired by Tenant of a fixed and permanent nature. Notwithstanding anything to the contrary contained in this Second Amendment Work Letter, the Second Amendment Tenant Improvements may include LED lighting required to comply with California Title 24 requirements imposed on the Project and associated wiring. The Second Amendment Tenant Improvements shall include the replacement of the roof of the Building and the replacement of the rooftop Building HVAC systems and controls. The Second Amendment Tenant Improvements may, but are not required to, also include the components set forth on Schedule 1 attached hereto. Notwithstanding anything to the contrary contained in the Lease including, without limitation, the Second Amendment, other than funding the TI Allowance (as defined below) as provided herein, Landlord shall not have any obligation whatsoever with respect to paying for the Second Amendment Tenant Improvements or otherwise finishing of the Premises for Tenant's use and occupancy. Landlord and Tenant acknowledge that the Second Amendment Tenant Improvements may be constructed in multiple phases, and that the TI Design Drawings and TI Construction Drawings may be submitted to Landlord for approval pursuant to Sections 2(b) and 2(c) below, respectively, on a phase-by-phase basis.

(b) **Tenant's Space Plans.** Tenant shall deliver to Landlord schematic drawings and outline specifications (the "**TI Design Drawings**") detailing Tenant's requirements for the Second Amendment Tenant Improvements. Not more than 10 days thereafter, Landlord shall deliver to Tenant the written objections, questions or comments of Landlord with regard to the TI Design Drawings. Tenant shall cause the TI Design Drawings to be revised to address such written comments and shall resubmit said drawings to Landlord for approval within 10 days thereafter. Such process shall continue until Landlord has approved the TI Design Drawings. Landlord's approval of the TI Design Drawings shall not be unreasonably withheld, conditioned or delayed.

(c) **Working Drawings.** Within a reasonable period following the approval of the TI Design Drawings by Landlord, Tenant shall cause the TI Architect to prepare and deliver to Landlord for review and comment construction plans, specifications and drawings for the Second Amendment Tenant Improvements ("**TI Construction Drawings**"), which TI Construction Drawings shall be prepared substantially in accordance with the TI Design Drawings. Tenant shall be solely responsible for ensuring that the TI Construction Drawings reflect Tenant's requirements for the Second Amendment Tenant Improvements. Landlord shall deliver its written comments on the TI Construction Drawings to Tenant not later than 10 business days after Landlord's receipt of the same; provided, however, that Landlord may not disapprove any matter that is consistent with the TI Design Drawings. Tenant and the TI Architect shall consider all such comments in good faith and shall, within 10 business days after receipt, notify Landlord how Tenant proposes to respond to such comments. Any disputes in connection with such comments shall be resolved in accordance with Section 2(d) hereof. Provided that the design reflected in the TI Construction Drawings is consistent with the TI Design Drawings, Landlord shall approve the TI Construction Drawings submitted by Tenant. Once approved by Landlord, subject to the provisions of Section 4 below, Tenant shall not materially modify the TI Construction Drawings except as may be reasonably required in connection with the issuance of the TI Permit (as defined in Section 3(a) below). Landlord's approval of the TI Construction Drawings shall not be unreasonably, withheld, conditioned or delayed.

(d) **Approval and Completion.** If any dispute regarding the design of the Second Amendment Tenant Improvements is not settled within 10 business days after notice of such dispute is delivered by one party to the other, Tenant may make the final decision regarding the design of the Second Amendment Tenant Improvements, provided (i) Tenant acts reasonably and such final decision is either consistent with or a compromise between Landlord's and Tenant's positions with respect to such dispute, and (ii) that all costs and expenses resulting from any such decision by Tenant shall be payable out of the TI Fund (as defined in Section 5(d) below). Any changes to the TI Construction Drawings following Landlord's and Tenant's approval of same requested by Tenant shall be processed as provided in Section 4 hereof.

3. **Performance of the Second Amendment Tenant Improvements.**

(a) **Commencement and Permitting of the Second Amendment Tenant Improvements.** Tenant shall commence construction of the Second Amendment Tenant Improvements upon obtaining and delivering to Landlord a building permit (the "**TI Permit**") authorizing the construction of the Second Amendment Tenant Improvements consistent with the TI Construction Drawings approved by Landlord. The cost of obtaining the TI Permit shall be payable from the TI Fund. Landlord shall assist Tenant in obtaining the TI Permit. Prior to the commencement of the Second Amendment Tenant Improvements, Tenant shall deliver to Landlord a copy of any contract with Tenant's contractors (including the TI Architect), and certificates of insurance from any contractor performing any part of the Tenant Improvement evidencing industry standard commercial general liability, automotive liability, "builder's risk", and workers' compensation insurance. Tenant shall cause the general contractor to provide a certificate of insurance naming Landlord, Alexandria Real Estate Equities, Inc., and Landlord's lender (if any) as additional insureds for the general contractor's liability coverages required above.

(b) **Selection of Materials, Etc.** Where more than one type of material or structure is indicated on the TI Construction Drawings approved by Tenant and Landlord, the option will be within Tenant's reasonable discretion if the matter concerns the Second Amendment Tenant Improvements, and within Landlord's reasonable discretion if the matter concerns the structural components of the Building or any Building system.

(c) **Tenant Liability.** Tenant shall be responsible for correcting any deficiencies or defects in the Second Amendment Tenant Improvements.

(d) **Substantial Completion.** Tenant shall substantially complete or cause to be substantially completed the Second Amendment Tenant Improvements in a good and workmanlike manner, in accordance with the TI Permit subject, in each case, to Minor Variations and normal "punch list" items of a non-material nature which do not interfere with the use of the Premises ("**Substantial Completion**" or "**Substantially Complete**"). Upon Substantial Completion of the Second Amendment Tenant Improvements, Tenant shall require the TI Architect and the general contractor to execute and deliver, for the benefit of Tenant and Landlord, a Certificate of Substantial Completion in the form of the American Institute of Architects ("**AIA**") document G704. For purposes of this Second Amendment Work Letter, "**Minor Variations**" shall mean any modifications reasonably required: (i) to comply with all applicable Legal Requirements and/or to obtain or to comply with any required permit (including the TI Permit); (ii) to comport with good design, engineering, and construction practices which are not material; or (iii) to make reasonable adjustments for field deviations or conditions encountered during the construction of the Second Amendment Tenant Improvements.

4. **Changes.** Any changes requested by Tenant to the Second Amendment Tenant Improvements after the delivery and approval by Landlord of the TI Design Drawings, shall be requested and instituted in accordance with the provisions of this Section 4 and shall be subject to the written approval of Landlord, which approval shall not be unreasonably withheld, conditioned or delayed.

(a) **Tenant's Right to Request Changes.** If Tenant shall request changes ("**Changes**"), Tenant shall request such Changes by notifying Landlord in writing in substantially the same form as the AIA standard change order form (a "**Change Request**"), which Change Request shall detail the nature and extent of any such Change. Such Change Request must be signed by Tenant's Representative. Landlord shall review and approve or disapprove such Change Request within 7 business days thereafter, provided that Landlord's approval shall not be unreasonably withheld, conditioned or delayed.

(b) **Implementation of Changes.** If Landlord approves such Change and Tenant deposits with Landlord any Excess TI Costs (as defined in Section 5(d) below) required in connection with such Change, Tenant may cause the approved Change to be instituted. If any TI Permit modification or change is required as a result of such Change, Tenant shall promptly provide Landlord with a copy of such TI Permit modification or change.

5. **Costs.**

(a) **Budget For Second Amendment Tenant Improvements.** Before the commencement of construction of the Second Amendment Tenant Improvements, Tenant shall obtain a detailed breakdown, by trade, of the costs incurred or that will be incurred, in connection with the design and construction of the Second Amendment Tenant Improvements (the "**Budget**"), and deliver a copy of the Budget to Landlord for Landlord's approval, which shall not be unreasonably withheld or delayed. The Budget shall be based upon the TI Construction Drawings approved by Landlord. The Budget shall include a payment to Landlord of administrative rent ("**Administrative Rent**") equal to the out-of-pocket costs incurred by Landlord in connection with Landlord's review of the TI Design Drawings, the TI Construction Drawings and any Changes, which sum shall be payable from the TI Fund. If the Budget is greater than the TI Allowance, Tenant shall deposit with Landlord the difference, in cash, prior to the commencement of construction of the Second Amendment Tenant Improvements, for disbursement by Landlord as described in Section 5(d).

(b) **TI Allowance.** Landlord shall provide to Tenant a tenant improvement allowance (collectively, the "**TI Allowance**") as follows:

1. a "**Tenant Improvement Allowance**" in the maximum amount of \$115.00 per rentable square foot in the Premises, or \$12,699,220 in the aggregate for the Premises, which is included in the Base Rent set forth in the Lease; and

2. an "**Additional Tenant Improvement Allowance**" in the maximum amount of \$30.00 per rentable square foot in the Premises, or \$3,312,840.00 in the aggregate for the Premises, which shall, to the extent used, result in additional Rent as set forth in the Second Amendment.

The TI Allowance shall be disbursed in accordance with this Second Amendment Work Letter.

Tenant shall have no right to the use or benefit (including any reduction to Base Rent) of any portion of the TI Allowance not required for the construction of (i) the Second Amendment Tenant Improvements described in the TI Construction Drawings approved pursuant to Section 2(d) or (ii) any Changes pursuant to Section 4. Tenant shall have no right to any portion of the TI Allowance that is not disbursed before May 31, 2022. Notwithstanding anything to the contrary contained in the Second Amendment or this Second Amendment Work Letter, Tenant may elect by written notice to Landlord to apply a portion of the TI Allowance to the cost of the Fourth Amendment Tenant Improvements (as defined in the Fourth Amendment to the 951 Lease) in which event the amount of the TI Allowance available to Tenant for the TI Costs incurred by Tenant with respect to the Second Amendment Tenant Improvements shall be ratably reduced.

(c) **Costs Includable in TI Fund.** The TI Fund shall be used solely for the payment of design, permits and construction costs in connection with the design and construction of the Second Amendment Tenant Improvements, including, without limitation, the cost of electrical power and other utilities used in connection with the construction of the Second Amendment Tenant Improvements, the cost of preparing the TI Design Drawings and the TI Construction Drawings, all costs set forth in the Budget, including Landlord's Administrative Rent, and the cost of Changes (collectively, "**TI Costs**"). Notwithstanding anything to the contrary contained herein, other than as provided in the immediately following sentence, the TI Fund shall not be used to purchase any furniture, personal property or other non-Building system materials or equipment, including, but not be limited to, Tenant's voice or data cabling, non-ducted biological safety cabinets and other scientific equipment not incorporated into the Second Amendment Tenant Improvements. Notwithstanding anything to the contrary contained in this Second Amendment Work Letter, Tenant may use a portion of the TI Allowance for the cost of Tenant's work stations and cubicles in the Premises and related cabling and wiring.

(d) **Excess TI Costs.** Landlord shall have no obligation to bear any portion of the cost of any of the Second Amendment Tenant Improvements except to the extent of the TI Allowance. If at any time and from time-to-time, the remaining TI Costs under the Budget exceed the remaining unexpended TI Allowance ("**Excess TI Costs**"), monthly disbursements of the TI Allowance shall be made in the proportion that the remaining TI Allowance bears to the outstanding TI Costs under the Budget, and Tenant shall fund the balance of each such monthly draw. The TI Allowance and Excess TI Costs is herein referred to as the "**TI Fund**." Notwithstanding anything to the contrary set forth in this Section 5(d), Tenant shall be fully and solely liable for TI Costs and the cost of Minor Variations in excess of the TI Allowance.

(e) **Payment for TI Costs.** During the course of design and construction of the Second Amendment Tenant Improvements, subject to the terms of Section 5(d), Landlord shall reimburse Tenant for TI Costs once a month against a draw request in Landlord's standard form, containing evidence of payment of such TI Costs by Tenant and such certifications, lien waivers (including a conditional lien release for each progress payment and unconditional lien releases for the prior month's progress payments), inspection reports and other matters as Landlord customarily obtains, to the extent of Landlord's reasonable good faith approval thereof for payment, no later than 30 days following receipt of such draw request. Upon completion of the Second Amendment Tenant Improvements (and prior to any final disbursement of the TI Fund), Tenant shall deliver to Landlord: (i) sworn statements setting forth the names of all contractors and first tier subcontractors who did the work and final, unconditional lien waivers from all such contractors and first tier subcontractors; (ii) as-built plans (one copy in print format and two copies in electronic CAD format) for such Second Amendment Tenant Improvements; (iii) a certification of substantial completion in Form AIA G704, (iv) a certificate of occupancy for the Premises; and (v) copies of all operation and maintenance manuals and warranties affecting the Premises.

6. **Miscellaneous.**

(a) **Consents.** Whenever consent or approval of either party is required under this Second Amendment Work Letter, that party shall not unreasonably withhold, condition or delay such consent or approval, except as may be expressly set forth herein to the contrary.

(b) **Modification.** No modification, waiver or amendment of this Second Amendment Work Letter or of any of its conditions or provisions shall be binding upon Landlord or Tenant unless in writing signed by Landlord and Tenant.

(c) **No Default Funding.** In no event shall Landlord have any obligation to fund any portion of the TI Allowance during any period that Tenant is in Default under the Lease.

Schedule 1 to Second Amendment Work Letter

Optional Second Amendment Tenant Improvements

1. Replacement of the fire panel/alarm system
2. Replacement of the existing HVAC system duct work
3. New Building management systems
4. Restroom upgrades
5. New LED lighting throughout the Building
6. Repainting the exterior and interior of the Building
7. Window repair/caulking, as necessary
8. Renovation of the office areas to a more "pen" floor plan
9. Renovation of the lab [] areas
10. Additional Building entrances adjacent to parking areas
11. New furnishing/work stations, as necessary

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FIRST AMENDMENT TO LEASE

THIS FIRST AMENDMENT TO LEASE (this "**First Amendment**") is made as of June 1, 2010 ("**Effective Date**"), by and between **ARE-901/951 GATEWAY BOULEVARD, LLC**, a Delaware limited liability company ("**Landlord**"), and **THERAVANCE, INC.**, a Delaware corporation ("**Tenant**").

RECITALS

A. Landlord and Tenant are now parties to that certain Amended and Restated Lease Agreement dated January 1, 2001 (the "**Lease**"). Pursuant to the Lease, Tenant leases certain premises consisting of approximately 59,816 rentable square feet ("**Premises**") in a three (3)-story building located at 951 Gateway Boulevard, South San Francisco, California. The Premises are more particularly described in the Lease. Capitalized terms used herein without definition shall have the meanings defined for such terms in the Lease.

B. Pursuant to that certain Sublease dated February 9, 2009 ("**Sublease**") now between Tenant and IPERIAN, INC., a Delaware corporation (as successor-in-interest to iZumi Bio, Inc.) ("**Subtenant**"), Tenant subleases to Subtenant the entire second floor of the Building, consisting of approximately 19,988 rentable square feet ("**Second Floor Premises**").

C. Landlord and Tenant desire, subject to the terms and conditions set forth below, to amend the Lease to, among other things, (i) extend the Term of the Lease, (ii) provide for the surrender by Tenant of the entire first floor of the Building, consisting of approximately 19,914 rentable square feet ("**First Floor Premises**") on May 31, 2011 ("**FFP Surrender Date**"), and (iii) provide for the surrender by Tenant of the Second Floor Premises on March 31, 2012 ("**SFP Surrender Date**").

NOW, THEREFORE, in consideration of the foregoing Recitals, which are incorporated herein by this reference, the mutual promises and conditions contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant hereby agree as follows:

1. Term. The "**Expiration Date**" of the Term of the Lease is hereby extended from March 31, 2012, until May 31, 2020. From and after the Effective Date, references in the Lease to "Term" shall mean the one hundred twenty (120) months commencing on June 1, 2010 and expiring on May 31, 2020.

