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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 10-Q

(Mark One)

x **QUARTERLY REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the quarterly period ended March 31, 2019

o **TRANSITION REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

COMMISSION FILE NUMBER 001-35558

TROVAGENE, INC.
(Exact Name of registrant as specified in its charter)

Delaware	**27-2004382**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
11055 Flintkote Avenue, San Diego, California	**92121**
(Address of principal executive offices)	(Zip Code)

(858) 952-7570
(Registrant's telephone number, including area code)

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No o

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

Large accelerated filer o	Accelerated filer o	Non-accelerated filer x	Smaller reporting company x	Emerging growth company o

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

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

As of April 30, 2019, the issuer had 5,245,217 shares of Common Stock issued and outstanding.

TROVAGENE, INC.

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PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

TROVAGENE, INC.
CONDENSED BALANCE SHEETS
(Unaudited)

	March 31, 2019	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents	$ 11,330,079	$ 11,453,133
Accounts receivable and unbilled receivable	115,676	167,755
Prepaid expenses	890,725	1,144,377
Total current assets	12,336,480	12,765,265
Property and equipment, net	293,361	1,304,433
Operating lease right-of-use assets	1,816,286	—
Other assets	87,073	102,798
Total Assets	$ 14,533,200	$ 14,172,496
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 466,747	$ 664,840
Accrued expenses	2,021,737	1,813,842
Operating lease liabilities	796,246	—
Deferred rent, current portion	—	486,636
Total current liabilities	3,284,730	2,965,318
Derivative financial instruments—warrants	42,076	32,315
Operating lease liabilities, net of current portion	1,520,213	—
Deferred rent, net of current portion	—	1,090,671
Total Liabilities	4,847,019	4,088,304
Commitments and contingencies (Note 8)		
Stockholders' equity		
Preferred stock, $0.001 par value, 20,000,000 shares authorized; 277,100 designated as Series A Convertible Preferred Stock; 60,600 shares outstanding at March 31, 2019 and December 31, 2018 with liquidation preference of $606,000 at March 31, 2019 and December 31, 2018; 200,000 designated as Series C Convertible Preferred Stock; 200,000 and 0 shares outstanding at March 31, 2019 and December 31, 2018, respectively	260	60
Common stock, $0.0001 par value, 150,000,000 shares authorized; 4,525,354 and 3,831,880 shares issued and outstanding at March 31, 2019 and December 31, 2018, respectively	7,906	7,742
Additional paid-in capital	207,652,843	202,267,605
Service receivables	(1,604,513)	—
Accumulated deficit	(196,370,315)	(192,191,215)
Total stockholders' equity	9,686,181	10,084,192
Total liabilities and stockholders' equity	$ 14,533,200	$ 14,172,496

See accompanying notes to the unaudited condensed financial statements.

TROVAGENE, INC.
CONDENSED STATEMENTS OF OPERATIONS
(Unaudited)

	Three Months Ended March 31,	
	2019	**2018**
Revenues:		
Royalties	$ 62,021	$ 49,055
Services and other	99,937	51,081
Total revenues	161,958	100,136
Costs and expenses:		
Cost of revenues	—	366,344
Research and development	2,648,599	1,883,838
Selling, general and administrative	1,475,122	2,504,977
Total operating expenses	4,123,721	4,755,159
Loss from operations	(3,961,763)	(4,655,023)
Interest income	64,743	21,771
Interest expense	—	(24,236)
Loss from change in fair value of derivative financial instruments—warrants	(9,761)	(129,689)
Other income, net	2,010	1,000
Net loss	(3,904,771)	(4,786,177)
Preferred stock dividend payable on Series A Convertible Preferred Stock	(6,060)	(6,060)
Deemed dividend recognized on beneficial conversion features of Series C Convertible Preferred Stock issuance	(268,269)	—
Net loss attributable to common stockholders	$ (4,179,100)	$ (4,792,237)
Net loss per common share — basic	$ (1.02)	$ (6.23)
Net loss per common share — diluted	$ (1.02)	$ (6.23)
Weighted-average shares outstanding — basic	4,086,561	768,951
Weighted-average shares outstanding — diluted	4,086,561	768,951

See accompanying notes to the unaudited condensed financial statements.

TROVAGENE, INC.
CONDENSED STATEMENTS OF STOCKHOLDERS' EQUITY
(Unaudited)

	Preferred Stock Shares	Preferred Stock Amount	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Service Receivable	Accumulated Deficit	Total Stockholders' Equity
Balance, January 1, 2019	60,600	$ 60	3,831,879	$ 7,742	$202,267,605	$ —	$(192,191,215)	$10,084,192
Stock-based compensation	—	—	—	—	200,067	—	—	200,067
Issuance of common stock, preferred stock and warrants for clinical trial funding commitment, net of expenses and discount of $40,000 and $235,640, respectively	200,000	200	183,334	110	1,634,690	(1,675,000)	—	(40,000)
Deemed dividend recognized on beneficial conversion features of Series C Convertible Preferred Stock issuance	—	—	—	—	268,269	—	(268,269)	—
Issuance of common stock upon exercise of warrants	—	—	497,313	50	3,282,216	—	—	3,282,266
Issuance of common stock upon vesting of restricted stock units	—	—	6,362	4	(4)	—	—	—
Preferred stock dividend payable on Series A Convertible Preferred Stock	—	—	—	—	—	—	(6,060)	(6,060)
Issuance of common stock for share rounding as a result of reverse stock split	—	—	6,466	—	—	—	—	—
Release of clinical trial funding commitment	—	—	—	—	—	70,487	—	70,487
Net loss	—	—	—	—	—	—	(3,904,771)	(3,904,771)
Balance, March 31, 2019	260,600	$ 260	4,525,354	$ 7,906	$207,652,843	$(1,604,513)	$(196,370,315)	$ 9,686,181

	Preferred Stock Shares	Preferred Stock Amount	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Deficit	Total Stockholders' Equity
Balance, January 1, 2018	60,600	$ 60	733,217	$ 5,279	$179,546,954	$(173,046,186)	$6,506,107
Stock-based compensation	—	—	—	—	1,406,131	—	1,406,131
Issuance of common stock upon exercise of warrants	—	—	71,347	514	1,448,653	—	1,449,167
Issuance of common stock upon vesting of restricted stock units	—	—	12,567	90	(90)	—	—
Preferred stock dividend payable on Series A Convertible Preferred Stock	—	—	—	—	—	(6,060)	(6,060)
Cumulative adjustment upon adoption of ASC 606	—	—	—	—	—	109,922	109,922
Net loss	—	—	—	—	—	(4,786,177)	(4,786,177)
Balance, March 31, 2018	60,600	$ 60	817,131	$ 5,883	$182,401,648	$(177,728,501)	$4,679,090

See accompanying notes to the unaudited condensed financial statements.

TROVAGENE, INC.
CONDENSED STATEMENTS OF CASH FLOWS
(Unaudited)

	Three Months Ended March 31,	
	2019	**2018**
Operating activities		
Net loss	$ (3,904,771)	$ (4,786,177)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	45,911	252,480
Stock based compensation expense	200,067	1,406,131
Deferred rent	—	(79,586)
Change in fair value of derivative financial instruments—warrants	9,761	129,689
Release of clinical trial funding commitment	70,487	—
Changes in operating assets and liabilities:		
Decrease in other assets	15,725	—
Decrease in accounts receivable and unbilled receivable	52,079	72,674
Decrease in prepaid expenses and other current assets	179,691	97,684
Decrease in operating lease right-of-use assets	154,058	—
Increase in accounts payable and accrued expenses	3,635	50,958
Decrease in operating lease liabilities	(186,689)	—
Net cash used in operating activities	(3,360,046)	(2,856,147)
Investing activities:		
Capital expenditures	(5,274)	(5,100)
Net cash used in investing activities	(5,274)	(5,100)
Financing activities:		
Costs related to the clinical trial funding commitment	(40,000)	—
Proceeds from exercise of warrants	3,282,266	1,449,167
Repayments of equipment line of credit	—	(156,526)
Net cash provided by financing activities	3,242,266	1,292,641
Net change in cash and cash equivalents	(123,054)	(1,568,606)
Cash and cash equivalents—Beginning of period	11,453,133	8,225,764
Cash and cash equivalents—End of period	$ 11,330,079	$ 6,657,158
Supplementary disclosure of cash flow activity:		
Cash paid for taxes	$ 800	$ —
Cash paid for interest	$ —	$ 16,417
Supplemental disclosure of non-cash investing and financing activities:		
Preferred stock dividend payable on Series A Convertible Preferred Stock	$ 6,060	$ 6,060
Deemed dividend recognized for beneficial conversion features of Series C Convertible Preferred Stock issuance	$ 268,269	$ —
Common stock, Series C Convertible Preferred Stock and warrants issued in connection with clinical trial funding commitment, net of discount of $235,640	$ 1,675,000	$ —

See accompanying notes to the unaudited condensed financial statements.

TROVAGENE, INC.
NOTES TO CONDENSED FINANCIAL STATEMENTS
(Unaudited)

1. Organization and Basis of Presentation

Business Organization and Overview

Trovagene, Inc. ("Trovagene" or the "Company") headquartered in San Diego, California, is a clinical-stage, oncology therapeutics company, taking a precision cancer medicine approach to develop drugs that target mitosis (cell division) to treat various types of cancer, including leukemias, lymphomas and solid tumors.

Trovagene's intellectual property and proprietary technology enables the Company to analyze circulating tumor DNA ("ctDNA") and clinically actionable markers. Unique to the Company's clinical development plan, and a key component of its precision cancer medicine approach, is the integration of predictive clinical biomarkers to identify patients most likely to respond to treatment.

Basis of Presentation

The accompanying unaudited interim condensed financial statements of Trovagene have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP") and the rules and regulations of the Securities and Exchange Commission ("SEC") related to a quarterly report on Form 10-Q. Certain information and note disclosures normally included in annual financial statements prepared in accordance with GAAP have been condensed or omitted pursuant to those rules and regulations. The unaudited interim condensed financial statements reflect all adjustments consisting of normal recurring adjustments which, in the opinion of management, are necessary for a fair statement of the Company's financial position and the results of its operations and cash flows for the periods presented. The unaudited condensed balance sheet at December 31, 2018 has been derived from the audited financial statements at that date but does not include all of the information and disclosures required by GAAP for annual financial statements. The operating results presented in these unaudited interim condensed financial statements are not necessarily indicative of the results that may be expected for any future periods. These unaudited interim condensed financial statements should be read in conjunction with the audited financial statements and the notes thereto for the year ended December 31, 2018 included in the Company's annual report on Form 10-K filed with the SEC on March 6, 2019.

The Company made a reverse split of its common stock, $0.0001 par value, at a ratio of 1 for 6, effective February 19, 2019. All share and per share information in the unaudited condensed financial statements and the accompanying notes have been retroactively adjusted to reflect the reverse stock split for all periods presented.

Liquidity

Trovagene's condensed financial statements as of March 31, 2019 have been prepared under the assumption that Trovagene will continue as a going concern, which assumes that the Company will realize its assets and satisfy its liabilities in the normal course of business. The accompanying financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classifications of liabilities that may result from the outcome of the uncertainty concerning the Company's ability to continue as a going concern.

The Company has incurred net losses since its inception and has negative operating cash flows. Considering the Company's current cash resources, including the net proceeds received from the offering of its equity securities in 2018 and 2019, management projects the Company's existing resources will be sufficient to fund the Company's planned operations into the fourth quarter of 2019. Based on its current business plan and assumptions, the Company expects to continue to incur significant losses and require significant additional capital to further advance its clinical trial programs and support its other operations. The Company has based its cash sufficiency estimates on its current business plan and its assumptions that may prove to be wrong. The Company could utilize its available capital resources sooner than it currently expects, and it could need additional funding to sustain its operations even sooner than currently anticipated. These circumstances raise substantial doubt about the Company's ability to continue as a going concern. For the foreseeable future, the Company's ability to continue its operations is dependent upon its ability to obtain additional capital.

The Company cannot be certain that additional funding will be available on acceptable terms, or at all. To the extent that the Company can raise additional funds by issuing equity securities, the Company's stockholders may experience significant dilution.

If the Company is unable to raise additional capital when required or on acceptable terms, it may have to significantly delay, scale back or discontinue the development and/or commercialization of one or more of its product candidates, all of which would have a material adverse impact on the Company's operations. The Company may also be required to:

- Seek collaborators for product candidates at an earlier stage than otherwise would be desirable and on terms that are less favorable than might otherwise be available; and
- Relinquish licenses or otherwise dispose of rights to technologies, product candidates or products that the Company would otherwise seek to develop or commercialize themselves, on unfavorable terms.

The Company is evaluating the following options to raise additional capital, increase revenue, as well as reduce costs, in an effort to strengthen its liquidity position:

- Raising capital through public and private equity offerings;
- Introducing operation and business development initiatives to bring in new revenue streams;
- Reducing operating costs by identifying internal synergies; and
- Engaging in strategic partnerships.

As of March 31, 2019, the Company has received approximately $3.3 million upon exercise of 497,313 warrants in connection with the June 2018 underwritten public offering. The Company continually assesses its spending plans to effectively and efficiently address its liquidity needs.

2. Summary of Significant Accounting Policies

During the three months ended March 31, 2019, there have been no changes to the Company's significant accounting policies as described in its Annual Report on Form 10-K for the fiscal year ended December 31, 2018, except as described below.

Leases

The Company determines if an arrangement is a lease at inception. Operating leases are included in operating lease right-of-use ("ROU") assets, current operating lease liabilities and non-current operating lease liabilities in the Company's balance sheets.

ROU assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent its obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. As its leases do not provide an implicit rate, the Company uses its incremental borrowing rate based on the information available at commencement date in determining the present value of lease payments. The operating lease ROU asset also includes any lease payments made less lease incentives received. The Company's lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Lease expense is recognized on a straight-line basis over the lease term. See Note 5 for additional information of the Company's leases.

Net Loss Per Share

Basic and diluted net loss per share is presented in conformity with ASC Topic 260, *Earnings per Share*, for all periods presented. In accordance with this guidance, basic net loss per common share was determined by dividing net loss applicable to common stockholders by the weighted-average common shares outstanding during the period. Preferred dividends are included in income available to common stockholders in the computation of basic and diluted earnings per share. Diluted net loss per share is computed by dividing the net loss by the weighted average number of common shares and common share equivalents outstanding for the period. Common share equivalents are only included when their effect is dilutive.

The following table sets forth the computation of basic and diluted earnings per share:

	Three Months Ended March 31,	
	2019	2018
Numerator: Net loss attributable to common shareholders	$ (4,179,100)	$ (4,792,237)
Net loss used for diluted loss per share	$ (4,179,100)	$ (4,792,237)
Denominator for basic and diluted net loss per share:		
Weighted-average shares used to compute basic loss per share	4,086,561	768,951
Weighted-average shares used to compute diluted net loss per share	4,086,561	768,951
Net loss per share attributable to common stockholders:		
Basic	$ (1.02)	$ (6.23)
Diluted	$ (1.02)	$ (6.23)

The following table sets forth the outstanding potentially dilutive securities that have been excluded in the calculation of diluted net loss per share because their effect was anti-dilutive:

	March 31,	
	2019	2018
Options to purchase Common Stock	80,345	105,394
Warrants to purchase Common Stock	3,302,093	255,818
Restricted Stock Units	18,620	5,134
Series A Convertible Preferred Stock	877	877
Series C Convertible Preferred Stock	333,334	—
	3,735,269	367,223

Recently Adopted Accounting Pronouncement

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)* ("ASU 2016-02"). ASU 2016-02 changes accounting for leases and requires lessees to recognize the assets and liabilities arising from most leases, including those classified as operating leases under previous accounting guidance, on the balance sheet and requires disclosure of key information about leasing arrangements to increase transparency and comparability among organizations. In July 2018, the FASB issued ASU 2018-10, *Codification Improvements to Topic 842*, which provides narrow amendments to clarify how to apply certain aspects of the new lease standard. In July 2018, ASU 2018-11, *Leases: Targeted Improvements*, was issued to provide relief to companies from restating comparative periods. Pursuant to this ASU, in the period of adoption the Company will not restate comparative periods presented in its financial statements.