2. Premises.

a. **Following the FFP Surrender Date.** Notwithstanding anything to the contrary contained in the Lease, commencing on June 1, 2011, the definition of "Premises" shall be amended to mean the Second Floor Premises and the Third Floor Premises.

As of June 1, 2011, the Site Plan attached to the Lease as Exhibit A2 describing the Premises shall be deleted and replaced with **Exhibit A** attached hereto.

b. **Following the SFP Surrender Date.** Commencing on April 1, 2012, the definition of "Premises" shall be amended to mean the Third Floor Premises.

As of April 1, 2012, **Exhibit A** attached hereto shall be amended to exclude the Second Floor Premises.



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3. Premises Square Footage.

a. **Following the FFP Surrender Date.** Commencing on June 1, 2011, the definition of "Premises Square Footage" contained in the Basic Lease Information shall be deleted and replaced with the following:

"Premises Square Footage: 39,902 rentable square feet"

b. **Following the SFP Surrender Date.** Commencing on April 1, 2012, the definition of "Premises Square Footage" contained in the Basic Lease Information shall be deleted and replaced with the following:

"Premises Square Footage: 19,914 rentable square feet"

4. Tenant's Proportionate Share.

a. **Following the FFP Surrender Date.** Commencing on June 1, 2011, the definitions of "Tenant's Proportionate Share of Project" and "Tenant's Proportionate Share of Building" contained in the Basic Lease Information shall be deleted and replaced with the following:

"Tenant's Proportionate Share of Project: 66.71%

Tenant's Proportionate Share of Building: 66.71%"

b. **Following the SFP Surrender Date.** Commencing on April 1, 2012, the definitions of "Tenant's Proportionate Share of Project" and "Tenant's Proportionate Share of Building" contained in the Basic Lease Information shall be deleted and replaced with the following:

"Tenant's Proportionate Share of Project: 33.29%

Tenant's Proportionate Share of Building: 33.29%"

5. Monthly Base Rent.

a. **First Floor Premises/Third Floor Premises.** Notwithstanding anything to the contrary contained in the Lease, commencing on the Effective Date of this First Amendment, Monthly Base Rent for the First Floor Premises and the entire third floor of the Building, consisting of approximately 19,914 rentable square foot feet ("**Third Floor Premises**") shall be payable as follows through the FFP Surrender Date:

<u>Time Period</u>	<u>Monthly Base Rent</u>
6/1/10 — 5/31/11	\$103,552.80 per month

b. **Third Floor Premises.** Notwithstanding anything to the contrary contained in the Lease, commencing on June 1, 2011, Monthly Base Rent for the Third Floor Premises shall be payable pursuant to the following table:

<u>Time Period</u>	<u>Monthly Base Rent</u>
6/1/11 — 3/31/12	\$55,759.20 per month
4/1/12 — 3/31/13	\$58,746.30 per month
4/1/13 — 3/31/14	\$60,508.69 per month
4/1/14 — 3/31/15	\$62,323.95 per month
4/1/15 — 3/31/16	\$64,193.69 per month
4/1/16 — 3/31/17	\$66,119.50 per month
4/1/17 — 3/31/18	\$68,103.08 per month
4/1/18 — 3/31/19	\$70,146.17 per month
4/1/19 — 3/31/20	\$72,250.56 per month
4/1/20 — 5/31/20	\$74,418.08 per month

c. **Second Floor Premises.** Notwithstanding anything to the contrary contained in the Lease, commencing on the date of this First Amendment, Tenant shall pay to Landlord Monthly Base Rent for the Second Floor Premises through the SFP Surrender Date, as follows:

<u>Time Period</u>	<u>Monthly Base Rent</u>
6/1/10 — 11/30/10	\$51,968.80 per month
12/1/10 - 2/28/11	\$41,175.28 per month
3/1/11 — 3/31/12	\$42,410.54 per month

6. **Notice to Subtenant.** Concurrently with Tenant's execution of this First Amendment, Tenant shall notify Subtenant in writing that the Lease with respect to the Second Floor Premises will terminate as of March 31, 2012, pursuant to this First Amendment, and that Subtenant shall have no right to extend the term of the Sublease beyond March 31, 2012.
7. **Additional Rent.** Notwithstanding anything to the contrary contained in the Lease, commencing on December 1, 2010, until the SFP Surrender Date, Tenant shall be required to pay for Expenses (as defined in Paragraph 4.2 of the Lease) with respect to the Second Floor Premises only in an amount equal to \$1.50 per rentable square foot of the Second Floor Premises per month. Notwithstanding the foregoing, Tenant shall continue to pay Expenses and Additional Rent for the First Floor Premises (through the FFP Surrender Date, as the same may be extended pursuant to Section 12(a), below) and the Third Floor Premises as provided for in the Lease.
8. **Additional Tenant Improvement Allowance.** Landlord and Tenant have amended the 901 Gateway Lease to, among other things, provide Tenant an "Additional TI Allowance" of up to \$2,606,840.00. Notwithstanding anything to the contrary contained in the 901 Gateway Lease, Tenant shall only have the right to use up to \$782,052.00 of the Additional TI Allowance for the design and construction of fixed and permanent improvements within the Third Floor Premises desired by and performed by Tenant and which improvements shall be of a fixed and permanent nature (the "Additional Tenant Improvements"); provided, however, that Tenant shall comply with the terms of Section 3 of that certain First Amendment to Lease of even date herewith entered into by Landlord and Tenant with respect to the 901 Gateway Lease in connection with Tenant's use of the Additional TI Allowance and the construction by Tenant of the Additional Tenant Improvements within the Third Floor Premises.
9. **Security Deposit.** Effective as of the Effective Date of this First Amendment, Paragraph 7 of the Lease is hereby deleted in its entirety and replaced with the following:

"7. **Security Deposit.** Tenant acknowledges and agrees that Tenant has delivered to Landlord a Security Deposit (as defined in the 901

Gateway Lease) pursuant to the terms of the 901 Gateway Lease and that Landlord shall have the right to apply all or any portion of such Security Deposit in connection with any Default (as defined in Paragraph 24) under this Lease.

The Security Deposit is not an advance rental deposit or a measure of Landlord's damages in case of Tenant's default. Upon each occurrence of a Default by Tenant under this Lease, Landlord may use all or any part of the Security Deposit to pay delinquent payments due

under this Lease, future rent damages under California Civil Code Section 1951.2, and the cost of any damage, injury, expense or liability caused by such Default, without prejudice to any other remedy provided herein or provided by law. Landlord's right to use the Security Deposit under this Paragraph 7 includes the right to use the Security Deposit to pay future rent damages following the termination of this Lease pursuant to Paragraph 25.5 below. Upon any use of all or any portion of the Security Deposit, Tenant shall pay Landlord within twenty (20) days after receipt of written demand the amount that will restore (by the delivery of a replacement or amended Letter of Credit) the Security Deposit to the amount set forth in the definition of "Letter of Credit" set forth in the Basic Lease Information of the 901 Gateway Lease. Tenant hereby waives the provisions of any law, now or hereafter in force, including, without limitation, California Civil Code Section 1950.7, which provide that Landlord may claim from a security deposit only those sums reasonably necessary to remedy defaults in the payment of rent, to repair damage caused by Tenant or to clean the Premises, it being agreed that Landlord may, in addition, claim those sums reasonably necessary to compensate Landlord for any other loss or damage, foreseeable or unforeseeable, caused by the Default of Tenant or any of Tenant's Agents under this Lease. Upon bankruptcy or other debtor-creditor proceedings against Tenant, the Security Deposit shall be deemed to be applied first to the payment of Rent and other charges due Landlord for periods prior to the filing of such proceedings, subject to applicable bankruptcy law. If Tenant shall fully perform every provision of this Lease to be performed by Tenant and Landlord is holding cash in the amount of a bifurcated Letter of Credit (as described below) or cash proceeds therefrom, the Security Deposit, or any balance thereof (i.e., after deducting therefrom all amounts to which Landlord is entitled under the provisions of this Lease), shall be returned to Tenant within ninety (90) days after the expiration or earlier termination of this Lease. If Landlord is holding a bifurcated Letter of Credit upon the expiration or earlier termination of this Lease, Landlord shall comply with the LC Issuer's requirements necessary to cancel the bifurcated Letter of Credit by the date that is ninety (90) days after the expiration or earlier termination of this Lease.

Notwithstanding anything contained in this Paragraph 7 to the contrary, if Landlord draws on the Letter of Credit for any reason, then Tenant shall have the right, upon ten (10) days' prior written notice to Landlord, to obtain a refund from Landlord of any unapplied proceeds of the Letter of Credit which Landlord has drawn upon, any such refund being conditioned upon Tenant simultaneously delivering to Landlord a replacement Letter of Credit in the amount required by, and otherwise meeting the requirements contained in, this Paragraph 7 and Paragraph 7 of the 901 Gateway Lease.

Notwithstanding anything to the contrary contained herein or in the 901 Gateway Lease, if requested by Landlord at any time following the date of this Lease, Tenant shall cause the LC Issuing Bank (as defined in the 901 Gateway Lease) to bifurcate the Letter of Credit (as defined in the 901 Gateway Lease) into two separate letters of credit, one securing Tenant's obligations under the 901 Gateway Lease and the other securing Tenant's obligations under this Lease. Such bifurcated letters of credit shall each be in an amount specified by Landlord, provided that the aggregate amount of such letters of credit shall equal the amount of the Letter of Credit immediately prior to such bifurcation. Concurrently with the bifurcation of the Letter of Credit, Landlord and Tenant shall enter into a modification of the 901 Gateway Lease and a modification of this Lease, which modifications shall amend Paragraph 7 of the 901 Gateway Lease and this Paragraph 7 to provide for separate, stand-alone security deposit provisions in the 901 Gateway Lease and this Lease.

If Landlord transfers its interest in the Project or this Lease, Landlord shall either (a) transfer any Security Deposit then held by Landlord to a person or entity assuming Landlord's obligations under this Paragraph 7, or (b) return to Tenant any Security Deposit then held by Landlord and remaining after the deductions permitted herein. Upon such transfer to such transferee or the return of the Security Deposit to Tenant, Landlord shall have no further obligation with respect to the Security Deposit, and Tenant's right to the return of the Security

Deposit shall apply solely against Landlord's transferee. Landlord's obligation respecting the Security Deposit is that of a debtor, not a trustee, and no interest shall accrue thereon."

10. **Unreserved Parking Spaces.** Commencing on June 1, 2011, the definition of "Unreserved Parking Spaces" contained in the Basic Lease Information shall be deleted and replaced with the following:

"Unreserved Parking Spaces: Subject to the terms of Paragraph 50, Tenant shall have the right, in common with other tenants of the Project pro rata in accordance with the rentable area of the Premises and the rentable areas of the Project occupied by such other tenants, to park in the Project Parking Areas (as defined in Paragraph 50)."

11. **Surrender Plan.** Effective as of the Effective Date of this First Amendment, Paragraph 32.9 of the Lease hereby is deleted in its entirety and replaced with the following:

"32.9 Condition of Premises upon Expiration or Termination. Upon the expiration of the Term or earlier termination of Tenant's right of possession, Tenant shall surrender the Premises to Landlord (x) free of Hazardous Materials brought upon, kept, used, stored, handled, treated, generated in, or released or disposed of from, the Premises by Tenant or Tenant's Agents ("**Tenant HazMat Operations**") in a manner consistent with prudent commercial practices and such that no Hazardous Materials resulting from Tenant HazMat Operations remain at the Premises in violation of Environmental Requirements and the continued presence of such Hazardous Materials are not in excess of industry standards for the occupancy and re-use of the Premises for research and scientific purposes by a subsequent tenant of the Premises, and (z) released of any license, clearance or other authorization of any kind issued by any governmental authority having jurisdiction over the use, storage, handling, treatment, generation, release, disposal, removal or remediation of Hazardous Materials in, on or about the Premises (collectively referred to herein as "**Hazardous Materials Clearances**"). At least 3 months prior to the surrender of the Premises, Tenant shall deliver to Landlord a narrative description of the actions proposed (or required by any governmental authority) to be taken by Tenant in order to surrender the Premises (including any installations permitted by Landlord to remain in the Premises) at the expiration or earlier termination of the Term, free from any residual impact from the Tenant HazMat Operations and in a manner consistent with prudent commercial practices and such that no Hazardous Materials resulting from Tenant HazMat Operations remain at the Premises in violation of Environmental Requirements and the continued presence of Hazardous Materials are not in excess of industry standards for the occupancy and re-use of the Premises for research and scientific purposes by a subsequent tenant of the Premises (the "**Surrender Plan**"). Such Surrender Plan shall be accompanied by a current listing of (i) all Hazardous Materials licenses and permits held by or on behalf of any of Tenant or Tenant's Agents with respect to the Premises, and (ii) all Hazardous Materials used, stored, handled, treated, generated, released or disposed of or from the Premises by Tenant or Tenant's Agents, and shall be subject to the review and approval of Landlord's environmental consultant, which approval shall not be unreasonably withheld, conditioned or delayed. In connection with the review and approval of the Surrender Plan, upon the request of Landlord, Tenant shall deliver to Landlord or its consultant such additional non-proprietary information concerning Tenant HazMat Operations as Landlord reasonably shall request. On or before such surrender, Tenant shall deliver to Landlord commercially reasonable evidence that the approved Surrender Plan has been satisfactorily completed and Landlord shall have the right, subject to reimbursement at Tenant's expense as set forth below, to cause Landlord's environmental consultant to inspect the Premises and perform such additional procedures as may be deemed reasonably necessary to confirm that the Premises are, as of the effective date of such surrender or early termination of the Lease, free from any residual impact from Tenant HazMat Operations as required pursuant to this Paragraph 7. Tenant shall reimburse Landlord, as Additional Rent, for the actual out-of-pocket expense incurred by Landlord for Landlord's environmental consultant to review and approve the Surrender Plan and to visit the Premises and verify satisfactory completion of the same, which

cost shall not exceed \$5,000. Landlord shall have the unrestricted right to deliver such Surrender Plan (subject to any standard non-reliance letter, if any, prepared by Tenant and delivered by Tenant to Landlord concurrently with Tenant's delivery of the Surrender Plan to Landlord, which non-reliance letter shall be applicable only to third parties other than Landlord) and any report by Landlord's environmental consultant with respect to the surrender of the Premises to Landlord's potential tenants, purchasers, lenders and other third parties with a need to know in connection with Landlord's business; provided, however, that Landlord instructs such parties to treat the same as confidential.

If Tenant shall fail to prepare or submit a Surrender Plan reasonably approved by Landlord, or if Tenant shall fail to complete the approved Surrender Plan, or if such Surrender Plan, whether or not approved by Landlord, shall fail to adequately address any residual effect of Tenant HazMat Operations in, on or about the Premises, shall fail to adequately address any Hazardous Materials resulting from Tenant's HazMat Operations remaining at the Premises in violation of Environmental Requirements or in a manner not consistent with prudent commercial practices or such that the continued presence of such Hazardous Materials are in excess of industry standards for the occupancy and re-use of the Premises for research and scientific purposes by a subsequent tenant of the Premises, Landlord shall have the right to take such actions as Landlord reasonably may deem reasonable or appropriate to assure that the Premises and the Project are surrendered free from any such residual impact from Tenant HazMat Operations, the cost of which actions shall be reimbursed by Tenant as Additional Rent, without regard to the limitation set forth in the first paragraph of this Paragraph 32.9.

All obligations of Tenant hereunder not fully performed as of the expiration or earlier termination of this Lease, including the obligations of Tenant under Paragraph 32 of this Lease, shall survive the expiration or earlier termination of the Term, including, without limitation, indemnity obligations, payment obligations with respect to rent and obligations concerning the condition and repair of the Premises."

12. Surrender of the Surrender Premises.

a. **First Floor Premises.** The Lease with respect to the First Floor Premises shall terminate as provided for in the Lease on the FFP Surrender Date. Tenant shall voluntarily surrender the First Floor Premises on or before such date in the condition which Tenant is required to surrender the Premises as of the expiration of the Lease. Tenant represents and warrants that since the Commencement Date of the Lease, the First Floor Premises has been used solely for offices purposes, warehousing and shipping and receiving (including the storage of Subtenant's chemicals in the warehouse space and storage of chemical waste in the chemical waste room located in the First Floor Premises). Notwithstanding anything to the contrary contained herein or in the Lease, so long as the First Floor Premises continues to be used solely for office purposes, warehousing and shipping and receiving through the FFP Surrender Date, Tenant shall not be required to provide Landlord a Surrender Plan with respect to the First Floor Premises in connection with Tenant's surrender of the First Floor Premises. From and after the FFP Surrender Date, Tenant shall have no further rights or obligations of any kind with respect to the First Floor Premises. Notwithstanding the foregoing, those provisions of the Lease which, by their terms, survive the termination of the Lease shall survive the surrender of the First Floor Premises and termination of the Lease with respect to the First Floor Premises as provided for herein. Nothing herein shall excuse Tenant from its obligations under the Lease with respect to the First Floor Premises prior to the FFP Surrender Date. Notwithstanding anything to the contrary contained in the Lease, (i) Tenant shall not be required to remove any Tenant Improvements or Alterations from the First Floor Premises in connection with its surrender of the First Floor Premises and all Tenant Improvements and Alterations located in the First Floor Premises shall become the Property of Landlord on the Surrender Date, and (ii) in addition to any such Tenant Improvements and Alterations, all casework, if any, located in the First Floor

Premises as of the date of this First Amendment shall also remain in the First Floor Premises and become the Property of Landlord on the Surrender Date.

Tenant has informed Landlord that Tenant will be relocating certain of its employees currently located in the First Floor Premises to a portion of Tenant's premises located within the 901 Gateway Building (as defined below). Tenant shall have the right to extend the term of the Lease with respect to the First Floor Premises for a period of ninety (90) days in order to complete the relocation of its employees. Not later than 90 days after the mutual execution and delivery of this First Amendment by the parties, Tenant shall notify Landlord in writing ("**FFP Notice**") whether Tenant elects to extend the term of the Lease with respect to the First Floor Premises for such ninety (90) day period. If Tenant delivers the FFP Notice to Landlord within the time period provided in the immediately preceding sentence, the FFP Surrender Date shall be automatically extended for one (1) additional period of ninety (90) days ("**FFP Extension Period**"). During the FFP Extension Period, Tenant shall have the right to continue to occupy the First Floor Premises pursuant to all of the terms and conditions of the Lease, as modified by this First Amendment; provided, however, that Tenant shall be required to pay Monthly Base Rent for the First Floor Premises in an amount equal to \$55,759.20 per month for each month of the FFP Extension Period, along with all Additional Rent payable with respect to the First Floor Premises pursuant to the terms of the Lease.

b. **Second Floor Premises.** The Lease with respect to the Second Floor Premises shall terminate as provided for in the Lease on the SFP Surrender Date. Tenant shall voluntarily surrender the Second Floor Premises on or before such date in the condition which Tenant is required to surrender the Premises as of the expiration of the Lease and in compliance with the surrender requirements set forth in the Lease (including this First Amendment). From and after the SFP Surrender Date, Tenant shall have no further rights or obligations of any kind with respect to the Second Floor Premises. Notwithstanding the foregoing, those provisions of the Lease which, by their terms, survive the termination of the Lease shall survive the surrender of the Second Floor Premises and termination of the Lease with respect to the Second Floor Premises as provided for herein. Nothing herein shall excuse Tenant from its obligations under the Lease with respect to the Second Floor Premises prior to the SFP Surrender Date. Notwithstanding anything to the contrary contained in the Lease, (i) Tenant shall not be required to remove any Tenant Improvements or Alterations from the Second Floor Premises in connection with its surrender of the Second Floor Premises and all Tenant Improvements and Alterations located in the Second Floor Premises shall become the Property of Landlord on the SFP Surrender Date, and (ii) in addition to any such Tenant Improvements and Alterations, all laboratory casework located in the Second Floor Premises as of the date of this First Amendment shall also remain in the Second Floor Premises and become the Property of Landlord on the SFP Surrender Date.

Notwithstanding anything to the contrary contained herein, Tenant acknowledges that Landlord may enter into a direct lease with Subtenant pursuant to which Subtenant would lease the Second Floor Premises directly from Landlord following the SFP Surrender Date ("**Direct Lease**"). If Landlord and Subtenant enter into a Direct Lease prior to the SFP Surrender Date, Tenant shall not be required to provide Landlord a Surrender Plan with respect to the Second Floor Premises in connection with Tenant's surrender of the Second Floor Premises; provided, however, that Landlord shall have the right to conduct any inspections and testing of the Second Floor Premises determined reasonably necessary by Landlord to determine whether the condition of the Second Floor Premises is in compliance with the provisions of the Lease and whether any contamination has occurred in or from the Second Floor Premises. Upon request from Tenant, Landlord shall provide Tenant with a copy of the results of such testing, subject to Landlord's standard non-reliance letter. Notwithstanding anything to the contrary contained herein, Tenant shall be required to pay the cost of such testing of the Second Floor Premises if there is a violation of Paragraph 32 of the Lease caused by Tenant or any of Tenant's Agents or if contamination for which Tenant is responsible under Paragraph 32 of the Lease is identified,

along with all costs incurred to clean up, remove or remediate any contamination identified by the investigations and testing conducted by Landlord hereunder.

c. First Floor Warehouse/Shipping and Receiving. Landlord acknowledges and agrees that from and after the FFP Surrender Date the warehouse and shipping and receiving areas located in the First Floor Premises will be Common Area to which Tenant, Subtenant and other tenants, licensees and occupants of the Building will have shared access for warehouse and shipping and receiving purposes. In addition, in connection with the splitting of services pursuant to Section 13 below, Tenant may be required to locate the new CDA compressor, N2 and CO2 distribution systems and the House Vacuum in the warehouse space, which likely would result in the removal of some existing cages (collectively, the "**Warehouse Relocation Work**"). Subject to the provisions of Section 13 below, Landlord consents to Tenant's installation of the Warehouse Relocation Work in the First Floor warehouse, and Tenant's continued use of the warehouse and shipping and receiving areas in the First Floor Premises in common with other tenants, licensees and occupants of the Building from and after the FFP Surrender Date for such purposes.

13. Splitting of Services. Landlord and Tenant acknowledge that because Tenant currently leases the entire Building pursuant to the Lease and that certain adjacent building located at 901 Gateway Boulevard, South San Francisco, California ("**901 Building**") pursuant to the 901 Gateway Lease, the services identified in this Section 13, along with any additional services which may be identified by both Landlord and Tenant, each in the exercise of its reasonable discretion (collectively, "**Shared Services**"), are currently shared between the Building and the 901 Building. Because Tenant is surrendering the First Floor Premises and the Second Floor Premises pursuant to this First Amendment, Tenant has requested that the Shared Services be split pursuant to this Section 13 so that they may independently serve each of the Building and the 901 Building, respectively ("**Splitting Work**").

a. Landlord shall make available to Tenant an allowance of up to \$250,000.00 (the "**Splitting Allowance**") for the Splitting Work. Except for the Splitting Allowance, Tenant shall be solely responsible for all of the costs of the Splitting Work. Landlord and Tenant agree to work together in good faith to minimize the cost of the Splitting Work. The Splitting Allowance shall only be available for use by Tenant for the payment of the cost of the Splitting Work until July 31, 2012, and any portion of the Splitting Allowance which has not been disbursed by Landlord for the Splitting Work on or before the expiration of such date shall be forfeited and shall not be available for use by Tenant. Notwithstanding anything to the contrary contained herein, Landlord and Tenant shall agree upon the equitable allocation of the cost of the Splitting Work for any additional Shared Services identified by Landlord and Tenant after July 31, 2012, at the time such additional Shared Services are identified.

b. Unless Landlord elects otherwise, Tenant shall perform the Splitting Work pursuant to plans approved by Landlord, which approval shall not be unreasonably withheld, conditioned or delayed. The contractors for the Splitting Work shall be selected by Tenant, subject to Landlord's approval, which approval shall not be unreasonably withheld, conditioned or delayed. Prior to the commencement of the Splitting Work, Tenant shall deliver to Landlord a copy of any contract with Tenant's contractors and certificates of insurance from any contractor performing any part of the Splitting Work evidencing industry standard commercial general liability, automotive liability, "builder's risk", and workers' compensation insurance. Tenant shall cause the general contractor to provide a certificate of insurance naming Landlord, Alexandria Real Estate Equities, Inc., and Landlord's lender (if any) as additional insureds for the general contractor's liability coverages required above. Landlord shall be entitled to receive the benefit of any warranties, if any, obtained by Tenant with respect to Splitting Work

c. Except as otherwise expressly provided in this Section 13(c), Tenant shall cause the Splitting Work to be completed on or before June 30, 2012. Notwithstanding the foregoing, Tenant shall complete the Splitting Work with respect to the CO2, N2, CDA, DI and House Vacuum distribution of services ("**Specified Services**") no later than April 30, 2012; provided, however, that Landlord may, by not less than one hundred twenty (120) days' prior written notice to Tenant, cause Tenant to complete the Splitting Work with respect to the Specified Services prior to such date if Landlord intends to enter into a lease or other occupancy agreement with a third party (including, without limitation, Subtenant) with respect to any portion of the First Floor Premises and/or Second Floor Premises.

d. Notwithstanding anything to the contrary contained herein, Tenant shall not be required to perform any Splitting Work with respect to the telephone, IT, building management and security systems serving the Building prior to March 31, 2011. Prior to such date, Landlord and Tenant agree to work together in good faith to determine the manner and timing of splitting such systems at the lowest possible cost.

Tenant, at Tenant's sole cost and expense, shall disconnect the existing public address systems serving the First Floor Premises and the Second Floor Premises on or before April 30, 2011.

14. **Utilities.** On or before September 1, 2010, Tenant shall transfer all water, electricity, heat, light, power, sewer, refuse and trash collection contracts for the Building to Landlord. With respect to Tenant's obligation to transfer utilities to Landlord, Tenant and Landlord shall reasonably cooperate to ensure that each such utility will continue to be available to the Building without interruption. Such cooperation shall include working with each party's account representative to coordinate the termination of the utility service in Tenant's name and the commencement of such service in Landlord's name in a manner that permits utility service without disruption. With respect to janitorial services for the Premises, during the Term, as extended, Tenant shall provide janitorial services to the Premises pursuant to its contract for janitorial services with the vendor performing such services for the 901 Building and Landlord shall have no obligation to provide janitorial services to the Premises. Except for janitorial services provided by Landlord with respect to the Common Areas, which shall be passed through as an Expense, Landlord shall provide for its own janitorial service to that portion of the Building not occupied by Tenant, and may not charge Tenant for any portion of such service as an Expense or otherwise.

Notwithstanding anything to the contrary contained in the Lease, as of the date that all such utilities are established in Landlord's name, Paragraph 5.1 of the Lease shall be deleted in its entirety and replaced with the following:

"5.1 Tenants Obligation to Pay

Landlord shall provide, subject to the terms of this Paragraph 5.1, water, electricity, heat, light, power, sewer, and other utilities (including natural gas [but not process gas] and fire sprinklers to the extent the Project is plumbed for such services), refuse and trash collection and janitorial services (collectively, "**Utilities**"). Landlord shall pay, as part of Expenses or subject to Tenant's reimbursement obligation, for all Utilities used on the Premises, all maintenance charges for Utilities, and any storm sewer charges or other similar charges for Utilities imposed by any governmental authority or Utility provider, and any taxes, penalties, surcharges or similar charges thereon. Landlord may cause, at Tenant's expense, any Utilities to be separately metered or charged directly to Tenant by the provider. Notwithstanding the foregoing, Tenant's cost for the installation of any separate meter shall not exceed that then-applicable cost of a "Demon Meter" or its reasonable equivalent. Tenant shall pay directly to the Utility provider, prior to delinquency, any separately metered Utilities and services which may be furnished to Tenant or the Premises during the Term. Tenant shall pay, as part of Expenses, its share of all charges for jointly metered Utilities based upon consumption, as reasonably determined by Landlord. Tenant acknowledges that the Premises, the Building and/or the Project may become subject to the

rationing of Utility services or restrictions on Utility use as required by a public utility company, governmental agency or other similar entity having jurisdiction thereof. Tenant acknowledges and agrees that its tenancy and occupancy hereunder shall be subject to such rationing or restrictions as may be imposed upon Landlord, Tenant, the Premises, the Building and/or the Project, and Tenant shall in no event be excused or relieved from any covenant or obligation to be kept or performed by Tenant by reason of any such rationing or restrictions. Upon request from Landlord, Tenant agrees to cooperate in good faith with Landlord to develop the most efficient energy conservation program possible in order to comply with Laws, but in no event shall Landlord have the right to implement any energy conservation program (except to the extent mandated by Law) which unreasonably interferes, in Tenant's reasonable good faith judgment, with Tenant's operation of its business at the Premises. Except to the extent that an energy conservation or program or measure is mandated by Law, Tenant shall have the right, in Tenant's reasonable discretion, to approve in advance any energy conservation program or measure proposed by Landlord."

15. **Emergency Generator.** Although Landlord is the owner of emergency generator and related automatic transfer switches serving the Building and the 901 Building (collectively, the "**Emergency Generator**"), prior to the date of this First Amendment, Tenant, as the sole tenant of the Building and the 901 Building, has been operating and maintaining the Emergency Generator. Tenant shall, on the date that is 1 day after the mutual execution and delivery of this First Amendment by the parties ("**EG Transfer Date**"), (x) deliver the Emergency Generator to Landlord in good working order with a full tank of diesel (y) assign to, transfer and deliver to Landlord all governmental permits and licenses (to the extent such permits and licenses are assignable), if any, warranties (to the extent assignable), operating and maintenance manuals, records and other documents concerning the Emergency Generator, and (y) terminate any service, maintenance or other contracts maintained by Tenant with respect to the Emergency Generator. Tenant has not been obligated to maintain a wastewater permit in connection with the Emergency Generator. With respect to any permit required for the Emergency Generator, Landlord acknowledges and agrees that Tenant has been in the process of obtaining a generator permit in connection with a Tenant permitting process underway with the Bay Area Air Quality Management District ("BAAQMD") for the 901 Building, that Tenant will remove the generator from its permit application with BAAQMD, and that Landlord will need to obtain a generator permit from BAAQMD in its own name. To the best of Tenant's knowledge, Tenant does not have any other permits in connection with the Emergency Generator. To the extent Tenant has current contracts with any vendors for the Emergency Generator, Tenant and Landlord shall reasonably cooperate to assign or terminate such contracts in the manner set forth in Section 14 above regarding utilities.

To the extent it is not possible for Tenant to remove the request for a generator permit from its BAAQMD application or to assign or terminate any service maintenance or other contracts within 1 day after the mutual execution and delivery of this First Amendment, Tenant shall not be in default hereunder if Tenant promptly commences efforts to do so and diligently performs until such actions have been completed within a reasonable period after such date.