The Company adopted ASU 2016-02 in the first quarter of 2019 utilizing the modified retrospective transition method through a cumulative-effect adjustment at the beginning of the first quarter of 2019 and did not restate comparative periods. The Company has elected the package of practical expedients, which allows the Company not to reassess (1) whether any expired or existing contracts as of the adoption date are or contain a lease, (2) lease classification for any expired or existing leases as of the adoption date and (3) initial direct costs for any existing leases as of the adoption date. The Company did not elect to apply the hindsight practical expedient when determining lease term and assessing impairment of right-of-use assets. The adoption of ASU 2016-02 on January 1, 2019 resulted in the recognition of right-of-use assets of approximately $1,970,000 and lease liabilities for operating leases of approximately $2,503,000. There was no cumulative effect adjustment to accumulated deficit as a result of the adoption and there was not a material impact to the Company's consolidated statement of operations. Refer to Note 5 to the condensed financial statements for further details.

Recent Accounting Pronouncement Not Yet Adopted

In August 2018, the FASB issued ASU No. 2018-13, *Changes to the Disclosure Requirements for Fair Value Measurement*. This ASU eliminates, adds and modifies certain disclosure requirements for fair value measurements as part of

its disclosure framework project. The standard is effective for all entities for financial statements issued for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. Early adoption is permitted. The adoption of this guidance is not expected to have a material impact on the Company's financial statements.

3. Fair Value Measurements

The following table presents the Company's assets and liabilities that are measured and recognized at fair value on a recurring basis classified under the appropriate level of the fair value hierarchy as of March 31, 2019 and December 31, 2018:

	Fair Value Measurements at March 31, 2019			
	Quoted Prices in Active Markets for Identical Assets and Liabilities (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Assets:				
Money market fund (1)	$ 11,258,846	$ —	$ —	$ 11,258,846
Total Assets	$ 11,258,846	$ —	$ —	$ 11,258,846
Liabilities:				
Derivative financial instruments—warrants	$ —	$ —	$ 42,076	$ 42,076
Total Liabilities	$ —	$ —	$ 42,076	$ 42,076

	Fair Value Measurements at December 31, 2018			
	Quoted Prices in Active Markets for Identical Assets and Liabilities (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Assets:				
Money market fund (1)	$ 11,392,093	$ —	$ —	$ 11,392,093
Total Assets	$ 11,392,093	$ —	$ —	$ 11,392,093
Liabilities:				
Derivative financial instruments—warrants	$ —	$ —	$ 32,315	$ 32,315
Total Liabilities	$ —	$ —	$ 32,315	$ 32,315

(1) Included as a component of cash and cash equivalents on the accompanying condensed balance sheets.

The following table sets forth a summary of changes in the fair value of the Company's Level 3 liabilities for the three months ended March 31, 2019:

Description	Balance at December 31, 2018	Realized (gains) or losses	Balance at March 31, 2019
Derivative financial instruments—warrants	$ 32,315	$ 9,761	$ 42,076

The change in the fair value of the "derivative financial instruments—warrants" is recorded as a gain or loss in the Company's statement of operations. A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. At each reporting period, the Company reviews the assets and liabilities that are subject to ASC Topic 815-40 and ASC Topic 480-10. At each reporting period, all assets and liabilities for which the fair value measurement is based on significant unobservable inputs or instruments that trade infrequently and therefore have little or no price transparency are classified as Level 3.

4. Property and Equipment

Property and equipment consist of the following:

	As of March 31, 2019	As of December 31, 2018
Furniture and office equipment	$ 775,030	$ 775,030
Leasehold improvements	102,230	1,962,230
Laboratory equipment	682,508	677,234
	1,559,768	3,414,494
Less—accumulated depreciation and amortization	(1,266,407)	(2,110,061)
Property and equipment, net	$ 293,361	$ 1,304,433

5. Leases

As a lessee, the Company's current leases include its master facility lease and immaterial equipment leases, all of which are considered operating leases.

The Company (as a sublessor) also subleases portions of its facility to third parties under three separate subleases. All of these subleases have been determined to be operating leases and are accounted for separately from the head lease.

Master Facility Lease

The Company leases a building in San Diego under an operating lease that expires on December 31, 2021. The lease currently requires fixed monthly rent payments of approximately $74,000, with 3% annual escalation. The lease also contains one five-year renewal option with minimum monthly rent equal to the then-current fair market value, subject to a 3% annual increase. As the Company is not reasonably certain to exercise this option, it has not been included in the calculation of the lease liability or right-of-use asset related to this lease.

Facility Subleases

As a result of corporate restructurings in previous years, the Company vacated a portion of its facility and has subleased the space to third parties under three separate sublease agreements, all of which expire October 31, 2019. Under the new standard, ROU assets and lease liabilities are not required to be established on the Company's balance sheet for such operating subleases. The Company recorded a cease-use loss liability and expense in 2018 pursuant to ASC 420, *Exit or Disposal Cost Obligations*, representing the total expected shortfall in sublease income for two of the subleases as compared to its required payments for those spaces under the remainder of the master lease term. This liability was being amortized over the remaining lease term until the adoption of ASC 842, whereupon the remaining cease-use loss liability of approximately $487,000 was eliminated and treated as a reduction to the beginning ROU asset value for the master lease as of January 1, 2019. Income will continue to be recognized on a straight-line basis over the term of the sublease and will be reported on a gross basis as other revenue in the Company's condensed statement of operations since the Company is not relieved of its primary obligation under the head lease.

The components of lease expense were as follows:

	Three Months Ended March 31, 2019
Operating lease cost	$ 194,462
Operating sublease income	(99,937)
Net operating lease cost	$ 94,525

Supplemental balance sheet information related to leases was as follows:

	March 31, 2019
Operating lease ROU assets	$ 1,816,286
Current operating lease liabilities	$ 796,246
Non-current operating lease liabilities	1,520,213
Total operating lease liabilities	$ 2,316,459
Weighted-average remaining lease term–operating leases	2.8 years
Weighted-average discount rate–operating leases	6.5%

Supplemental cash flow and other information related to leases was as follows:

	Three Months Ended March 31, 2019
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows from operating leases	$ 226,364
ROU assets obtained in exchange for lease obligations:	
Operating leases	$ 2,503,148

Total remaining annual commitments under non-cancelable lease agreements for each of the years ended December 31 are as follows:

Year Ending December 31,	Operating Leases	Sublease Income	Net Operating Leases
2019 (excluding the three months ended March 31, 2019)	$ 614,107	$ 233,187	$ 380,920
2020	941,670	—	941,670
2021	968,165	—	968,165
2022	5,868	—	5,868
2023	3,423	—	3,423
Total future minimum lease payments	2,533,233	$ 233,187	$ 2,300,046
Less imputed interest	(216,774)		
Total	$ 2,316,459		

Total annual commitments under non-cancelable lease agreements for each of the years ended December 31 under the previous lease accounting guidance are as follows:

	Operating Leases	Sublease Income	Net Operating Leases
2019	$ 914,540	$ (333,124)	$ 581,416
2020	941,670	—	941,670
2021	968,165	—	968,165
2022	5,868	—	5,868
2023	3,423	—	3,423
Total	$ 2,833,666	$ (333,124)	$ 2,500,542

6. Derivative Financial Instruments — Warrants

Based upon the Company's analysis of the criteria contained in ASC Topic 815-40, *Contracts in Entity's Own Equity* ("ASC 815-40") or ASC Topic 480-10, *Distinguishing Liabilities from Equity* ("ASC 480-10"), Trovagene determined that certain warrants issued in connection with the execution of certain equity financings must be recorded as derivative liabilities. In accordance with ASC 815-40 and ASC 480-10, the warrants are also being re-measured at each balance sheet date based on estimated fair value, and any resultant change in fair value is being recorded in the Company's condensed statements of operations. The Company estimates the fair value of these warrants using the Black-Scholes option pricing model.