Landlord shall, within 5 days of the EG Transfer Date, as part of Expenses, conduct such testing of the Emergency Generator required, in Landlord's sole and absolute discretion, to determine whether the Emergency Generator is, in fact, in good working order. If such testing discloses that the Emergency Generator is not in good working order, Landlord shall have the right, at Tenant's sole cost and expense, to perform any maintenance and/or repairs required to put the Emergency Generator in good working order.

Following the EG Transfer Date, Landlord's sole obligation for either providing emergency generators or providing emergency back-up power to Tenant shall be: (i) to provide emergency generators with not less than the current capacity of the Emergency Generator and Tenant shall be entitled to Tenant's share of the capacity thereof available for use by all tenants

of the Building and the 901 Building, collectively, in accordance with the rentable area of the Premises and the 901 Building and the collective rentable areas of the Building and the 901 Building occupied by such other tenants, (ii) to contract with a third party to maintain the emergency generators ("**Emergency Generator Servicer**") as per the manufacturer's standard maintenance guidelines, and (iii) to obtain and maintain licenses for the emergency generators as required by applicable law. Landlord shall have no obligation to provide Tenant with operational emergency generators or back-up power or to supervise, oversee or confirm that the Emergency Generator Servicer or any other third party maintaining the emergency generators is maintaining the generators as per the manufacturer's standard guidelines or otherwise. Landlord shall provide to Tenant copies of any reports received by Landlord from the Emergency Generator Servicer regarding its maintenance and repairs of the emergency generators; provided, however, that in no event shall Landlord's failure to deliver such reports constitute a default by Landlord under the Lease. During any period of replacement, repair or maintenance of the emergency generators when the emergency generators are not operational, including any delays thereto due to the inability to obtain parts or replacement equipment, Landlord shall have no obligation to provide Tenant with an alternative back-up generator or generators or alternative sources of back-up power. Tenant expressly acknowledges and agrees that Landlord does not guaranty that such emergency generators will be operational at all times or that emergency power will be available to the Premises when needed. Landlord shall provide Tenant with not less than five (5) business days' notice of the scheduled disruption in the operation of the emergency generators. In the case of an emergency, Landlord shall provide Tenant with notice of any emergency disruption as soon as reasonably possible after Landlord becomes aware of the need for such emergency disruption.

16. **Maintenance.** Tenant shall continue to maintain the Building pursuant to Paragraph 13.1 of the Lease following the FFP Surrender Date until such date that Landlord notifies Tenant in writing that Landlord shall assume the maintenance of the Building ("**Assumption Date**"); provided, however, that in no event shall the Assumption Date occur after July 31, 2011. Nothing contained herein shall release Tenant from its obligations arising prior to the Assumption Date. Commencing on the Assumption Date, Paragraph 13 of the Lease shall be deleted in its entirety and replaced with the following:

"13. MAINTENANCE AND REPAIRS OF PREMISES

13.1 Landlord Repairs. Landlord, as an Expense, shall repair, replace when necessary (as reasonably determined by Landlord) and maintain in good repair the exterior of the Building (including exterior doors), parking, landscaping, exterior lighting, roof membrane, roof covering and all other Common Areas of the Project, including HVAC, plumbing, fire sprinklers, elevators, fire safety equipment, sewer and septic systems, the Emergency Generator and all other building systems serving the Premises and other portions of the Project ("**Building Systems**"), uninsured losses and damages caused by Tenant, or by any of Tenant's Agents excluded. Landlord, at Landlord's sole cost without right of reimbursement from Tenant, shall repair, replace when necessary (as reasonably determined by Landlord) and maintain the structural portions of the roof (specifically excluding the roof membrane and the roof covering, the repair and/or replacement of which shall be treated as an Expense), the foundation, footings, floor slab and load-bearing walls and exterior walls of the Building (excluding any glass and any routine maintenance, including, without limitation, any painting, sealing, patching and waterproofing of such walls, repair, the maintenance of which shall be treated as an Expense), uninsured losses and damages caused by Tenant or Tenant's Agents excluded. Any losses and damages caused by Tenant or any Tenant Agent shall be repaired by Landlord, to the extent not covered by insurance, at Tenant's sole cost and expense. Landlord reserves the right to stop Building Systems services when necessary (i) by reason of accident or emergency, or (ii) for planned repairs, alterations or improvements, which are, in the reasonable judgment of Landlord, desirable or necessary to be made, until said repairs, alterations or improvements shall have been completed. Landlord shall have no responsibility or liability for failure to supply Building Systems services during any such

period of interruption; provided, however, that Landlord shall, except in case of emergency, give Tenant not less than five (5) business days' advance notice of any planned stoppage of Building Systems services for routine and planned maintenance, repairs, alterations or improvements. Tenant shall promptly give Landlord written notice of any repair required by Landlord pursuant to this section, after which Landlord shall make a commercially reasonable effort to effect such repair within five (5) business days, or, where the repair cannot reasonably be completed within five (5) business days, as soon as reasonably possible thereafter. Landlord shall not be liable for any failure to make any repairs or to perform any maintenance unless such failure shall persist for an unreasonable time after the time periods set forth herein. Tenant waives its rights under any state or local law to terminate this Lease or to make such repairs at Landlord's expense and agrees that the parties' respective rights with respect to such matters shall be solely as set forth herein. Repairs required as the result of fire, earthquake, flood, vandalism, war, or similar cause of damage or destruction shall be controlled by Paragraph 21.

Notwithstanding anything to the contrary contained in the Lease, commencing on the Assumption Date, to the extent that Landlord performs or is required to perform any capital repairs, replacements or improvements for the Project, whether to comply with Law, with any obligation imposed on Landlord pursuant to this Lease or at Landlord's election, Tenant shall be responsible as part of Expenses for its Proportionate Share of the cost of such capital repairs, replacements and improvements amortized over the useful life (as reasonably determined by Landlord taking into account relevant real estate accounting principles, consistently applied, including, without limitation, the hours of operation of the Building and its use for laboratory/office purposes) of such capital items. Tenant shall pay Tenant's Proportionate Share of such amortized costs for each month after such capital repairs, replacements or improvements are completed until the first to occur of the expiration of the Term (as it may be extended) or the end of the period over which such costs are amortized.

13.2 Tenant's Repairs. Subject to Paragraph 13.1 hereof, Tenant, at its expense, shall repair and maintain in good condition all portions of the Premises, including, without limitation, entries, doors (excluding exterior doors providing access to the Building, maintenance, repair and replacement of which is the obligation of Landlord as an Expense), ceilings, interior windows, interior walls, and the interior side of demising walls. Should Tenant fail to make any such repair or replacement or fail to maintain the Premises, Landlord shall give Tenant notice of such failure. If Tenant fails to commence cure of such failure within ten (10) days of Landlord's notice, and thereafter diligently prosecute such cure to completion, Landlord may perform such work and shall be reimbursed by Tenant within thirty (30) days after receipt of written demand therefor (together with reasonable documentation); provided, however, that if such failure by Tenant creates or could create an emergency, Landlord may immediately commence cure of such failure and shall thereafter be entitled to recover the actual and reasonable costs of such cure from Tenant. Subject to Paragraphs 21 and 22 of the Lease, Tenant shall bear the full uninsured cost of any repair or replacement to any part of the Project that results from damage caused by Tenant or any Tenant Party and any repair that benefits only the Premises."

17. **Signs.** Tenant shall be entitled to its Proportionate Share of any available external Building signage, if any, which signage shall be at Tenant's cost and expense. Notwithstanding the foregoing, Tenant acknowledges and agrees that Tenant's signage on the Building including, without limitation, the size, color and type, shall be subject to Landlord's prior written approval and shall be consistent with Landlord's signage program at the Project and applicable legal requirements. Tenant shall be responsible, at Tenant's sole cost and expense, for the maintenance of Tenant's signage, for the removal of Tenant's signs at the expiration or earlier termination of this Lease and for the repair all damage resulting from such removal.
18. **Option to Renew.** Tenant shall have two (2) options (each a "Renewal Option") to extend the term of this Lease with respect to the entire Premises for successive periods of five (5) years each (each a "Renewal Term") pursuant to the provisions of Paragraph 49 of the Lease. For

avoidance of doubt, the parties hereby acknowledge and agree that if the Monthly Base Rent during any Renewal Term is calculated pursuant to Paragraph 49.4(ii) of the Lease, Monthly Base Rent shall be increased on each annual anniversary of the commencement of such Renewal Term by a percentage as determined by Landlord and agreed to by Tenant at the time the Fair Market Rent is determined.

19. **Right of First Offer.** Notwithstanding anything to the contrary contained herein or in the Lease, Paragraph 51 of the Lease is hereby deleted in its entirety and of no further force or effect and Tenant shall have no further right of first offer or other right to purchase the Building.

20. **Right to Expand.**

a. **Right of First Refusal.** From and after the FFP Surrender Date with respect to the First Floor Premises, and from and after the SFP Surrender Date with respect to the Second Floor Premises through the expiration or earlier termination of the Term, each time that Landlord intends to accept a written proposal (the "**Pending Deal**") to lease the First Floor Space or, if applicable, the Second Floor Space to a third party ("**ROFR Space**"), Landlord shall deliver to Tenant written notice (the "**Pending Deal Notice**") of the existence and the terms of such Pending Deal; provided, however, that the terms of this Section 20(a) shall not apply to any current or future transaction pursuant to which Landlord intends to lease all or any of the Second Floor Space and/or the First Floor Premises directly to Subtenant. Tenant shall be entitled to exercise its right under this Section 20(a) only with respect to the entire ROFR Space. Within ten (10) business days after Tenant's receipt of the Pending Deal Notice, Tenant shall deliver to Landlord written notice (the "**Space Acceptance Notice**") if Tenant elects to lease the ROFR Space. Tenant's right to receive the Pending Deal Notice and election to lease or not lease the ROFR Space pursuant to this Section 20(a) is hereinafter referred to as the "**Right of First Refusal.**" If Tenant elects to lease the ROFR Space by delivering the Space Acceptance Notice within the required ten (10) business day period, Tenant shall be deemed to agree to lease the ROFR Space on the terms and conditions set forth in the Pending Deal Notice and any other terms agreeable to Landlord and Tenant, in the respective sole discretion of each party.

If (i) Tenant fails to deliver a Space Acceptance Notice to Landlord within the required ten (10) business day period, or (ii) no lease amendment or lease agreement for the ROFR Space, acceptable to Landlord and Tenant in their respective reasonable discretion, has been executed and delivered by the parties within thirty (30) days after Landlord delivers a draft of the same to Tenant despite the good faith efforts of both parties, Tenant shall be deemed to have elected not to exercise Tenant's right to lease the ROFR Space pursuant to the Pending Deal Notice in question in which case Tenant shall be deemed to have forever waived its right to lease the ROFR Space pursuant to the Pending Deal Notice in question, this Section 20(a) shall terminate and be of no further force or effect with respect to the Pending Deal Notice in question, and Landlord shall have the right to lease the ROFR Space to the party that was the subject of the Pending Deal Notice on substantially the same business terms and conditions set forth in the Pending Deal Notice. Notwithstanding the foregoing, if Landlord negotiates with the proposed tenant economic lease terms materially more favorable (but in no event shall the economic lease terms be considered materially more favorable unless the difference in net effective base rent is 10% or greater), as reasonably determined by Landlord, than those offered to Tenant but rejected as part of the Pending Deal Notice, Landlord shall be required to submit the more favorable economic terms to Tenant for its review. Tenant shall have five (5) business days after receipt of the more favorable economic terms to accept or reject the revised terms. If Tenant rejects the more favorable terms, Landlord shall be free to enter into a lease with the proposed tenant on such terms. Tenant's rejection of any particular Pending Deal Notice shall not relieve Landlord of its obligation to again offer any Right of First Refusal Space to Tenant at any time that Landlord intends, other than with respect to Subtenant with respect to whom the terms of this Section 20 shall not apply, to again agree to a written proposal from another party to lease such space in such period.

b. **Amended Lease.** If: (i) Tenant fails to timely deliver a Space Acceptance Notice, or (ii) after the expiration of a period of thirty (30) days from Tenant's delivery of a Space Acceptance Notice pursuant to Section 20(a), no lease amendment or lease agreement for the ROFR Space, acceptable to Landlord and Tenant, in the respective sole discretion of each, has been executed, Tenant shall be deemed to have waived its right to lease the ROFR Space at issue.

c. **Exceptions.** Notwithstanding the above, the Right of First Refusal shall not be in effect and may not be exercised by Tenant:

(i) during any period of time that Tenant is in Default under any provision of the Lease; or

(ii) if Tenant has been in Default under any provision of the Lease three (3) or more times, whether or not the Defaults are cured, during the twelve (12) month period prior to the date on which Tenant seeks to exercise the Right of First Refusal.

d. **Termination.** The Right of First Refusal shall terminate and be of no further force or effect even after Tenant's due and timely exercise of the Right of First Refusal, if, after such exercise, but prior to the commencement date of the lease of such ROFR Space, (i) Tenant fails to timely cure any default by Tenant under the Lease; or (ii) Tenant has Defaulted three (3) or more times during the period from the date of the exercise of the Right of First Refusal to the date of the commencement of the lease of the ROFR Space, whether or not such Defaults are cured.

e. **Rights Personal.** The Right of First Refusal is personal to Tenant and is not assignable without Landlord's consent, which may be granted or withheld in Landlord's sole discretion separate and apart from any consent by Landlord to an assignment of Tenant's interest in the Lease, except that they may be assigned in connection with any Permitted Transfer of this Lease.

f. **No Extensions.** The period of time within which the Right of First Refusal may be exercised shall not be extended or enlarged by reason of Tenant's inability to exercise the Right of First Refusal.