The range of assumptions used to determine the fair value of the warrants valued using the Black-Scholes option pricing model during the periods indicated was:

	Three Months Ended March 31,	
	2019	2018
Estimated fair value of Trovagene common stock	3.15-3.75	22.32-25.20
Expected warrant term	3.8-4.1 years	0.8-5.1 years
Risk-free interest rate	2.22-2.49%	1.76-2.54%
Expected volatility	102-105%	91-116%
Dividend yield	0%	0%

Expected volatility is based on historical volatility of Trovagene's common stock. The warrants have a transferability provision and based on guidance provided in Staff Accounting Bulletin ("SAB") No. 107, *Share-Based Payment* ("SAB No. 107"), for instruments issued with such a provision, Trovagene used the remaining contractual term as the expected term of the warrants. The risk-free rate is based on the U.S. Treasury security rates consistent with the expected remaining term of the warrants at each balance sheet date.

The following table sets forth the components of changes in the Company's derivative financial instruments—warrants liability balance, valued using the Black-Scholes option pricing method, for the periods indicated.

Date	Description	Number of Warrants	Derivative Instrument Liability
December 31, 2018	Balance of derivative financial instruments—warrants liability	64,496	$ 32,315
	Change in fair value of derivative financial instruments—warrants during the period recognized as a loss in the condensed statements of operations	—	9,761
March 31, 2019	Balance of derivative financial instruments—warrants liability	64,496	$ 42,076

7. Stockholders' Equity

Common Stock

During the three months ended March 31, 2019, the Company issued a total of 693,475 shares of Common Stock. The Company issued 183,334 shares of its common stock, 150,000 warrants, and 200,000 shares of Series C Convertible Preferred Stock through a private placement in January 2019 to PoC Capital, LLC ("PoC") in exchange for funding Company's clinical trials in the aggregate amount of $1.675 million. 497,313 shares were issued upon exercise of warrants for a weighted-average price of $6.60. 6,362 shares were issued upon vesting of restricted stock units ("RSUs"). In addition, 6,466 shares were issued for share rounding as a result of the reverse stock split.

Stock Options

Stock-based compensation expense related to Trovagene equity awards have been recognized in operating results as follow:

	Three Months Ended March 31,	
	2019	2018
Included in research and development expense	$ 110,081	$ 395,709
Included in cost of revenue	—	39,631
Included in selling, general and administrative expense	89,986	970,791
Total stock-based compensation expense	$ 200,067	$ 1,406,131

The unrecognized compensation cost related to non-vested stock options outstanding at March 31, 2019 and 2018, net of expected forfeitures, was $165,954 and $2,662,066, respectively, which is expected to be recognized over a weighted-average remaining vesting period of 0.8 and 1.8 years, respectively. The weighted-average remaining contractual term of outstanding options as of March 31, 2019 was approximately 7.2 years. The total fair value of stock options vested during the three months ended March 31, 2019 and 2018 was $188,984 and $971,488, respectively.

The estimated fair value of stock option awards was determined on the date of grant using the Black-Scholes option valuation model with the following weighted-average assumptions during the following periods indicated:

	Three Months Ended March 31,	
	2019	2018
Risk-free interest rate	2.33%	2.43%
Dividend yield	0%	0%
Expected volatility	99%	90%
Expected term	5.1 years	5.2 years

A summary of stock option activity and changes in stock options outstanding is presented below:

	Total Options	Weighted-Average Exercise Price Per Share	Intrinsic Value
Balance outstanding, December 31, 2018	83,345	$ 146.09	$ —
Granted	8,384	$ 4.26	
Canceled / Forfeited	(11,384)	$ 70.82	
Balance outstanding, March 31, 2019	80,345	$ 142.11	$ —
Exercisable at March 31, 2019	68,345	$ 160.62	$ —

On May 30, 2018, the number of authorized shares in the Trovagene 2014 Equity Incentive Plan (“2014 EIP”) was increased from 791,667 to 1,458,334. As of March 31, 2019 there were 114,429 shares available for issuance under the 2014 EIP.

Restricted Stock Units

The weighted-average grant date fair value of the RSUs was $4.04 per share during the three months ended March 31, 2019. There were no RSU granted during the three months ended March 31, 2018.

A summary of the RSU activity is presented below:

	Number of Shares	Weighted-Average Grant Date Fair Value Per Share	Intrinsic Value
Non-vested RSUs outstanding, December 31, 2018	30,132	$ 14.36	$ 95,005
Granted	167	$ 4.04	
Vested	(6,362)	$ 19.96	$ 20,323
Forfeited	(5,317)	$ 13.04	
Non-vested RSUs outstanding, March 31, 2019	18,620	$ 12.72	$ 69,825

At March 31, 2019, total unrecognized compensation cost related to non-vested RSUs was $149,586, which is expected to be recognized over a weighted-average period of 1.5 years. The total fair value of vested RSUs during the three months ended March 31, 2019 and 2018 were $126,983 and $1,070,914, respectively.

Warrants

A summary of warrant activity and changes in warrants outstanding, including both liability and equity classifications is presented below:

	Total Warrants	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term
Balance outstanding, December 31, 2018	3,649,341	$ 8.91	4.4
Granted	150,065	$ 3.76	
Exercised	(497,313)	$ 6.60	
Balance outstanding, March 31, 2019	3,302,093	$ 9.02	4.2

Series C Convertible Preferred Stock

On January 25, 2019, the Company entered into a Master Services Agreement and a Stock and Warrant Subscription Agreement with PoC, whereby PoC has agreed to finance $1.675 million in clinical studies, including the development costs associated with Phase 1b/2 trial of onvansertib in combination with FOLFIRI and Avastin® in patients with metastatic Colorectal Cancer (“mCRC”) harboring KRAS mutation in exchange for (i)183,334 shares of common stock, (ii) warrants to purchase an aggregate of 150,000 shares of common stock, with an exercise price of $3.762 per share, expiring on January 25, 2024, and (iii) 200,000 shares of Series C Convertible Preferred Stock, each share of which is convertible into 1.67 shares of common stock.

The Company evaluated the awards issued under this transaction and determined they should be classified as equity. These equity awards were fully vested and nonforfeitable. Since the equity awards were for clinical study services yet to be provided, the Company recognized $1.675 million service receivables as contra equity. The Company releases the service receivables as clinical study services are performed. The conversion feature of the Series C Convertible Preferred Stock at the time of issuance was determined to be beneficial on commitment date. Because the Series C Convertible Preferred Stock is perpetual with no stated maturity date, and the conversions may occur any time from inception, the Company immediately recorded a non-cash deemed dividend of $0.3 million related to the beneficial conversion feature arising from the issuance of Series C Convertible Preferred Stock. This non-cash deemed dividend increased the Company’s net loss attributable to common stockholders and net loss per share.

The holders of Series C Convertible Preferred Stock shall have the right to vote on an as-converted to Common Stock (limited to 93.41% of the then as if converted Common Stock) all matters submitted to a vote of holders of the Company’s Common Stock. In the event of liquidation, dissolution or winding-up, holders of Series C Convertible Preferred Stock will be entitled to receive the same amount that a holder of the Company’s Common Stock would receive if the Series C Convertible Preferred Stock were fully converted into shares of the Company’s Common Stock at the conversion price which amounts shall be paid *pari passu* with all holders of Common Stock.

As of March 31, 2019, there were 200,000 shares of Series C Convertible Preferred Stock outstanding.