21. Additional Modifications to Lease. From and after the Effective Date of this First Amendment, the Lease shall be modified as follows:

a. Modification to Basic Lease Information. The Tenant's Contact Person shall be "General Counsel" rather than "Marty Glick".

b. Modification to Paragraph 2.3(a), "Changes to Common Area". The following shall be added at the end of Paragraph 2.3(a): "Notwithstanding the foregoing, Landlord's exercise of the foregoing rights shall not materially interfere with Tenant's access to or use of the Premises to the extent that Tenant's business operations are materially interrupted thereby."

c. Modification to Paragraph 2.3(b), "Changes to Common Area". The second sentence of Paragraph 2.3(b) hereby is deleted and revised to state in its entirety as follows: "During periods of construction only, Landlord shall have the right to provide parking to Tenant on properties reasonably proximate to the Project (the "**Adjacent Properties**") or through the use of valets or parking attendants on the Parking Areas or the Adjacent Properties, provided that Tenant shall at all times have parking for the number of automobiles contemplated under the Lease."

d. Modification to Paragraph 4.2, "Additional Rent". There shall be added to Paragraph 4.2 a new Paragraph 4.2.11, "Exclusions from Expenses", which reads as follows:

“4.2.11 Exclusions from Expenses. Notwithstanding anything to the contrary contained in this Paragraph 4.2, and in addition to the exclusions set forth in the preceding paragraph, there shall be excluded from Expenses and Additional Rent the following: (i) leasing commissions, advertising expenses, promotional expenses, attorneys’ fees, disbursements, and other costs and expenses incurred in procuring prospective tenants, negotiating and executing leases, and constructing improvements required to prepare for a new tenant’s occupancy for the Building or the Project, if any; (ii) finance and debt service fees, principal and/or interest on debt or amortization payments on any mortgages executed by Landlord covering Landlord’s property, any other indebtedness of Landlord, and rental under any ground lease or leases for the Building or the Project; (iii) any depreciation allowance or expense, amortization (except for expenditures permitted under this Lease) or expense reserve; (iv) the costs of Landlord’s third party property manager or, if there is no third party property manager, administration fees in excess of the amount of 3.0% of Base Rent); (v) except for management fees, Landlord’s general overhead and any overhead or profit increment to any subsidiary or affiliate of Landlord for services on or to the Project to the extent that the cost of such service exceeds competitive costs for such services rendered by persons or entities of similar skill, competence and experience other than a subsidiary or affiliate of Landlord; (vi) any costs or expenses representing any amount paid for services and materials to a (personal or business) related person, firm, or entity to the extent such amount exceeds the amount that would have been paid for such service or materials at the then existing market rates in the absence of such relationship; (vii) compensation paid to any employee of Landlord above the grade of Property Manager/Building Superintendent, including officers and executives of Landlord (provided that Landlord may pass through as Expenses compensation paid to employees at or below the grade of Property Manager/Building Superintendent or affiliates of Landlord providing services to the Project); (viii) costs of electrical energy furnished and metered directly to tenants of the Project or for which Landlord is entitled to be reimbursed by tenants as additional rental over and above tenant’s Monthly Base Rent or pass-through of Expenses; (ix) the cost of any work or service furnished to any tenant or occupant of the Project to a materially greater extent or in a materially more favorable manner than that furnished generally to the tenants and other occupants of the Project, or the costs of work or service furnished exclusively for the benefit of any tenant or occupant of the Project or at such tenant’s cost; (x) the costs and expenses incurred in resolving disputes with other tenants, other occupants, or prospective tenants or occupants of the Project, collecting rents or otherwise enforcing leases of the tenants of the Project; (xi) any costs incurred to remove, study, test, remediate or otherwise related to the presence of Hazardous Materials in the Building, which Hazardous Materials (A) Tenant proves originated from any separately demised tenant space within the Building other than the Premises or (B) Tenant proves were not brought upon, kept, used, stored, handled, treated, generated in, or released or disposed of from, the Building by Tenant or Tenant’s Agents; (xii) the costs of any work or service performed for any facility other than a facility located within the Project; (xiii) the costs of repairs, alterations, and general maintenance necessitated by the gross negligence or willful misconduct of Landlord or its agents, employees, or contractors or repairs; (xiv) interest or penalties due to the late payment by Landlord of taxes, utility bills or other such costs (except to the extent caused by Tenant’s action or inaction); (xv) any of the following tax or assessment expenses: (a) estate, inheritance, transfer, gift, federal, state or franchise taxes of Landlord, or (b) penalties and interest, other than those attributable to Tenant’s failure to comply timely with its obligations pursuant to this Lease; and (xvi) bad debt expenses and charitable contributions and donations. Landlord agrees that (a) Landlord will not collect or be entitled to collect more than one hundred percent (100%) of the Expenses actually paid by Landlord in connection with the operation of the Project in any calendar year, and (b) Landlord shall make no profit from Landlord’s collection of Expenses.”

- e. Modifications to Paragraph 15, "Tenant's Insurance". The third sentence of Paragraph 15.2 hereby is revised in its entirety to state: "No such policy shall contain a deductible greater than Twenty-Five Thousand Dollars (\$25,000.00). Paragraph 15.5 hereby is deleted and revised to state in its entirety as follows: "All insurance required to be carried by Tenant hereunder shall be maintained with insurance companies authorized to do business in the State of California for the issuance of the applicable type of insurance coverage and rated A-VII or better in Best's Key Rating Guide. Tenant shall deliver to Landlord certificates of insurance and true and complete copies of any and all endorsements required herein for all insurance required to be maintained by Tenant hereunder at the execution of this Lease by Tenant. Tenant shall, at least thirty (30) days prior to expiration of each policy, furnish Landlord and the other parties named as additional insureds with certificates of renewal thereof. Tenant shall (i) provide Landlord with 30 days advance written notice of cancellation of each policy, and (ii) require Tenant's insurer to endeavor to provide 30 days advance written notice of cancellation of each policy."
- f. Modification to Paragraph 23.2, "Assignment and Subletting — Requirements of Request for Consent". Paragraph 23.2 shall be amended to provide that if Tenant requests consent to a proposed assignment or subletting (except in connection with a Permitted Transfer), whether or not the term of the proposed transfer is for the balance of the Term, Landlord shall have the right to recapture that portion of the Premises that is the subject of the proposed assignment or subletting and terminate the Lease with respect thereto; provided, however, that subsection (3) of Paragraph 23.2 shall be of no further force or effect and Landlord shall not have the right to sublease or take an assignment, as the case may be, of the interest in the Lease that is at issue.
- g. Modification to Paragraph 24, "Tenant's Default". The following is hereby added at the end of Paragraph 24. (a): "provided, however, that if Tenant vacates the Premises at any time during the last nine (9) months of the Term but continues to perform all of its obligations hereunder, including, without limitation, maintaining all insurance policies required by this Lease and complying with all of the requirements of Paragraph 32.9, Tenant shall not be deemed to be in default under this Paragraph 24.(a).";
- h. Modification to Paragraph 32.2, "Tenant's Obligation to Update Disclosure Certificates". The first sentence of Paragraph 32.2 hereby is deleted and revised to state in its entirety as follows: "Within ten (10) business days after receipt of Landlord's written request, Tenant shall complete, execute and deliver to Landlord an updated Disclosure Certificate (each, an "Updated Disclosure Certificate") describing Tenant's then current and proposed future uses of Hazardous Materials on or about the Premises, which Update Disclosure Certificates shall be in the same format as that which is set forth in Exhibit D or in such other form as is reasonably acceptable to Landlord".
- i. Modification to Paragraph 34, "Waiver". The last two sentences of Paragraph 34 hereby are deleted and revised to state in their entirety as follows: "No delay or omission in the exercise of any right or remedy of Landlord or Tenant in regard to any default by the other shall impair such right or remedy or be construed as a waiver. Any waiver by Landlord or Tenant of any default must be in writing and shall not be a waiver of any other default concerning the same or any other provisions of this Lease."
- j. Modification to Paragraph 40, "Financial Statements". Paragraph 40 hereby is deleted and revised to state in its entirety as follows: "Within ten (10) days after Landlord's request, Tenant shall deliver to Landlord the then current, or if Tenant is a publicly traded company, the most recent publicly available financial statements of Tenant prepared, compiled or reviewed by a certified public accountant, including a balance sheet and

profit and loss statement for the most recent prior year, all prepared in accordance with GAAP.”.

k. New Paragraphs. The following new paragraphs are hereby added to the Lease:

“53. **Commercially Reasonable.** Where Landlord or Tenant are required to use “best efforts” in the performance of any obligation under this Lease, “best efforts” shall mean “commercially reasonable good faith efforts.”

“54. **Force Majeure.** Whenever a period of time is herein prescribed for action (other than the payment of money) to be taken by Landlord or Tenant, such party shall not be liable or responsible for, and there shall be excluded from the computation for any such period of time, any delays due to strikes, riots, acts of God, shortages of labor or materials, war, terrorist activity, governmental laws, regulations or restrictions”.

22. **Brokers.** Landlord and Tenant each represents and warrants that it has not dealt with any broker, agent or other person (collectively, “**Broker**”) in connection with this First Amendment and that no Broker brought about this transaction, other than BT Cassidy/Turley. Landlord and Tenant each hereby agree to indemnify and hold the other harmless from and against any claims by any Broker, other than the broker, if any named in this Section 22, claiming a commission or other form of compensation by virtue of having dealt with Tenant or Landlord, as applicable, with regard to this First Amendment.

23. **OFAC.** To Tenant’s knowledge, without any duty of inquiry, as of the date of Tenant’s execution of this First Amendment, Tenant is currently (a) in compliance with and shall at all times during the Term of the Lease remain in compliance with the regulations of the Office of Foreign Assets Control (“**OFAC**”) of the U.S. Department of Treasury and any statute, executive order, or regulation relating thereto (collectively, the “**OFAC Rules**”), (b) not listed on, and shall not during the term of the Lease be listed on, the Specially Designated Nationals and Blocked Persons List maintained by OFAC and/or on any other similar list maintained by OFAC or other governmental authority pursuant to any authorizing statute, executive order, or regulation, and (c) not a person or entity with whom a U.S. person is prohibited from conducting business under the OFAC Rules.

24. **Miscellaneous.**

a. This First Amendment is the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior and contemporaneous oral and written agreements and discussions. This First Amendment may be amended only by an agreement in writing, signed by the parties hereto.

b. This First Amendment is binding upon and shall inure to the benefit of the parties hereto, their respective agents, employees, representatives, officers, directors, divisions, subsidiaries, affiliates, assigns, heirs, successors in interest and shareholders.

c. Tenant acknowledges that it has read the provisions of this First Amendment, understands them, and is bound by them. Time is of the essence in this First Amendment.

d. This First Amendment may be executed in any number of counterparts, each of which shall be deemed an original, but all of which when taken together shall constitute one and the same instrument. The signature page of any counterpart may be detached therefrom without impairing the legal effect of the signature(s) thereon provided such signature page is attached to any other counterpart identical thereto except having additional signature pages executed by other parties to this First Amendment attached thereto.

e. Except as amended and/or modified by this First Amendment, the Lease is hereby ratified and confirmed and all other terms of the Lease shall remain in full force and effect, unaltered and unchanged by this First Amendment. In the event of any conflict between the provisions of this First Amendment and the provisions of the Lease, the provisions of this First Amendment shall prevail. Whether or not specifically amended by this First Amendment, all of the terms and provisions of the Lease are hereby amended to the extent necessary to give effect to the purpose and intent of this First Amendment.

[Signatures are on the next page.]

IN WITNESS WHEREOF, the parties hereto have executed this First Amendment as of the day and year first above written.

TENANT:

THERAVANCE, INC.,
a Delaware corporation

/s/ Rick E Winningham

By: Rick E Winningham
Its: Chief Executive Officer

LANDLORD:

ARE-901/951 GATEWAY BOULEVARD, LLC,
a Delaware limited liability company

By: ALEXANDRIA REAL ESTATE EQUITIES, L.P.,
a Delaware limited partnership,
managing member

By: ARE-QRS CORP.,
a Maryland corporation,
general partner

/s/ Eric S. Johnson

By: Eric S. Johnson
Its: Vice President, Real Estate Legal Affairs

EXHIBIT A

The Premises

(Attached)

SECOND AMENDMENT TO LEASE

This Second Amendment (the "**Amendment**") to Lease is made as of 10-1, 2010, by and between **ARE-901/951 GATEWAY BOULEVARD, LLC**, a Delaware limited liability company ("**Landlord**"), and **THERAVANCE, INC.**, a Delaware corporation successor-in-interest to **ADVANCED MEDICINE, INC.**, a Delaware corporation ("**Tenant**").

RECITALS

A. Landlord and Tenant have entered into that certain Amended and Restated Lease Agreement dated January 1, 2001 as amended by that certain First Amendment to Lease ("First Amendment") dated June 1, 2010 (as amended, the "**Lease**"), wherein Landlord leased to Tenant certain premises (the "**Premises**") located at located 951 Gateway Boulevard, South San Francisco, California as more particularly described therein. Capitalized terms not otherwise defined herein shall have the meanings ascribed to such terms in the Lease.

B. Landlord and Tenant desire, subject to the terms and conditions set forth below, to amend the Lease, to among other things, extend Tenant's right to extend the term of the Lease with respect to the First Floor of the Premises as set forth in the second paragraph of Section 12.a of the First Amendment.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing Recitals, which are incorporated herein by this reference, the mutual promises and conditions contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant hereby agrees as follows:

1. **Amendment.** The third sentence of the second paragraph of Section 12.a of the First Amendment is hereby deleted in its entirety and replaced with the following:

"Not later than one hundred eighty (180) days after the mutual execution and delivery of this First Amendment by the parties, Tenant shall notify Landlord in writing ("**FFP Notice**") whether Tenant elects to extend the term of the Lease with respect to the First Floor Premise for such ninety (90) day period."

2. **Miscellaneous.**

(a) This Amendment is the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior and contemporaneous oral and written agreements and discussions. This Amendment may be amended only by an agreement in writing, signed by the parties hereto.

(b) This Amendment is binding upon and shall inure to the benefit of the parties hereto, their respective agents, employees, representatives, officers, directors, divisions, subsidiaries, affiliates, assigns, heirs, successors in interest and shareholders.

(c) This Amendment may be executed in any number of counterparts, each of which shall be deemed an original, but all of which when taken together shall constitute one and the same instrument. The signature page of any counterpart may be detached therefrom without impairing the legal effect of the signature(s) thereon provided such signature page is attached to any

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other counterpart identical thereto except having additional signature pages executed by other parties to this Amendment attached thereto.

(d) Landlord and Tenant each represent and warrant that it has not dealt with any broker, agent or other person (collectively, "**Broker**") in connection with this transaction, and that no Broker brought about this transaction. Landlord and Tenant each hereby agree to indemnify and hold the other harmless from and against any claims by any Broker claiming a commission or other form of compensation by virtue of having dealt with Tenant or Landlord, as applicable, with regard to this leasing transaction.

(e) Except as amended and/or modified by this Amendment, the Lease is hereby ratified and confirmed and all other terms of the Lease shall remain in full force and effect, unaltered and unchanged by this Amendment. In the event of any conflict between the provisions of this Amendment and the provisions of the Lease, the provisions of this Amendment shall prevail. Whether or not specifically amended by this Amendment, all of the terms and provisions of the Lease are hereby amended to the extent necessary to give effect to the purpose and intent of this Amendment.

(Signatures on Next Page)

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IN WITNESS WHEREOF, the parties hereto have executed this Amendment as of the day and year first above written.

TENANT:

THERAVANCE, INC.,
a Delaware corporation

By: /s/ Mike Aguilar

Its: SVP & CFO

LANDLORD:

ARE-901/951 GATEWAY BOULEVARD, LLC,
a Delaware limited liability company

By: ALEXANDRIA REAL ESTATE EQUITIES, L.P.,
a Delaware limited partnership,
managing member

By: ARE-QRS CORP.,
a Maryland corporation,
general partner

By: /s/ Eric S. Johnson
Vice President, Real Estate Legal Affairs

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THIRD AMENDMENT TO LEASE

THIS THIRD AMENDMENT TO LEASE (this "**Third Amendment**") is made as of September 27, 2013 ("**Effective Date**"), by and between **ARE-901/951 GATEWAY BOULEVARD, LLC**, a Delaware limited liability company ("**Landlord**"), and **THERAVANCE, INC.**, a Delaware corporation ("**Tenant**").

RECITALS

A. Landlord and Tenant are now parties to that certain Amended and Restated Lease Agreement dated January 1, 2001, as amended by that certain First Amendment to Lease dated June 1, 2010 ("**First Amendment**"), and as further amended by that certain Second Amendment to Lease dated as of October 1, 2010 (as amended, the "**Lease**"). Pursuant to the Lease, Tenant leases certain premises consisting of approximately 19,914 rentable square feet ("**Existing Premises**") on the third floor of in a three (3)-story building located at 951 Gateway Boulevard, South San Francisco, California. The Existing Premises are more particularly described in the Lease. Capitalized terms used herein without definition shall have the meanings defined for such terms in the Lease.

B. Landlord and Tenant desire, subject to the terms and conditions set forth below, to amend the Lease to, among other things, expand the Existing Premises to include the entire first floor of the Building, consisting of approximately 19,914 rentable square feet.

NOW, THEREFORE, in consideration of the foregoing Recitals, which are incorporated herein by this reference, the mutual promises and conditions contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant hereby agree as follows:

- 1. Expansion Premises.** In addition to the Existing Premises, commencing on the Expansion Premises Commencement Date (as defined below), Landlord leases to Tenant, and Tenant leases from Landlord, that certain portion of the first floor of the Building containing approximately 19,914 rentable square feet, as shown on **Exhibit A** attached to this **Third Amendment** ("**Expansion Premises**").
- 2. Delivery.** Landlord shall deliver the Expansion Premises to Tenant ("**Delivery**" or "**Deliver**") on the date that is 1 business day after the mutual execution and delivery of this **Third Amendment** by the parties.