8. Commitments and Contingencies

Executive and Consulting Agreements

The Company has longer-term contractual commitments with various consultants and employees. Certain employment agreements provide for severance payments.

Research and Development and Clinical Trial Agreements

In March 2017, the Company entered into a license agreement with Nerviano Medical Sciences S.r.l. ("Nerviano") which granted the Company development and commercialization rights to NMS-1286937, which Trovagene refers to as onvansertib. Onvansertib is an oral, investigative drug and a highly-selective adenosine triphosphate competitive inhibitor of the serine/threonine PLK 1. The Company plans to develop onvansertib in patients with leukemias/lymphomas and solid tumor cancers. Upon execution of the agreement, the Company paid $2.0 million in license fees which were expensed to research and development costs. Under the agreement, the Company is committed to purchase $1.0 million for services provided by Nerviano, such as service for manufacturing drug product, no later than June 30, 2019. As of March 31, 2019, services of approximately $950,000 have been ordered. Terms of the agreement also provide for the Company to pay royalties based on certain development and sales milestones.

The Company is a party to various agreements under which it licenses technology on an exclusive basis in the field of human diagnostics and oncology therapeutics. License fees are generally calculated as a percentage of product revenues, with rates that vary by agreement. To date, payments have not been material.

Litigation

Trovagene does not believe that it has legal liabilities that are probable or reasonably possible that require either accrual or disclosure. From time to time, the Company may become involved in various lawsuits and legal proceedings that arise in the ordinary course of business. Litigation is subject to inherent uncertainties, and an adverse result in matters may arise from time to time that may harm the Company's business. As of the date of this report, management believes that there are no claims against the Company, which it believes will result in a material adverse effect on the Company's business or financial condition.

9. Related Party Transactions

In November 2018, the Company entered into a Material Transfer Agreement ("MTA") with Leucadia Life Sciences ("Leucadia") pursuant to which Leucadia will develop a PCR-based assay for onvansertib for AML. The cost of the services under the MTA are expected to be up to $575,796. The Company's CEO, Dr. Thomas Adams, is a principal stockholder of Leucadia. In addition, in connection with the MTA, the Company entered into a consulting agreement with Tommy Adams, VP of Operations of Leucadia, who is the son of Dr. Adams. During the three months ended March 31, 2019, the Company incurred and recorded approximately $254,000 of research and development expenses for services performed by Leucadia and Tommy Adams.

10. Subsequent Event

On April 4, 2019, the Company entered into a securities purchase agreement with Lincoln Park Capital Fund, LLC ("LPC"), pursuant to which it sold to LPC, in a registered direct offering, an aggregate of (i) 225,813 shares of common stock, and (ii) 156,353 Series A warrants to purchase shares of its common stock, at a price of $3.925 per share or Series A warrant. The Series A warrants are pre-funded warrants which are exercisable immediately with an exercise price of $0.01 per share, expiring 5 years following the date of issuance. In a concurrent private placement, the Company also sold to LPC 382,166 Series B warrants to purchase shares of its common stock, with an exercise price of $3.80 per share, expiring 5.5 years following the date of issuance. The Series B Warrants are exercisable six month following the date of issuance. Total gross proceeds to the Company, before deducting any offering expenses, was $1.5 million.

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

Forward-Looking Statements

This Quarterly Report on Form 10-Q includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act") and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). All statements other than statements of historical facts contained in this Quarterly Report, including statements regarding the future financial position, business strategy and plans and objectives of management for future operations, are forward-looking statements. The words "believe," "may," "will," "estimate," "continue," "anticipate," "intend," "should," "plan," "expect," and similar expressions, as they relate to us, are intended to identify forward-looking statements. We have based these forward-looking statements largely on current expectations and projections about future events and financial trends that we believe may affect our financial condition, results of operations, business strategy and financial needs. These forward-looking statements are subject to a number of risks, uncertainties and assumptions.

In addition, our business and financial performance may be affected by the factors that are discussed under "Risk Factors" in the Annual Report on Form 10-K for the year ended December 31, 2018, filed on March 6, 2019. Moreover, we operate in a very competitive and rapidly changing environment. New risk factors emerge from time to time and it is not possible for us to predict all risk factors, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

You should not rely upon forward-looking statements as predictions of future events. We cannot assure you that the events and circumstances reflected in the forward-looking statements will be achieved or occur. Although we believe that the expectations reflected in the forward looking statements are reasonable, we cannot guarantee future results, levels of activity, performance or achievements.

The following discussion and analysis is qualified in its entirety by, and should be read in conjunction with, the more detailed information set forth in the financial statements and the notes thereto appearing elsewhere in this Quarterly Report on Form 10-Q. This discussion should not be construed to imply that the results discussed herein will necessarily continue into the future, or that any conclusion reached herein will necessarily be indicative of actual operating results in the future. Such discussion represents only the best present assessment of our management.

Overview

We are a clinical-stage, oncology therapeutics company, taking a precision cancer medicine approach to develop drugs that target mitosis (cell division) to treat various types of cancer, including leukemias, lymphomas and solid tumors. By integrating a biomarker strategy into our development programs we will be able to identify patients more likely to respond to treatment.

On March 15, 2017, we announced that we licensed onvansertib, a PLK1 inhibitor, from Nerviano, pursuant to a license agreement with Nerviano dated March 13, 2017. This exclusive, world-wide license agreement includes 3 issued patents for onvansertib which cover composition of matter, salt forms of onvansertib and combination of onvansertib with other drugs. Onvansertib was developed to have high selectivity to PLK1 (at low nanomolar IC_{50} levels), to have ideal pharmacokinetics, including oral bioavailability and administration and a drug half-life of approximately 24 hours, allowing for flexible dosing and scheduling, and is well tolerated and safe with only mild- to moderate side effects reported to-date. A safety study of onvansertib has been successfully completed in patients with advanced metastatic solid tumors and published in 2017 in *Investigational New Drugs.* We currently are enrolling a Phase 1b/2 open-label clinical trial of onvansertib in combination with standard-of-care chemotherapy in patients with AML. The Phase 1b/2 clinical trial is led by Hematologist Jorge Eduardo Cortes, M.D., Deputy Department Chair, Department of Leukemia, Division of Cancer Medicine, The University of Texas MD Anderson Cancer Center and Amer Zeidan, MBBS, MHS, assistant professor of Medicine at Yale School of Medicine, Hematology expert at Yale Cancer Center. Nine clinical trial sites across the U.S. are currently participating in this trial. In addition, the Company is enrolling patients for its Phase 2 open-label clinical trial of onvansertib in combination with abiraterone acetate (Zytiga®) and prednisone in patients with metastatic Castration-Resistant Prostate Cancer ("mCRPC"). This trial is being led by David Einstein, M.D., at the Genitourinary Oncology Program at BIDMC and Harvard Medical School and, in addition to BIDMC, this trial is being conducted at DFCI and MGH. In the first half of 2019, we plan to initiate a Phase 1b/2 open-label clinical trial of onvansertib in combination with FOLFIRI and Avastin® in patients with mCRC with a KRAS mutation. This trial will be conducted at Mayo Clinic and USC Norris Comprehensive Cancer Center.

Our intellectual property and proprietary technology allows us to analyze ctDNA and clinically actionable markers. Unique to our clinical development plan, and a key component of our precision cancer medicine approach, is the integration of predictive clinical biomarkers to identify patients most likely to respond to treatment.

Onvansertib is a first-in-class, 3rd generation, oral and highly-selective PLK1 inhibitor with apparent antitumor activity in different pre-clinical models. Polo-like kinase family consists of 5 members (PLK1-PLK5) and they are involved in multiple functions in cell division, including the regulation of centrosome maturation, checkpoint recovery, spindle assembly, cytokinesis, apoptosis and many others. PLK1 is essential for the maintenance of genomic stability during cell division. The over-expression of PLK1 can lead to immature cell division followed by aneuploidy and cell death, a hallmark of cancer. PLK1 is over-expressed in a wide variety of leukemias/lymphomas and solid tumor cancers, including acute myeloid leukemia, non-hodgkin lymphoma, prostate, lung, breast, ovarian, colorectal and adrenocortical carcinoma. In addition, several studies have shown that over-expression of PLK1 is associated with poor prognosis. Blocking the expression of PLK1 by kinase inhibitors, such as onvansertib, can effectively inhibit growth of, and induce, tumor cell death.