The "**Expansion Premises Commencement Date**" shall be the date that Landlord Delivers the Expansion Premises to Tenant in broom clean condition and free of all other tenants and occupants. Upon the request of Landlord, Tenant shall execute and deliver a written acknowledgment of the Expansion Premises Commencement Date and the expiration date of the Lease in the form of the "Acknowledgement of Commencement Date" attached hereto as **Exhibit B**; provided, however, Tenant's failure to execute and deliver such acknowledgment shall not affect Landlord's or Tenant's rights hereunder.

Except as otherwise set forth in this Third Amendment: (i) Tenant shall accept the Expansion Premises in their "as-is" condition as of the Expansion Premises Commencement Date; (ii) Landlord shall have no obligation for any defects in the Expansion Premises; and (iii) Tenant's taking possession of the Expansion Premises shall be conclusive evidence that Tenant accepts the Expansion Premises and that the Expansion Premises were in good condition at the time possession was taken.

Tenant agrees and acknowledges that, except as otherwise set forth in this Third Amendment, neither Landlord nor any agent of Landlord has made any representation or warranty with respect to the condition of all or any portion of the Expansion Premises, and/or the suitability of the

Expansion Premises for the conduct of Tenant's business, and Tenant waives any implied warranty that the Expansion Premises are suitable for the Permitted Use.

3. **Premises.** Notwithstanding anything to the contrary contained in the Lease, commencing on the Expansion Premises Commencement Date, the definition of "**Premises**" shall be amended to mean the Third Floor Premises and the Expansion Premises.

As of the Expansion Premises Commencement Date, **Exhibit A** attached to the Third Amendment shall be amended to include the Expansion Premises as shown **Exhibit A** attached to this Third Amendment.

4. **Premises Square Footage.** Commencing on the Expansion Premises Commencement Date, the definition of "**Premises Square Footage**" contained in the Basic Lease Information shall be deleted and replaced with the following:

"Premises Square Footage: 39,828 rentable square feet"

5. **Tenant's Proportionate Share.** Commencing on the Expansion Premises Commencement Date, the definitions of "Tenant's Proportionate Share of Project" and "Tenant's Proportionate Share of Building" contained in the Basic Lease Information shall be deleted and replaced with the following:

"Tenant's Proportionate Share of Project: 66.58%

Tenant's Proportionate Share of Building: 66.58%"

Notwithstanding anything to the contrary contained in the Lease, Tenant shall commence paying Additional Rent with respect to the Expansion Premises on the Expansion Premises Commencement Date.

6. **Monthly Base Rent.**

a. **Existing Premises.** Notwithstanding anything to the contrary contained herein, Tenant shall continue to pay Monthly Base Rent with respect to the Existing Premises as provided in Section 5.b. of the First Amendment through May 31, 2020.

b. **Expansion Premises.** Commencing on January 1, 2015 ("**Expansion Premises Rent Commencement Date**"), Tenant shall commence paying Monthly Base Rent with respect to the Expansion Premises at the same monthly amount then being paid with respect to the Existing Premises pursuant to Section 5.b. of the First Amendment (which amount, as of January 1, 2015, shall be \$62,323.95 per month), as the same may be adjusted pursuant to the terms of the Lease. Tenant shall not be required to pay Monthly Base Rent with respect to the Expansion Premises for the period commencing on the Expansion Premises Commencement Date through December 31, 2014 ("**Abatement Period**").

9. **Expansion Right.** Because Tenant is expanding the Premises to include the Expansion Premises pursuant to this Third Amendment, commencing on the Expansion Premises Commencement Date, all references to the First Floor Space in Section 20 of the First Amendment are hereby deleted, and Tenant's Right of First Refusal shall apply, subject to the terms of Section 20 of the First Amendment, only to the Second Floor Space.

10. **Brokers.** Landlord and Tenant each represents and warrants that it has not dealt with any broker, agent or other person (collectively, "**Broker**") in connection with this Third Amendment and that no Broker brought about this transaction other than Kidder Mathews. Landlord and

Tenant each hereby agree to indemnify and hold the other harmless from and against any claims by any Broker, other than Kidder Mathews, if any named in this Section 10, claiming a commission or other form of compensation by virtue of having dealt with Tenant or Landlord, as applicable, with regard to this Third Amendment. Landlord shall be responsible for all commissions due to Kidder Mathews arising out of the execution of this Third Amendment in accordance with the terms of a separate written agreement between Kidder Mathews and Landlord.

11. Miscellaneous.

a. This Third Amendment is the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior and contemporaneous oral and written agreements and discussions. This Third Amendment may be amended only by an agreement in writing, signed by the parties hereto.

b. This Third Amendment is binding upon and shall inure to the benefit of the parties hereto, and their respective successor and assigns.

c. Tenant acknowledges that it has read the provisions of this Third Amendment, understands them, and is bound by them. Time is of the essence in this Third Amendment.

d. This Third Amendment may be executed in any number of counterparts, each of which shall be deemed an original, but all of which when taken together shall constitute one and the same instrument. The signature page of any counterpart may be detached therefrom without impairing the legal effect of the signature(s) thereon provided such signature page is attached to any other counterpart identical thereto except having additional signature pages executed by other parties to this Third Amendment attached thereto.

e. Except as amended and/or modified by this Third Amendment, the Lease is hereby ratified and confirmed and all other terms of the Lease shall remain in full force and effect, unaltered and unchanged by this Third Amendment. In the event of any conflict between the provisions of this Third Amendment and the provisions of the Lease, the provisions of this Third Amendment shall prevail. Whether or not specifically amended by this Third Amendment, all of the terms and provisions of the Lease are hereby amended to the extent necessary to give effect to the purpose and intent of this Third Amendment.

[Signatures are on the next page.]

IN WITNESS WHEREOF, the parties hereto have executed this Third Amendment as of the day and year first above written.

TENANT:

THERAVANCE, INC.,
a Delaware corporation

By: /s/ Rick E Winningham

Its: Chief Executive Officer

LANDLORD:

ARE-901/951 GATEWAY BOULEVARD, LLC,
a Delaware limited liability company

By: ALEXANDRIA REAL ESTATE EQUITIES, L.P.,
a Delaware limited partnership,
managing member

By: ARE-QRS CORP.,
a Maryland corporation,
general partner

By: /s/ Eric S. Johnson

Its: Vice President, Real Estate Legal Affairs

EXHIBIT A

Expansion Premises

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EXHIBIT B

Acknowledgment of Expansion Premises Commencement Date

This **ACKNOWLEDGMENT OF EXPANSION PREMISES COMMENCEMENT DATE** is made this 30th day of September, 2013 between **ARE-901/951 GATEWAY BOULEVARD, LLC**, a Delaware limited liability company ("**Landlord**"), and **THERAVANCE, INC.**, a Delaware corporation ("**Tenant**"), and is attached to and made a part of the Amended and Restated Lease Agreement dated January 1, 2001, as amended by that certain First Amendment to Lease dated June 1, 2010, as further amended by that certain Second Amendment to Lease dated as of October 1, 2010, and as further amended by that certain Third Amendment to Lease dated as of September 27, 2013 (as amended, the "**Lease**"), by and between Landlord and Tenant. Any initially capitalized terms used but not defined herein shall have the meanings given them in the Lease.

Landlord and Tenant hereby acknowledge and agree, for all purposes of the Lease, that the Expansion Premises Commencement Date is September 30, 2013, and the expiration date of the Lease is May 31, 2020. In case of a conflict between the terms of the Lease and the terms of this Acknowledgment of Expansion Premises Commencement Date, this Acknowledgment of Expansion Premises Commencement Date shall control for all purposes.

IN WITNESS WHEREOF, Landlord and Tenant have executed this **ACKNOWLEDGMENT OF EXPANSION PREMISES COMMENCEMENT DATE** to be effective on the date first above written.

TENANT:

THERAVANCE, INC.,
a Delaware corporation

By: Renee Gala
Its: VP Finance

LANDLORD:

ARE-901/951 GATEWAY BOULEVARD, LLC,
a Delaware limited liability company

By: **ALEXANDRIA REAL ESTATE EQUITIES, L.P.**,
a Delaware limited partnership,
managing member

By: **ARE-QRS CORP.**,
a Maryland corporation,
general partner

By: /s/ Eric S. Johnson
Its: Vice President, Real Estate Legal Affairs

FOURTH AMENDMENT TO LEASE

THIS FOURTH AMENDMENT TO LEASE (this "**Fourth Amendment**") is made as of November 13, 2017 ("**Effective Date**"), by and between **ARE-901/951 GATEWAY BOULEVARD, LLC**, a Delaware limited liability company ("**Landlord**"), and **THERAVANCE BIOPHARMA US, INC.**, a Delaware corporation ("**Tenant**").

RECITALS

A. Landlord and Tenant are now parties to that certain Amended and Restated Lease Agreement dated January 1, 2001, as amended by that certain First Amendment to Lease dated as of June 1, 2010 (the "**First Amendment**"), as further amended by that certain Second Amendment to Lease dated as of October 1, 2010, and as further amended by that certain Third Amendment to Lease dated as of September 27, 2013 (the "**Third Amendment**") (as amended, the "**Lease**"). Pursuant to the Lease, Tenant leases certain premises consisting of approximately 39,828 rentable square feet ("**Current Premises**") on the first and third floors of that certain building located at 951 Gateway Boulevard, South San Francisco, California 94080. The Current Premises are more particularly described in the Lease. Capitalized terms used herein without definition shall have the meanings defined for such terms in the Lease.

B. Landlord and Tenant are now parties to that certain Lease Agreement dated January 1, 2001, as amended by that certain First Amendment to Lease dated as of June 1, 2010, and as further amended by that certain Second Amendment to Lease dated as of the Effective Date (the "**Second Amendment to 901 Lease**") (as amended, the "**901 Lease**"). Pursuant to the 901 Lease, Tenant leases from Landlord certain premises consisting of approximately 110,428 rentable square feet (the "**901 Premises**") comprising the building located at 901 Gateway Boulevard, South San Francisco, California 94080.

Landlord and Tenant desire, subject to the terms and conditions set forth below, to amend the Lease to, among other things, (i) expand the Current Premises to include the entire second floor of the Building, consisting of approximately 19,988 rentable square feet, as shown on **Exhibit A** attached hereto (the "**Second Expansion Premises**"), (ii) extend the Term of the Lease, and (iii) provide for the construction of certain improvements in the Premises by Tenant.

NOW, THEREFORE, in consideration of the foregoing Recitals, which are incorporated herein by this reference, the mutual promises and conditions contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant hereby agree as follows:

- 1. Second Expansion Premises.** In addition to the Current Premises, commencing on the Second Expansion Premises Commencement Date (as defined below), Landlord leases to Tenant, and Tenant leases from Landlord, the Second Expansion Premises.
- 2. Delivery.** Landlord shall use reasonable good faith efforts to deliver the Second Expansion Premises to Tenant (i) free of all tenancies and the prior tenants' furniture, fixtures and equipment, and (ii) and in broom clean condition ("**Delivery**" or "**Deliver**") the Second Expansion Premises to Tenant on or before June 1, 2018 (the "**Target Second Expansion Premises Commencement Date**"). If Landlord fails to Deliver the Second Expansion Premises on or before the Target Second Expansion Premises Commencement Date, Landlord shall not be liable to Tenant for any loss or damage resulting therefrom, and the Lease shall not be void or voidable. Notwithstanding anything to the contrary contained herein, if Landlord fails to Deliver the Second Expansion Premises to Tenant (i) by the date that is 60 days after the Target Second Expansion Premises Commencement Date (as such date may be extended for Force Majeure delays) ("**Initial Abatement Date**"), Monthly Base Rent due with respect to the Second Expansion

Premises only shall be abated 1 day for each day after the Initial Abatement Date (as such date may be extended for Force Majeure delays) that Landlord fails to Deliver the Second Expansion Premises to Tenant, and (ii) by the date that is 90 days after the Target Second Expansion Premises Commencement Date (as such date may be extended for Force Majeure delays) ("**Second Abatement Date**"), Monthly Base Rent due with respect to the Second Expansion Premises only shall be abated 2 days for each day after the Second Abatement Date (as such date may be extended for Force Majeure delays) that Landlord fails to Deliver the Second Expansion Premises to Tenant. The abatement of Monthly Base Rent provided for in this paragraph shall be in addition to the abatement of Monthly Base Rent provided for in the immediately following paragraph during the period between the Second Expansion Premises Commencement Date and the Second Expansion Premises Rent Commencement Date.

The "**Second Expansion Premises Commencement Date**" shall be the date that Landlord Delivers the Second Expansion Premises to Tenant in broom clean condition and free of all other tenants and occupants, provided, that in no event shall the Second Expansion Premises Commencement Date occur prior to January 1, 2018. The "**Second Expansion Premises Rent Commencement Date**" shall be January 1, 2019; provided, however, that the Second Expansion Premises Rent Commencement Date shall be delayed 1 day for each day after June 1, 2018, that Landlord fails to deliver the Second Expansion Premises to Tenant. Upon the request of Landlord, Tenant shall execute and deliver a written acknowledgment of the Second Expansion Premises Commencement Date and the expiration date of the Lease in the form of the "Acknowledgement of Commencement Date" attached to the Third Amendment as **Exhibit B**; provided, however, Tenant's failure to execute and deliver such acknowledgment shall not affect Landlord's or Tenant's rights hereunder.

Prior to the Second Expansion Premises Commencement Date, Landlord shall, subject to Landlord's standard non-reliance letter, deliver to Tenant a copy of any documents prepared in connection with the surrender of the Second Expansion Premises by the immediately prior tenants of the Second Expansion Premises. Landlord shall use reasonable good faith efforts to require the immediately prior tenants to comply with the surrender requirements in their respective leases. Tenant shall have the right, at Tenant's sole cost and expense and upon reasonable prior written notice to Landlord, to perform non-invasive environmental testing in the Second Premises prior to the Second Expansion Premises Commencement Date.

Notwithstanding anything to the contrary in the Lease or this Fourth Amendment, Landlord shall cause, at Landlord's sole cost and expense (provided that nothing herein shall preclude Landlord from pursuing any prior tenants or third parties for reimbursement of such costs), the remediation, to the extent required by Legal Requirements, of Hazardous Materials not caused by Tenant or any Tenant Party requiring remediation pursuant to Legal Requirements discovered in the Second Expansion Premises on or before the date that is 90 days after the Second Expansion Premises Commencement Date.

Except as otherwise set forth in this Fourth Amendment: (i) Tenant shall accept the Second Expansion Premises in their "as-is" condition as of the Second Expansion Premises Commencement Date; (ii) Landlord shall have no obligation for any defects in the Second Expansion Premises; and (iii) Tenant's taking possession of the Second Expansion Premises shall be conclusive evidence that Tenant accepts the Second Expansion Premises and that the Second Expansion Premises were in good condition at the time possession was taken.

Tenant agrees and acknowledges that, except as otherwise set forth in this Fourth Amendment, neither Landlord nor any agent of Landlord has made any representation or warranty with respect to the condition of all or any portion of the Second Expansion Premises, and/or the suitability of the Second Expansion Premises for the conduct of Tenant's business, and Tenant waives any implied warranty that the Second Expansion Premises are suitable for the Permitted Use.

3. **Premises.** Notwithstanding anything to the contrary contained in the Lease, commencing on the Second Expansion Premises Commencement Date, the definition of "**Premises**" shall be amended to mean the Third Floor Premises, the Expansion Premises and the Second Expansion Premises.

As of the Second Expansion Premises Commencement Date, **Exhibit A** attached to the Third Amendment shall be amended to include the Second Expansion Premises as shown **Exhibit A** attached to this Fourth Amendment.

4. **Premises Square Footage.** Commencing on the Second Expansion Premises Commencement Date, the definition of "**Premises Square Footage**" contained in the Basic Lease Information shall be deleted and replaced with the following:

"Premises Square Footage: 59,816 rentable square feet"

5. **Tenant's Proportionate Share.** Commencing on the Second Expansion Premises Commencement Date, the definitions of "**Tenant's Proportionate Share of Project**" and "**Tenant's Proportionate Share of Building**" contained in the Basic Lease Information shall be deleted and replaced with the following:

"Tenant's Proportionate Share of Project: 100%"

Tenant's Proportionate Share of Building: 100%"

Notwithstanding anything to the contrary contained in the Lease, Tenant shall commence paying Additional Rent with respect to the Second Expansion Premises on the earlier to occur of (i) the Second Expansion Premises Rent Commencement Date (as that date may be extended pursuant to Section 2 above), and (ii) the date that Tenant commences doing business in all or any portion of the Second Expansion Premises.

6. **Term.** The "**Expiration Date**" of the Term of the Lease is hereby extended from June 1, 2020, (the "**Extension Term Commencement Date**"), until May 31, 2030 (the "**Extension Term Expiration Date**"). From and after the Effective Date, references in the Lease to "**Term**" shall mean the two hundred forty (240) months commencing on June 1, 2010, and expiring on the Extension Term Expiration Date.

7. **Monthly Base Rent.**

a. **Current Premises.** Notwithstanding anything to the contrary contained herein, Tenant shall continue to pay Monthly Base Rent with respect to the Current Premises as provided in the Lease through May 31, 2020.

b. **Second Expansion Premises.** Commencing on the Second Expansion Premises Rent Commencement Date through May 31, 2020, Tenant shall commence paying Monthly Base Rent with respect to the Second Expansion Premises at the same monthly amount per rentable square foot then being paid with respect to the Current Premises, as the same may be adjusted pursuant to the terms of the Lease.

c. **Extension Term.** Commencing on the Extension Term Commencement Date, Monthly Base Rent with respect to the entire Premises shall be payable pursuant to the following table:

Time Period	Monthly Rent PSF	Monthly Base Rent
6/1/20 – 9/30/20	\$0.00	\$0 per month*
10/1/20 – 5/31/21	\$4.35	\$260,199.60 per month
6/1/21 – 5/31/22	\$4.48	\$267,975.68 per month
6/1/22 – 5/31/23	\$4.61	\$275,751.76 per month
6/1/23 – 5/31/24	\$4.75	\$284,126.00 per month
6/1/24 – 5/31/25	\$4.89	\$292,500.24 per month
6/1/25 – 5/31/26	\$5.04	\$301,472.64 per month
6/1/26 – 5/31/27	\$5.19	\$310,445.04 per month
6/1/27 – 5/31/28	\$5.35	\$320,001.56 per month
6/1/28 – 5/31/29	\$5.51	\$329,586.16 per month
6/1/29 – 5/31/30	\$5.68	\$339,754.88 per month

*For the avoidance of doubt, Tenant shall be required to pay the management fee payable by Tenant pursuant Section 4.2 of the original Lease during this period based on the amount of Monthly Base Rent that would have been payable during this period had the Monthly Base Rent not been abated (i.e., Monthly Base Rent in the amount of \$260,199.60 per month).

8. **Fourth Amendment Tenant Improvements.** Tenant shall have the right to construct certain tenant improvements in the Premises (the “**Fourth Amendment Tenant Improvements**”) subject to the terms of the Fourth Amendment Work Letter attached hereto as **Exhibit A**. Commencing on the Effective Date, Landlord shall make the TI Allowance (as defined in the Fourth Amendment Work Letter) available to Tenant for the design and construction of the Fourth Amendment Tenant Improvements. Notwithstanding anything to the contrary contained in the Lease, Tenant shall not be required to remove the Fourth Amendment Tenant Improvements from the Premises at the expiration or earlier termination of the Term, nor shall Tenant have any right to remove the Fourth Amendment Tenant Improvements at any time during the Term.

9. **Additional Tenant Improvement Allowance.** In addition to the Tenant Improvement Allowance (as defined in the Fourth Amendment Work Letter), commencing on the Effective Date, Landlord shall, subject to the terms of the Fourth Amendment Work Letter, also make available to Tenant the Additional Tenant Improvement Allowance (as defined in the Fourth Amendment Work Letter). Commencing on the first day of the month following the date that Landlord first disburses all or a portion of the Additional Tenant Improvement Allowance, and continuing thereafter on the first day of each month of the Term through the Extension Term Expiration Date, Tenant, as Additional Rent, shall pay the amount necessary to fully amortize the portion of the Additional Tenant Improvement Allowance actually funded by Landlord, if any, in equal monthly payments with interest at a rate of 8% per annum through the Extension Term Expiration Date, which interest shall begin to accrue on the date that Landlord first disburses the applicable portion of such Additional Tenant Improvement Allowance. Any of the Additional Tenant Improvement Allowance and applicable interest remaining unpaid as of the expiration or earlier termination of the Lease shall be paid to Landlord in a lump sum at the expiration or earlier termination of this Lease. For the avoidance of doubt, the Additional Tenant Improvement Allowance does not constitute Monthly Base Rent under the Lease shall not be included in determining the annual three percent (3%) increases in Monthly Base Rent.

10. **Option to Renew.** Tenant shall continue to have two (2) options (each a “**Renewal Option**”) to extend the term of the Lease with respect to the entire Premises for successive periods of five (5) years each (each a “**Renewal Term**”) pursuant to the provisions of Paragraph 49 of the Lease (as amended by Section 18 of the First Amendment).

11. **Additional Rent.** The final paragraph of Section 4.2 of the Lease is hereby deleted in its entirety and replaced with the following:

“Notwithstanding anything in this Paragraph 4.2 to the contrary, (i) Tenant shall not be responsible for the payment of any Expenses which relate to or benefit solely another building within the Project occupied or intended to be occupied by other tenants or for which Landlord receives full reimbursement from other tenants, and (ii) with respect to all sums payable by Tenant as Additional Rent under this Paragraph 4.2 for the replacement of any item or the construction of any new item in connection with the physical operation of the Premises, the Building or the Project (i.e., HVAC, roof membrane or coverings and parking area) or as required by applicable Laws (including , without limitation, ADA) which is a capital item the replacement of which would be capitalized under generally accepted accounting principles consistently applied, Tenant shall be required to pay its pro rata share of the cost of the item falling due within the Term (including any Renewal Term) based upon the amortization of the same over the useful life of such item, as reasonably determined by Landlord. Such pro rata share shall be paid by Tenant on a monthly basis throughout the Term (rather than in a lump sum when incurred by Landlord).”

12. **Compliance with Laws.** To the extent that alterations or modifications to the Building exterior, path of travel outside the Building or Building access existing as of the date of the Fourth Amendment (collectively, “**Triggered Improvements**”) are triggered by Tenant’s performance of the Fourth Amendment Tenant Improvements, the cost of the Triggered Improvements shall be paid for by Landlord as part of Expenses under the Lease, and Tenant shall be required to pay its pro rata share of the cost of the Triggered Improvements on a monthly basis (on the same day that Monthly Base Rent is due) over the remaining balance of the Term.
13. **Encumbrances.** As of the Effective Date, there are no existing Encumbrances encumbering the Project.
14. **Brokers.** Landlord and Tenant each represents and warrants that it has not dealt with any broker, agent or other person (collectively, “**Broker**”) in connection with this Fourth Amendment and that no Broker brought about this transaction, other than CBRE. Landlord and Tenant each hereby agree to indemnify and hold the other harmless from and against any claims by any Broker, other than the broker, if any named in this **Section 6**, claiming a commission or other form of compensation by virtue of having dealt with Tenant or Landlord, as applicable, with regard to this Fourth Amendment. Landlord shall pay any commission due to CBRE in connection with this Fourth Amendment pursuant to a separate written agreement between Landlord and CBRE.
15. **OFAC.** To Tenant’s knowledge, without any duty of inquiry, as of the date of Tenant’s execution of this Fourth Amendment, Tenant is currently (a) in compliance with and shall at all times during the Term of the Lease remain in compliance with the regulations of the Office of Foreign Assets Control (“**OFAC**”) of the U.S. Department of Treasury and any statute, executive order, or regulation relating thereto (collectively, the “**OFAC Rules**”), (b) not listed on, and shall not during the term of the Lease be listed on, the Specially Designated Nationals and Blocked Persons List, Foreign Sanctions Evaders List or the Sectoral Sanctions Identifications List, which are all maintained by OFAC and/or on any other similar list maintained by OFAC or other governmental authority pursuant to any authorizing statute, executive order, or regulation, and (c) not a person or entity with whom a U.S. person is prohibited from conducting business under the OFAC Rules.
16. **California Accessibility Disclosure.** For purposes of Section 1938(a) of the California Civil Code, Landlord hereby discloses to Tenant, and Tenant hereby acknowledges, that the Project has not undergone inspection by a Certified Access Specialist (CASp). In addition, the following notice is hereby provided pursuant to Section 1938(e) of the California Civil Code: “A Certified Access Specialist (CASp) can inspect the subject premises and determine whether the subject premises comply with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the subject premises, the commercial property owner or lessor may not prohibit the lessee or tenant from obtaining a CASp inspection of the subject premises for the occupancy or potential occupancy of the lessee or

tenant, if requested by the lessee or tenant. The parties shall mutually agree on the arrangements for the time and manner of the CASp inspection, the payment of the fee for the CASp inspection, and the cost of making any repairs necessary to correct violations of construction-related accessibility standards within the premises.” In furtherance of and in connection with such notice: (i) Tenant, having read such notice and understanding Tenant’s right to request and obtain a CASp inspection, hereby elects not to obtain such CASp inspection and forever waives its rights to obtain a CASp inspection with respect to the Premises, Building and/or Project to the extent permitted by Legal Requirements; and (ii) if the waiver set forth in clause (i) hereinabove is not enforceable pursuant to Legal Requirements, then Landlord and Tenant hereby agree as follows (which constitute the mutual agreement of the parties as to the matters described in the last sentence of the foregoing notice): (A) Tenant shall have the one-time right to request for and obtain a CASp inspection, which request must be made, if at all, in a written notice delivered by Tenant to Landlord; (B) any CASp inspection timely requested by Tenant shall be conducted (1) at a time mutually agreed to by Landlord and Tenant, (2) in a professional manner by a CASp designated by Landlord and without any testing that would damage the Premises, Building or Project in any way, and (3) at Tenant’s sole cost and expense, including, without limitation, Tenant’s payment of the fee for such CASp inspection, the fee for any reports prepared by the CASp in connection with such CASp inspection (collectively, the “CASp Reports”) and all other costs and expenses in connection therewith; (C) the CASp Reports shall be delivered by the CASp simultaneously to Landlord and Tenant; (D) Tenant, at its sole cost and expense, shall be responsible for making any improvements, alterations, modifications and/or repairs to or within the Premises to correct violations of construction-related accessibility standards including, without limitation, any violations disclosed by such CASp inspection; and (E) if such CASp inspection identifies any improvements, alterations, modifications and/or repairs necessary to correct violations of construction-related accessibility standards relating to those items of the Building and Project located outside the Premises that are Landlord’s obligation to repair as set forth in the Lease, then Landlord shall perform such improvements, alterations, modifications and/or repairs as and to the extent required by Legal Requirements to correct such violations, and Tenant shall reimburse Landlord for the cost of such improvements, alterations, modifications and/or repairs within 30 days after Tenant’s receipt of an invoice therefor from Landlord.

17. Miscellaneous.

a. This Fourth Amendment is the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior and contemporaneous oral and written agreements and discussions. This Fourth Amendment may be amended only by an agreement in writing, signed by the parties hereto.

b. This Fourth Amendment is binding upon and shall inure to the benefit of the parties hereto, their respective agents, employees, representatives, officers, directors, divisions, subsidiaries, affiliates, assigns, heirs, successors in interest and shareholders.

c. Landlord and Tenant each acknowledge that it has read the provisions of this Fourth Amendment, understands them, and is bound by them. Time is of the essence in this Fourth Amendment.

d. This Fourth Amendment may be executed in any number of counterparts, each of which shall be deemed an original, but all of which when taken together shall constitute one and the same instrument. The signature page of any counterpart may be detached therefrom without impairing the legal effect of the signature(s) thereon provided such signature page is attached to any other counterpart identical thereto except having additional signature pages executed by other parties to this Fourth Amendment attached thereto.

e. Except as amended and/or modified by this Fourth Amendment, the Lease is hereby ratified and confirmed and all other terms of the Lease shall remain in full force and effect, unaltered and unchanged by this Fourth Amendment. In the event of any conflict between the provisions of this Fourth Amendment and the provisions of the Lease, the provisions of this Fourth Amendment shall prevail. Whether or not specifically amended by this Fourth Amendment, all of the terms and provisions of the Lease are hereby amended to the extent necessary to give effect to the purpose and intent of this Fourth Amendment.

f. Commencing on June 1, 2020, Innoviva, Inc., a Delaware corporation formerly known as Theravance, Inc., the original tenant under the Lease, is excused from any obligations under the Lease first arising after May 31, 2020, excepting only the payment of Monthly Base Rent, Additional Rent and other amounts under the Lease coming due prior to June 1, 2020, and such other obligations arising under the Lease which would survive a termination of the Lease if the Lease were to terminate on May 31, 2020.

[Signatures are on the next page.]

IN WITNESS WHEREOF, the parties hereto have executed this Fourth Amendment as of the day and year first above written.

TENANT:

THERAVANCE BIOPHARMA US, INC.,
a Delaware corporation

By: /s/ Renee Gala
Its: SVP & Chief Financial Officer

LANDLORD:

ARE-901/951 GATEWAY BOULEVARD, LLC,
a Delaware limited liability company

By: ALEXANDRIA REAL ESTATE EQUITIES, L.P.,
a Delaware limited partnership,
managing member

By: ARE-QRS CORP.,
a Maryland corporation,
general partner

By: /s/ Eric S. Johnson
Its: Senior Vice President, RE Legal Affairs

Exhibit A

Second Expansion Premises

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Exhibit B

Fourth Amendment Work Letter

THIS FOURTH AMENDMENT WORK LETTER (this "**Fourth Amendment Work Letter**") is incorporated into that certain Lease Agreement dated January 1, 2001, as amended by that certain First Amendment to Lease dated as of June 1, 2010, as further amended by that certain Second Amendment to Lease dated as of October 1, 2010, as further amended by that certain Third Amendment to Lease dated as of September 27, 2013, and as further amended by that certain Fourth Amendment to Lease dated of even date herewith (the "**Fourth Amendment**") (as amended, the "**Lease**") by and between **ARE-901/951 GATEWAY BOULEVARD, LLC**, a Delaware limited liability company ("**Landlord**"), and **THERAVANCE BIOPHARMA US, INC.**, a Delaware corporation ("**Tenant**"). Any initially capitalized terms used but not defined herein shall have the meanings given them in the Lease.

1. **General Requirements.**

(a) **Tenant's Authorized Representative.** Tenant designates Jeffrey Lang ("**Tenant's Representative**") as the only person authorized to act for Tenant pursuant to this Second Amendment Work Letter. Landlord shall not be obligated to respond to or act upon any request, approval, inquiry or other communication ("**Communication**") from or on behalf of Tenant in connection with this Fourth Amendment Work Letter unless such Communication is in writing from Tenant's Representative. Tenant may change Tenant's Representative at any time upon not less than 5 business days advance written notice to Landlord.