Studies have shown that inhibition of polo-like-kinases can lead to tumor cell death, including a Phase 2 study in Acute Myeloid Leukemia ("AML") where response rates with a prior PLK inhibitor of up to 31% were observed when used in conjunction with a standard therapy for AML (low-dose cytarabine ("LDAC")) versus a 13.3% response rate with LDAC alone. We believe the more selective nature of onvansertib to PLK1, its 24-hour half-life and oral bioavailability, as well as its demonstrated safety and tolerability, with only mild- to moderate side effects reported, may prove useful in addressing clinical therapeutic needs across a variety of cancers.

Onvansertib has been tested in-vivo in different xenograft and transgenic models suggesting tumor growth inhibition or tumor regression when used in combination with other therapies. Onvansertib has been tested for antiproliferative activity on a panel of 148 tumor cell lines and appeared highly active with an IC_{50} (a measure concentration for 50% target inhibition) below 100 nM in 75 cell lines and IC_{50} values below 1 uM in 133 out of 148 cell lines. Onvansertib also appears active in cells expressing multi-drug resistant ("MDR") transporter proteins and we believe its apparent ability to overcome the MDR transporter resistance mechanism in cancer cells could prove useful in broader drug combination applications.

In in-vitro and in-vivo pre-clinical studies, synergy (interaction of discrete drugs such that the total effect is greater than the sum of the individual effects) has been demonstrated with onvansertib when used in combination with numerous different chemotherapies, including cisplatin, cytarabine, doxorubicin, gemcitabine and paclitaxel, as well as targeted therapeutics, such as abiraterone acetate (Zytiga®), histone deacetylase ("HDAC") inhibitors, such as belinostat (Beleodaq®), quizartinib (AC220), a development stage FLT3 inhibitor, and bortezomib (Velcade®). These therapies are used clinically for the treatment of leukemias, lymphomas and solid tumor cancers, including AML, Non-Hodgkin Lymphoma ("NHL"), mCRPC, mCRC, and Triple Negative Breast Cancer ("TNBC").

We continue to focus on advancing our two active clinical trials with onvansertib and to initiating our third trial in 2019. We have achieved a number of key milestones during the three months ended March 31, 2019 and anticipate achieving the following milestones throughout 2019:

Phase 1b/2 Trial of Onvansertib in Combination with Either Low-Dose Cytarabine or Decitabine for the Treatment of Acute Myeloid Leukemia.

- Complete Phase 1b dose escalation cohorts and identify the recommended Phase 2 dose ("RP2D") for the Phase 2 continuation trial (dependent upon the number of dose escalation cohorts required to reach the maximum tolerated dose or RP2D of onvansertib).
- Provide topline safety and efficacy data on the combination of onvansertib + LDAC and the combination of onvansertib + decitabine in patients treated through the end of 2018.
- Present data from the AML trial at key oncology conferences, including the American Society of Hematology ("ASH") annual meeting.
- Initiate the Phase 2 segment of the AML trial, which will enroll approximately 32 patients, for continued evaluation of safety and efficacy of onvansertib in combination with either LDAC or decitabine (provided the RP2D has been determined in Phase 1b).

Phase 2 trial of Onvansertib in Combination with Abiraterone Acetate (Zytiga®) and Prednisone for the Treatment of Metastatic Castration-Resistant Prostate Cancer.

- Presented data from the mCRPC trial at the Genitourinary Cancers Symposium (“ASCO-GU”) in February 2019.
- Complete enrollment and evaluation of the 3 safety lead-in patients in the second arm (2-week dosing schedule) with onvansertib at 24 mg/m^2 in combination with abiraterone acetate (Zytiga®) and prednisone.
- Provide topline preliminary safety and efficacy data of onvansertib in combination with abiraterone acetate (Zytiga®) and prednisone in patients treated.
- Present data from the mCRPC trial at key oncology conferences throughout 2019 and first quarter 2020.

During 2019, we have advanced our business with the following activities:

- Announced Data Demonstrating Significant Synergy of Onvansertib in Combination with Venetoclax in Cell Model of Venetoclax-Resistant AML.

  On April 23, 2019, we announced preclinical data that evaluated the effect of combining onvansertib with venetoclax in an AML cell model known to be resistant to venetoclax (Venclexta® - AbbVie). This combination demonstrated synergy (the combined effect of the two drugs is greater than the sum of their individual effects) with a significant decrease in tumor cell viability. This data provides support for clinical evaluation of onvansertib in combination with venetoclax in patients with difficult-to-treat relapsed/refractory AML, for which there are limited treatment options and the prognosis is poor.

- Announced Update to Phase 1b/2 Trial Data Presented at AACR - Additional Patients Achieve Complete Response at Two Highest Dose Levels of Onvansertib.

  On April 5, 2019, we announced an update to our Phase 1b/2 trial data presented at AACR on April 1, showing additional patients having achieved complete response at the two highest dose levels of onvansertib. A complete response (2 CR’s and 1 CRi) was achieved in 3 of 6 (50%) of evaluable patients at the highest doses (27mg/m^2 and 40 mg/m^2) of onvansertib in combination with standard-of-care decitabine. Approximately 90% clinical benefit has been demonstrated (CR + PR + SD). No dose-limiting toxicities have been observed to-date.

- Announced Early Data from Phase 2 Trial Indicates Activity of Onvansertib in Prostate Cancer Patients Showing Initial Resistance to Anti-Androgen Therapy.

  On April 2, 2019, we announced early data from our ongoing Phase 2 study evaluating onvansertib in combination with Zytiga® in patients with mCRPC. Early prostate specific antigen (“PSA”) response was observed when onvansertib is added to abiraterone (Zytiga®) in 2 of 6 patients to-date; the first patient achieved the primary efficacy endpoint of disease stabilization. The PSA trajectory in the patient achieving the primary efficacy endpoint indicates alteration of the natural history of early signs of resistance to Zytiga®. Patients with observed reponses to-date harbor the highly aggressive androgen receptor variant (AR-V7) which is known to be resistant to treatment with Zytiga®.

- Announced Phase 1b/2 Dose Escalation Trial of Onvansertib in Relapsed/Refractory AML Demonstrates Safety, Tolerability and relative Durability with Complete Responses at Highest Dose Levels.

  On April 1, 2019, we announced the presentation of new data from our ongoing Phase 1b/2 study evaluating onvansertib in combination with standard-of-care chemotherapy in AML. The greatest anti-leukemic activity has been observed in the onvansertib + decitabine arm, with complete response in 2 (1 CR and 1 CRi) of 4 (50%) of evaluable patients from the two highest dose levels. There have been no dose-limiting toxicities observed to-date and two-thirds of patients have completed ≥2 cycles of treatment, with 2 patients currently on treatment for more than 11 and 5 months, respectively. There has been a significant association observed between biomarker-positive patients and response to onvansertib treatment.

- Announced Presentation Update on Phase 2 Study of Onvansertib in Combination with Zytiga® in Patients with mCRPC at ASCO-GU.

  On February 14, 2019, we announced an update on our Phase 2 study of onvansertib in combination with Zytiga® in patients with mCRPC was presented at the Genitourinary Cancers Symposium. The data presented confirmed the safety and tolerability of the combination and the expansion of the trial to include an alternate dosing schedule to maximize observed clinical activity.

- Entered Agreement with PoC Capital, LLC to Fund Clinical Development of Onvansertib in mCRC.

On January 29, 2019, we announced an agreement with PoC Capital, LLC, to fund clinical development of onvansertib in a Phase1b/2 clinical trial in patients with mCRC. We submitted an Investigational New Drug application and protocol to the U.S. Food and Drug Administration ("FDA") on December 19, 2018, and received a "study may proceed" notification from the FDA, 28-days later, on January 16, 2019. The trial will be conducted at two prestigious cancer centers in the U.S.; USC Norris Comprehensive Cancer Center and The Mayo Clinic.

- Announced New Patent Issued for Combination of Onvansertib with Anti-Androgen Drugs to Treat Non-Metastatic and Metastatic Prostate Cancer.

On January 23, 2019, we announced the issuance of a new patent (10,155,006), entitled *Combination Therapies and Methods of Use Thereof for Treating Cancer,* by the U.S. Patent and Trademark Office ("USPTO"). This patent broadens previously issued patent (9,566,280), by expanding the use of onvansertib to encompass combination therapies with any anti-androgen and androgen antagonist drug, such as Zytiga®, Xtandi® and Erleada® for the treatment of metastatic and non-metastatic castrate-resistant prostate cancer.

Our accumulated deficit through March 31, 2019 is $196,370,315. To date, we have generated minimal revenues and expect to incur additional losses to perform further research and development activities.

Our drug development efforts are in their early stages, and we cannot make estimates of the costs or the time that our development efforts will take to complete, or the timing and amount of revenues related to the sale of our drugs. The risk of completion of any program is high because of the many uncertainties involved in developing new drug candidates to market, including the long duration of clinical testing, the specific performance of proposed products under stringent clinical trial protocols, extended regulatory approval and review cycles, our ability to raise additional capital, the nature and timing of research and development expenses, and competing technologies being developed by organizations with significantly greater resources.

Off-Balance Sheet Arrangements

We had no off-balance sheet arrangements as of March 31, 2019.

Critical Accounting Policies

Financial Reporting Release No. 60 requires all companies to include a discussion of critical accounting policies or methods used in the preparation of financial statements. Our accounting policies are described in ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS of our Annual Report on Form 10-K as of and for the year ended December 31, 2018, filed with the SEC on March 6, 2019. There have been no changes to our critical accounting policies other than adoption of ASC 842 since December 31, 2018.

RESULTS OF OPERATIONS

Three Months Ended March 31, 2019 and 2018

Revenues

Our total revenues were $161,958 and $100,136 for the three months ended March 31, 2019 and 2018, respectively. The components of our revenues were as follows:

	Three Months Ended March 31,		
	2019	2018	Increase (Decrease)
Royalties	$ 62,021	$ 49,055	$ 12,966
Services and other	99,937	51,081	48,856
Total revenues	$ 161,958	$ 100,136	$ 61,822

The increase in royalty income related primarily to the higher accrued revenue based on historical usage rate and collectability. The increase in service and other revenue for the three months ended March 31, 2019 as compared to the prior period is primarily resulting from the sublease income recognized as revenue upon adoption of ASC 842 in 2019, offset by decrease in service revenue as a result of the disposition of our CLIA laboratory. We expect our royalties to fluctuate as the

royalties are sales-based or usage-based royalties on our intellectual property license. Revenue recognition of the royalty depends on the timing and overall sales activities of the licensees.

Cost of Revenues

Our total cost of revenues was $0 for the three months ended March 31, 2019, compared to $366,344 in the same period of 2018. Cost of revenues mainly relates to the costs of our diagnostic service revenues. The decrease in cost of revenues for the three months ended March 31, 2019 compared to the same period of last year is mainly due to the disposition of our CLIA laboratory. We do not expect any cost of revenue for 2019 based on our current business model.

Research and Development Expenses

Research and development expenses consisted of the following:

	Three Months Ended March 31,		
	2019	2018	Increase (Decrease)
Salaries and staff costs	$ 403,888	$ 402,068	$ 1,820
Stock-based compensation	110,081	395,709	(285,628)
Clinical trials, outside services, and lab supplies	1,927,929	849,988	1,077,941
Facilities and other	206,701	236,073	(29,372)
Total research and development	$ 2,648,599	$ 1,883,838	$ 764,761

Research and development expenses increased by $764,761 to $2,648,599 for the three months ended March 31, 2019 from $1,883,838 for the same period in 2018. The overall increase in research and development expenses was primarily due to the increased clinical trials and outside service costs for clinical studies related to the development of our lead drug candidate, onvansertib. We expect an increase in research and development costs as we advance the development of onvansertib.

Selling, General and Administrative Expenses

Selling, general and administrative expenses consisted of the following:

	Three Months Ended March 31,		
	2019	2018	Increase (Decrease)
Salaries and staff costs	$ 522,797	$ 690,170	$ (167,373)
Stock-based compensation	89,986	970,791	(880,805)
Outside services and professional fees	457,832	482,410	(24,578)
Facilities and other	404,507	361,606	42,901
Total selling, general and administrative	$ 1,475,122	$ 2,504,977	$ (1,029,855)

Selling, general and administrative expenses decreased by $1,029,855 to $1,475,122 for the three months ended March 31, 2019 from $2,504,977 for the same period in 2018. The significant components of the decrease were primarily due to the decrease in salaries and staff costs and stock-based compensation. The decreased salaries and staff cost was due to the decreased headcount for the three months ended March 31, 2019 as compared to the same period of 2018. In January 2018, we granted our employees stock options in lieu of cash bonus. These immediately vested stock options were fully expensed in the first quarter of 2018. We did not grant similar stock option bonus in 2019. Therefore, stock-based compensation expenses were higher for the three months ended March 31, 2018 as compared to the same period of 2019. Also, stock-based compensation, a non-cash expense, will fluctuate based on the timing and amount of options granted, forfeitures and the fair value of the options at the time of grant. Our selling, general and administrative costs may increase in future periods in order to support fundraising activities and general business activities as we continue to develop and introduce new product offerings.

Interest Income and Expense

Interest income was $64,743 for the three months ended March 31, 2019 as compared to $21,771 for the same period of 2018. The increase of interest income is primarily due to a higher money market fund balance and higher interest rate. Interest expense was $0 for the three months ended March 31, 2019 as compared to $24,236 for the same period of 2018. The decrease of interest expense is resulting from pay-off of our Equipment Line of Credit.

Change in Fair Value of Derivative Financial Instruments — Warrants

We have issued warrants that are accounted for as derivative liabilities. As of March 31, 2019, the derivative financial instruments—warrants liabilities were revalued to $42,076, resulting in an increase in value of $9,761 from December 31, 2018, based primarily upon the increase in our stock price as well as the changes in the expected term, volatility, and risk-free interest rates for the expected term. The increase in value upon remeasurement at March 31, 2019 was recorded as a loss from the change in fair value of derivative financial instruments—warrants in the condensed statement of operations.

Net Loss

Net loss and per share amounts were as follows:

	Three Months Ended March 31,		
	2019	2018	Increase (Decrease)
Net loss attributable to common shareholders	$ (4,179,100)	$ (4,792,237)	$ (613,137)
Net loss per common share — basic	$ (1.02)	$ (6.23)	$ (5.21)
Net loss per common share — diluted	$ (1.02)	$ (6.23)	$ (5.21)
Weighted average shares outstanding — basic	4,086,561	768,951	3,317,610
Weighted average shares outstanding — diluted	4,086,561	768,951	3,317,610

The $613,137 decrease in net loss attributable to common shareholders was primarily the result of a decrease in operating expenses of $0.6 million for the three months ended March 31, 2019 compared to the same period in the prior year. The $5.21 decrease in basic net loss per share was impacted by the decrease in operating expense and the increase in basic weighted average shares outstanding resulting primarily from the sales of approximately 1.7 million shares of common stock through public and direct offerings, the issuance of approximately 1.5 million shares of common stock upon conversion of Series B Convertible Preferred Stock, and issuance of approximately 0.5 million shares of common stock upon exercise of warrants.