(b) **Landlord's Authorized Representative.** Landlord designates Hong Leahy and Greg Gehlen (either such individual acting alone, "**Landlord's Representative**") as the only persons authorized to act for Landlord pursuant to this Fourth Amendment Work Letter. Tenant shall not be obligated to respond to or act upon any request, approval, inquiry or other Communication from or on behalf of Landlord in connection with this Fourth Amendment Work Letter unless such Communication is in writing from Landlord's Representative. Landlord may change either Landlord's Representative at any time upon not less than 5 business days advance written notice to Tenant.

(c) **Architects, Consultants and Contractors.** Landlord and Tenant hereby acknowledge and agree that the architect (the "**TI Architect**") for the Fourth Amendment Tenant Improvements (as defined in Section 2(a) below), the general contractor and any subcontractors for the Fourth Amendment Tenant Improvements shall be selected by Tenant, subject to Landlord's approval, which approval shall not be unreasonably withheld, conditioned or delayed. Landlord shall be named a third party beneficiary of any contract entered into by Tenant with the TI Architect, any consultant, any contractor or any subcontractor, and of any warranty made by any contractor or any subcontractor.

2. **Fourth Amendment Tenant Improvements.**

(a) **Fourth Amendment Tenant Improvements Defined.** As used herein, "**Fourth Amendment Tenant Improvements**" shall mean all improvements to the Premises desired by Tenant of a fixed and permanent nature. Notwithstanding anything to the contrary contained in this Fourth Amendment Work Letter, the Fourth Amendment Tenant Improvements may include LED lighting required to comply with California Title 24 requirements imposed on the Project and associated wiring. The Fourth Amendment Tenant Improvements shall include the replacement of the roof of the Building and the replacement of the rooftop Building HVAC systems and controls. The Fourth Amendment Tenant Improvements may, but are not required to, also include the components set forth on Schedule 1 attached hereto. Notwithstanding anything to the contrary contained in the Lease including, without limitation, the Fourth Amendment, other than funding the TI Allowance (as defined below) as provided herein, Landlord shall not have any obligation whatsoever with respect to paying for the Fourth Amendment Tenant Improvements or otherwise finishing of the Premises for Tenant's use and

occupancy. Landlord and Tenant acknowledge that the Fourth Amendment Tenant Improvements may be constructed in multiple phases, and that the TI Design Drawings and TI Construction Drawings may be submitted to Landlord for approval pursuant to Sections 2(b), and 2(c), below, respectively, on a phase-by-phase basis.

(b) **Tenant's Space Plans.** Tenant shall deliver to Landlord schematic drawings and outline specifications (the "**TI Design Drawings**") detailing Tenant's requirements for the Fourth Amendment Tenant Improvements. Not more than 10 days thereafter, Landlord shall deliver to Tenant the written objections, questions or comments of Landlord with regard to the TI Design Drawings. Tenant shall cause the TI Design Drawings to be revised to address such written comments and shall resubmit said drawings to Landlord for approval within 10 days thereafter. Such process shall continue until Landlord has approved the TI Design Drawings. Landlord's approval of the TI Design Drawings shall not be unreasonably withheld, conditioned or delayed.

(c) **Working Drawings.** Within a reasonable period following the approval of the TI Design Drawings by Landlord, Tenant shall cause the TI Architect to prepare and deliver to Landlord for review and comment construction plans, specifications and drawings for the Fourth Amendment Tenant Improvements ("**TI Construction Drawings**"), which TI Construction Drawings shall be prepared substantially in accordance with the TI Design Drawings. Tenant shall be solely responsible for ensuring that the TI Construction Drawings reflect Tenant's requirements for the Fourth Amendment Tenant Improvements. Landlord shall deliver its written comments on the TI Construction Drawings to Tenant not later than 10 business days after Landlord's receipt of the same; provided, however, that Landlord may not disapprove any matter that is consistent with the TI Design Drawings. Tenant and the TI Architect shall consider all such comments in good faith and shall, within 10 business days after receipt, notify Landlord how Tenant proposes to respond to such comments. Any disputes in connection with such comments shall be resolved in accordance with Section 2(d) hereof. Provided that the design reflected in the TI Construction Drawings is consistent with the TI Design Drawings, Landlord shall approve the TI Construction Drawings submitted by Tenant. Once approved by Landlord, subject to the provisions of Section 4 below, Tenant shall not materially modify the TI Construction Drawings except as may be reasonably required in connection with the issuance of the TI Permit (as defined in Section 3(a) below). Landlord's approval of the TI Construction Drawings shall not be unreasonably, withheld, conditioned or delayed.

(d) **Approval and Completion.** If any dispute regarding the design of the Fourth Amendment Tenant Improvements is not settled within 10 business days after notice of such dispute is delivered by one party to the other, Tenant may make the final decision regarding the design of the Fourth Amendment Tenant Improvements, provided (i) Tenant acts reasonably and such final decision is either consistent with or a compromise between Landlord's and Tenant's positions with respect to such dispute, and (ii) that all costs and expenses resulting from any such decision by Tenant shall be payable out of the TI Fund (as defined in Section 5(d) below). Any changes to the TI Construction Drawings following Landlord's and Tenant's approval of same requested by Tenant shall be processed as provided in Section 4 hereof.

3. **Performance of the Fourth Amendment Tenant Improvements.**

(a) **Commencement and Permitting of the Fourth Amendment Tenant Improvements.** Tenant shall commence construction of the Fourth Amendment Tenant Improvements upon obtaining and delivering to Landlord a building permit (the "**TI Permit**") authorizing the construction of the Fourth Amendment Tenant Improvements consistent with the TI Construction Drawings approved by Landlord. The cost of obtaining the TI Permit shall be payable from the TI Fund. Landlord shall assist Tenant in obtaining the TI Permit. Prior to the commencement of the Fourth Amendment Tenant Improvements, Tenant shall deliver to Landlord a copy of any contract with Tenant's contractors (including the TI Architect), and certificates of insurance from any contractor performing any part of the Tenant Improvement evidencing industry standard commercial general liability, automotive liability, "builder's

risk", and workers' compensation insurance. Tenant shall cause the general contractor to provide a certificate of insurance naming Landlord, Alexandria Real Estate Equities, Inc., and Landlord's lender (if any) as additional insureds for the general contractor's liability coverages required above.

(b) **Selection of Materials, Etc.** Where more than one type of material or structure is indicated on the TI Construction Drawings approved by Tenant and Landlord, the option will be within Tenant's reasonable discretion if the matter concerns the Fourth Amendment Tenant Improvements, and within Landlord's sole and absolute subjective discretion if the matter concerns the structural components of the Building or any Building system.

(c) **Tenant Liability.** Tenant shall be responsible for correcting any deficiencies or defects in the Fourth Amendment Tenant Improvements.

(d) **Substantial Completion.** Tenant shall substantially complete or cause to be substantially completed the Fourth Amendment Tenant Improvements in a good and workmanlike manner, in accordance with the TI Permit subject, in each case, to Minor Variations and normal "punch list" items of a non-material nature which do not interfere with the use of the Premises ("**Substantial Completion**" or "**Substantially Complete**"). Upon Substantial Completion of the Fourth Amendment Tenant Improvements, Tenant shall require the TI Architect and the general contractor to execute and deliver, for the benefit of Tenant and Landlord, a Certificate of Substantial Completion in the form of the American Institute of Architects ("**AIA**") document G704. For purposes of this Fourth Amendment Work Letter, "**Minor Variations**" shall mean any modifications reasonably required: (i) to comply with all applicable Legal Requirements and/or to obtain or to comply with any required permit (including the TI Permit); (ii) to comport with good design, engineering, and construction practices which are not material; or (iii) to make reasonable adjustments for field deviations or conditions encountered during the construction of the Fourth Amendment Tenant Improvements.

4. **Changes.** Any changes requested by Tenant to the Fourth Amendment Tenant Improvements after the delivery and approval by Landlord of the TI Design Drawings, shall be requested and instituted in accordance with the provisions of this Section 4 and shall be subject to the written approval of Landlord, which approval shall not be unreasonably withheld, conditioned or delayed.

(a) **Tenant's Right to Request Changes.** If Tenant shall request changes ("**Changes**"), Tenant shall request such Changes by notifying Landlord in writing in substantially the same form as the AIA standard change order form (a "**Change Request**"), which Change Request shall detail the nature and extent of any such Change. Such Change Request must be signed by Tenant's Representative. Landlord shall review and approve or disapprove such Change Request within 10 business days thereafter, provided that Landlord's approval shall not be unreasonably withheld, conditioned or delayed.

(b) **Implementation of Changes.** If Landlord approves such Change and Tenant deposits with Landlord any Excess TI Costs (as defined in Section 5(d) below) required in connection with such Change, Tenant may cause the approved Change to be instituted. If any TI Permit modification or change is required as a result of such Change, Tenant shall promptly provide Landlord with a copy of such TI Permit modification or change.

5. **Costs.**

(a) **Budget For Fourth Amendment Tenant Improvements.** Before the commencement of construction of the Fourth Amendment Tenant Improvements, Tenant shall obtain a detailed breakdown, by trade, of the costs incurred or that will be incurred, in connection with the design and construction of the Fourth Amendment Tenant Improvements (the "**Budget**"), and deliver a copy of the Budget to Landlord for Landlord's approval, which shall not be unreasonably withheld, conditioned or delayed. The Budget shall include a payment to Landlord of administrative rent ("**Administrative Rent**") equal to the out-of-pocket costs incurred by Landlord in connection with Landlord's review of the TI Design Drawings,

the TI Construction Drawings and any Changes, which sum shall be payable from the TI Fund. If the Budget is greater than the TI Allowance, Tenant shall deposit with Landlord the difference, in cash, prior to the commencement of construction of the Fourth Amendment Tenant Improvements, for disbursement by Landlord as described in Section 5(d).

(b) **TI Allowance.** Landlord shall provide to Tenant a tenant improvement allowance (collectively, the “**TI Allowance**”) as follows:

1. a “**Tenant Improvement Allowance**” in the maximum amount of \$115.00 per rentable square foot in the Premises, or \$6,878,840.00 in the aggregate for the Premises, which is included in the Base Rent set forth in the Lease; and

2. an “**Additional Tenant Improvement Allowance**” in the maximum amount of \$30.00 per rentable square foot in the Premises, or \$1,794,480.00 in the aggregate for the Premises, which shall, to the extent used, result in additional Rent as set forth in the Fourth Amendment.

The TI Allowance shall be disbursed in accordance with this Fourth Amendment Work Letter.

Tenant shall have no right to the use or benefit (including any reduction to Base Rent) of any portion of the TI Allowance not required for the construction of (i) the Fourth Amendment Tenant Improvements described in the TI Construction Drawings approved pursuant to Section 2(d) or (ii) any Changes pursuant to Section 4. Tenant shall have no right to any portion of the TI Allowance that is not disbursed before May 31, 2022. Notwithstanding anything to the contrary contained in the Fourth Amendment or this Fourth Amendment Work Letter, Tenant may elect by written notice to Landlord to apply a portion of the TI Allowance to the cost of the Second Amendment Tenant Improvements (as defined in the Second Amendment to 901 Lease) in which event the amount of the TI Allowance available to Tenant for the TI Costs incurred by Tenant with respect to the Fourth Amendment Tenant Improvements shall be ratably reduced.

(c) **Costs Includable in TI Fund.** The TI Fund shall be used solely for the payment of design, permits and construction costs in connection with the construction of the Fourth Amendment Tenant Improvements, including, without limitation, the cost of electrical power and other utilities used in connection with the construction of the Fourth Amendment Tenant Improvements, the cost of preparing the TI Design Drawings and the TI Construction Drawings, all costs set forth in the Budget, including Landlord’s Administrative Rent, and the cost of Changes (collectively, “**TI Costs**”). Notwithstanding anything to the contrary contained herein, other than as provided in the immediately following sentence, the TI Fund shall not be used to purchase any furniture, personal property or other non-Building system materials or equipment, including, but not be limited to, Tenant’s voice or data cabling, non-ducted biological safety cabinets and other scientific equipment not incorporated into the Fourth Amendment Tenant Improvements. Notwithstanding anything to the contrary contained in this Fourth Amendment Work Letter, Tenant may use a portion of the TI Allowance for the cost of Tenant’s work stations and cubicles in the Premises and related cabling and wiring.

(d) **Excess TI Costs.** Landlord shall have no obligation to bear any portion of the cost of any of the Fourth Amendment Tenant Improvements except to the extent of the TI Allowance. If at any time and from time-to-time, the remaining TI Costs under the Budget exceed the remaining unexpended TI Allowance (“**Excess TI Costs**”), monthly disbursements of the TI Allowance shall be made in the proportion that the remaining TI Allowance bears to the outstanding TI Costs under the Budget, and Tenant shall fund the balance of each such monthly draw. The TI Allowance and Excess TI Costs is herein referred to as the “**TI Fund**.” Notwithstanding anything to the contrary set forth in this Section 5(d), Tenant shall be fully and solely liable for TI Costs and the cost of Minor Variations in excess of the TI Allowance.

(e) **Payment for TI Costs.** During the course of design and construction of the Fourth Amendment Tenant Improvements, Landlord shall reimburse Tenant for TI Costs once a month against a draw request in Landlord's standard form, containing evidence of payment of such TI Costs by Tenant and such certifications, lien waivers (including a conditional lien release for each progress payment and unconditional lien releases for the prior month's progress payments), inspection reports and other matters as Landlord customarily obtains, to the extent of Landlord's reasonable good faith approval thereof for payment, no later than 30 days following receipt of such draw request. Upon completion of the Fourth Amendment Tenant Improvements (and prior to any final disbursement of the TI Fund), Tenant shall deliver to Landlord: (i) sworn statements setting forth the names of all contractors and first tier subcontractors who did the work and final, unconditional lien waivers from all such contractors and first tier subcontractors; (ii) as-built plans (one copy in print format and two copies in electronic CAD format) for such Fourth Amendment Tenant Improvements; (iii) a certification of substantial completion in Form AIA G704, (iv) a certificate of occupancy for the Premises; and (v) copies of all operation and maintenance manuals and warranties affecting the Premises.

6. **Miscellaneous.**

(a) **Consents.** Whenever consent or approval of either party is required under this Fourth Amendment Work Letter, that party shall not unreasonably withhold, condition or delay such consent or approval, except as may be expressly set forth herein to the contrary.

(b) **Modification.** No modification, waiver or amendment of this Fourth Amendment Work Letter or of any of its conditions or provisions shall be binding upon Landlord or Tenant unless in writing signed by Landlord and Tenant.

(c) **No Default Funding.** In no event shall Landlord have any obligation to fund any portion of the TI Allowance during any period that Tenant is in Default under the Lease.

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Schedule 1 to Fourth Amendment Work Letter

Optional Fourth Amendment Tenant Improvements

1. Replacement of the fire panel/alarm system
2. Replacement of the existing HVAC system duct work
3. New Building management systems
4. Restroom upgrades
5. New LED lighting throughout the Building
6. Repainting the exterior and interior of the Building
7. Window repair/caulking, as necessary
8. Renovation of the office areas to a more "pen" floor plan
9. Renovation of the lab [] areas
10. Additional Building entrances adjacent to parking areas
11. New furnishing/worsk stations, as necessary

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**Certification of Chief Executive Officer
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002**

I, Rick E Winningham, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Theravance Biopharma, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles; and
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 2, 2018

/s/ Rick E Winningham

Rick E Winningham

Chairman of the Board and Chief Executive Officer
(Principal Executive Officer)

**Certification of Principal Financial Officer
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002**

I, Renee D. Gala, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Theravance Biopharma, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles; and
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 2, 2018

/s/ Renee D. Gala

Renee D. Gala

Senior Vice President and Chief Financial Officer
(Principal Financial Officer)