LIQUIDITY AND CAPITAL RESOURCES

As of March 31, 2019, we had $11,330,079 in cash and cash equivalents. Net cash used in operating activities for the three months ended March 31, 2019 was $3,360,046, compared to $2,856,147 for the three months ended March 31, 2018. Our use of cash was primarily a result of the net loss of $3,904,771 for the three months ended March 31, 2019, adjusted for non-cash items related to stock-based compensation of $200,067, depreciation and amortization of $45,911, release of clinical trial funding commitment of $70,487, and the loss from the change in fair value of derivative financial instruments —warrants of $9,761. The changes in our operating assets and liabilities consisted of higher accounts payable and accrued expenses, a decrease in accounts receivable and unbilled receivable, prepaid expenses, operating lease ROU assets, and other asset, and a decrease in operating lease liabilities. At our current and anticipated level of operating loss, we expect to continue to incur an operating cash outflow for the next several years.

Net cash used in investing activities was $5,274 during the three months ended March 31, 2019, compared to $5,100 for the same period in 2018, both of which were for capital expenditures.

Net cash provided in financing activities was $3,242,266 during the three months ended March 31, 2019, compared to $1,292,641 for the same period in 2018. Net cash provided in financing activities during the three months ended March 31, 2019 and 2018 were primarily from the exercise of warrants.

As of March 31, 2019, and December 31, 2018, we had working capital of $9,051,750 and $9,799,947, respectively.

Based on our current business plan and assumptions, we expect to continue to incur significant losses and require significant additional capital to further advance our clinical trial programs and support our other operations. Considering our current cash resources, we believe our existing resources will be sufficient to fund our planned operations into the fourth quarter of 2019. In addition, we have based our cash sufficiency estimates on our current business plan and assumptions that may prove to be wrong. We could utilize our available capital resources sooner than we currently expect, and we could need additional funding to sustain our operations even sooner than currently anticipated. These circumstances raise substantial doubt about our ability to continue as a going concern.

Our working capital requirements will depend upon numerous factors including but not limited to the nature, cost and timing of our research and development programs. To date, our sources of cash have been primarily limited to the sale of equity securities. We cannot be certain that additional funding will be available on acceptable terms, or at all. To the extent that we raise additional funds by issuing equity securities, our stockholders may experience significant dilution. If we are unable to raise additional capital when required or on acceptable terms, we may have to significantly delay, scale back or discontinue the development and/or commercialization of one or more product candidates, all of which may have a material adverse impact on our operations. We may also be required to (i) seek collaborators for product candidates at an earlier stage than otherwise would be desirable and on terms that are less favorable than might otherwise be available; or (ii) relinquish or otherwise dispose of rights to technologies, product candidates or products that we would otherwise seek to develop or commercialize ourselves on unfavorable terms. We are evaluating all options to raise additional capital, increase revenue, as well as reduce costs, in an effort to strengthen our liquidity position, which may include the following: (1) Raising capital through public and private equity offerings; (2) Introducing operation and business development initiatives to bring in new revenue streams; (3) Reducing operating costs by identifying internal synergies; or (4) Engaging in strategic partnerships. We continually assess our spending plans to effectively and efficiently address our liquidity needs.

CONTRACTUAL OBLIGATIONS

For a discussion of our contractual obligations see (i) our Financial Statements and Notes to Financial Statements Note 10. *Commitments and Contingencies*, and (ii) Item 7 Management Discussion and Analysis of Financial Condition and Results of Operations — *Contractual Obligations and Commitments*, included in our Annual Report on Form 10-K as of December 31, 2018.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Risk

Our cash and cash equivalents primarily consists of deposits and money market deposits managed by commercial banks as of March 31, 2019. The goals of our investment policy are preservation of capital, fulfillment of liquidity needs and fiduciary control of cash and investments.

Our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of interest rates, particularly because our investments are in short-term money marketable funds as of March 31, 2019. Due to the short-term duration of our investment portfolio and the relatively low risk profile of our investments, a sudden change in interest rates would not have a material effect on the fair market value of our portfolio, nor our operating results or cash flows.

We do not believe our cash and cash equivalents have significant risk of default issues; however, we maintain significant amounts of cash and cash equivalents at one or more financial institutions that are in excess of federally insured limits. Given the current stability of financial institutions, we believe that we will not experience losses on these deposits.

Foreign Currency Risk

We face the foreign currency risk as a result of entering into transactions denominated in currencies other than U.S. dollars. Changes in foreign currency exchange rates can create foreign exchange gains or losses to us. We did not incur significant foreign currency gains or losses for the three months ended March 31, 2019.

Effects of Inflation

We do not believe that inflation and changing prices during the three months ended March 31, 2019 had a significant impact on our results of operations.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

We have performed an evaluation under the supervision and with the participation of our management, including our principal executive officer (CEO) and principal financial officer (VP, Finance), of the effectiveness of our disclosure controls and procedures, as defined in Rule 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Based on that evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective as of March 31, 2019 to provide reasonable assurance that information required to be disclosed by us in the reports filed or submitted by us under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms.

Our disclosure controls and procedures are designed to provide reasonable assurance of achieving their objectives as specified above. Management does not expect, however, that our disclosure controls and procedures will prevent or detect all errors and fraud. Any control system, no matter how well designed and operated, is based upon certain assumptions and can provide only reasonable, not absolute, assurance that its objectives will be met. Further, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, within the Company have been detected.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting during the three months ended March 31, 2019 that materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

None.

ITEM 1A. RISK FACTORS

There have been no material changes from the risk factors disclosed in our Form 10-K for the year ended December 31, 2018.

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

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

Exhibit Number	Description of Exhibit
10.1	Securities Purchase Agreement, dated April 4, 2019 by and between Trovagene, Inc. and the Purchaser (incorporated by reference to Exhibit 10.1 filed with Form 8-K on April 5, 2019).
10.2	Form of Series A Warrant (incorporated by reference to Exhibit 10.2 filed with Form 8-K on April 5, 2019).
10.3	Form of Series B Warrant (incorporated by reference to Exhibit 10.3 filed with Form 8-K on April 5, 2019).
31.1	Certification of Principal Executive Officer required by Rule 13a-14(a)/15d-14(a) under the Exchange Act.
31.2	Certification of Principal Financial Officer required by Rule 13a-14(a)/15d-14(a) under the Exchange Act.
32.1	Certification of Principal Executive Officer pursuant to 18 U.S.C Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of Principal Financial Officer pursuant to 18 U.S.C Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema
101.CAL	XBRL Taxonomy Extension Calculation Linkbase
101.LAB	XBRL Taxonomy Extension Labels Linkbase
101.PRE	XBRL Taxonomy Extension Presentation Linkbase
101.DEF	XBRL Taxonomy Extension Definition Linkbase

SIGNATURES

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

TROVAGENE, INC.

May 7, 2019 By: /s/ Thomas Adams

Thomas Adams

Chief Executive Officer

TROVAGENE, INC.

May 7, 2019 By: /s/ Brigitte Lindsay

Brigitte Lindsay

VP, Finance

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER

I, Thomas Adams, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Trovagene, Inc. (the "Registrant");

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

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

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

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

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

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

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

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

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

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

May 7, 2019

/s/ Thomas Adams

Thomas Adams

Chief Executive Officer

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER

I, Brigitte Lindsay, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Trovagene, Inc. (the "Registrant");

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

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

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

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

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

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

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

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

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

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

May 7, 2019

/s/ Brigitte Lindsay

Brigitte Lindsay

VP, Finance

Exhibit 32.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Trovagene, Inc. (the "Company") on Form 10-Q for the three months ended March 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Thomas Adams, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

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

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

May 7, 2019

/s/ Thomas Adams

Thomas Adams

Chief Executive Officer

Exhibit 32.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Trovagene, Inc. (the "Company") on Form 10-Q for the three months ended March 31, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Brigitte Lindsay, VP, Finance of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

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

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

May 7, 2019

/s/ Brigitte Lindsay

Brigitte Lindsay
VP, Finance