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

FORM 10-Q

(Mark One)

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

For the quarterly period ended **September 30, 2019**

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: **000-55136**

Emerald Bioscience, Inc.

(Exact name of registrant as specified in its charter)

Nevada	**45-0692882**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

130 North Marina Drive, Long Beach, CA 90803
(Address of principal executive offices) (Zip Code)

(949) 336-3443
(Registrant's telephone number, including area code)

_____
(Former name or former address, if changed since last report)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
None	None	None

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.001	EMBI	OTCQB

Indicate by check mark whether the issuer (1) has filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act during the past 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 (§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 ☐ No

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

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	☐

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

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

As of November 12, 2019, there were 134,095,247 shares of the issuer's $0.001 par value common stock issued and outstanding.

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FORWARD-LOOKING STATEMENTS

Statements in this Quarterly Report on Form 10-Q that are not descriptions of historical facts are forward-looking statements that are based on management's current expectations and assumptions and are subject to risks and uncertainties. If such risks or uncertainties materialize or such assumptions prove incorrect, our business, operating results, financial condition and stock price could be materially negatively affected. In some cases, you can identify forward-looking statements by terminology including "anticipates," "believes," "can," "continue," "could," "estimates," "expects," "intends," "may," "plans," "potential," "predicts," "should," "will," "would" or the negative of these terms or other comparable terminology. Factors that could cause actual results to differ materially from those currently anticipated include those set forth in the section titled "Risk Factors" including, without limitation, risks relating to:

- the results of our research and development activities, including uncertainties relating to the discovery of potential product candidates and the preclinical and clinical testing of our product candidates;
- the early stage of our product candidates presently under development;
- our need for substantial additional funds in order to continue our operations, and the uncertainty of whether we will be able to obtain the funding we need;
- our ability to obtain and, if obtained, maintain regulatory approval of our current product candidates, and any of our other future product candidates, and any related restrictions, limitations, and/or warnings in the label of any approved product candidate;
- our ability to retain or hire key scientific or management personnel;
- our ability to protect our intellectual property rights that are valuable to our business, including patent and other intellectual property rights;
- our dependence on UM, third-party manufacturers, suppliers, research organizations, testing laboratories and other potential collaborators;
- our ability to develop successful sales and marketing capabilities in the future as needed;
- the size and growth of the potential markets for any of our approved product candidates, and the rate and degree of market acceptance of any of our approved product candidates;
- competition in our industry; and
- regulatory developments in the United States and foreign countries.

We operate in a rapidly-changing environment and new risks emerge from time to time. As a result, it is not possible for our management to predict all risks, 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 we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this report may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements. You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur. Moreover, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements. The forward-looking statements included in this report speak only as of the date hereof, and except as required by law, we undertake no obligation to update publicly any forward-looking statements for any reason after the date of this report to conform these statements to actual results or to changes in our expectations.

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PART I - FINANCIAL INFORMATION

Item 1. Financial Statements

EMERALD BIOSCIENCE, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED BALANCE SHEETS

	September 30, 2019 (Unaudited)	December 31, 2018 (Note 1)
ASSETS		
Current assets		
Cash	$ 1,319,360	$ 1,853,373
Restricted cash	4,512	4,512
Prepaid expenses	395,441	93,193
Other current assets	3,375	2,609
Total current assets	1,722,688	1,953,687
Property and equipment, net	2,349	3,445
Total assets	$ 1,725,037	$ 1,957,132
LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)		
Current liabilities		
Accounts payable	$ 206,930	$ 15,597
Other current liabilities	318,930	184,461
Derivative liabilities	13,737,783	15,738,913
Total current liabilities	14,263,643	15,938,971
Noncurrent liabilities		
Convertible multi-draw credit agreement - related party, net of discount	3,296,249	1,360,960
Derivative liabilities, non-current	567,606	219,453
Total liabilities	18,127,498	17,519,384
Commitments and contingencies	-	-
Stockholders' deficit		
Convertible preferred stock, $0.001 par value; 20,000,000 shares authorized; none issued and outstanding at September 30, 2019 and December 31, 2018	-	-
Common stock, $0.001 par value; 500,000,000 shares authorized; 134,095,247 issued and outstanding at September 30, 2019 and December 31, 2018	134,095	133,908
Additional paid-in-capital	20,488,778	17,528,947
Accumulated deficit	(37,025,334)	(33,225,107)
Total stockholders' deficit	(16,402,461)	(15,562,252)
Total liabilities and stockholders' deficit	$ 1,725,037	$ 1,957,132

See accompanying notes to the condensed consolidated financial statements.

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EMERALD BIOSCIENCE, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(UNAUDITED)

	For the Three Months Ended September 30,		For the Nine Months Ended September 30,	
	2019	**2018**	**2019**	**2018**
Operating expenses				
Research and development	$ 513,004	$ 67,291	$ 1,522,031	$ 92,291
General and administrative	990,110	978,329	3,267,037	3,284,880
Total operating expenses	1,503,114	1,045,620	4,789,068	3,377,171
Operating loss	(1,503,114)	(1,045,620)	(4,789,068)	(3,377,171)
Other expense (income)				
Change in fair value of derivative liabilities	3,126,464	1,050,729	(2,024,660)	1,653,477
Fair value of derivative liabilities in excess of proceeds	-	-	322,644	7,174,634
Financing transaction costs	-	-	-	137,192
Loss on extinguishment of secured convertible promissory note - related party	-	-	-	590,392
Interest expense	301,547	-	711,575	37,708
Interest income	-	-	-	(74)
	3,428,011	1,050,729	(990,441)	9,593,329
Loss before income taxes	(4,931,125)	(2,096,349)	(3,798,627)	(12,970,500)
Provision for income taxes	-	-	1,600	1,642
Net Loss and comprehensive loss	$ (4,931,125)	$ (2,096,349)	$ (3,800,227)	$ (12,972,142)
Loss per common share:				
Basic	$ (0.04)	$ (0.02)	$ (0.03)	$ (0.11)
Diluted	$ (0.04)	$ (0.02)	$ (0.03)	$ (0.11)
Weighted average shares of common stock outstanding used to compute earnings per share:				
Basic	133,001,746	131,445,057	132,885,675	117,434,563
Diluted	133,001,746	131,445,057	167,690,989	117,434,563

See accompanying notes to the condensed consolidated financial statements.

EMERALD BIOSCIENCE, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(UNAUDITED)

	For the Nine Months Ended September 30,	
	2019	**2018**
Cash flows from operating activities:		
Net loss	$ (3,800,227)	$ (12,972,142)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	1,096	1,178
Loss on disposal of assets	-	804
Stock-based compensation expense	514,683	484,720
Change in fair value of derivative liabilities	(2,024,660)	1,653,477
Fair value of derivative liabilities in excess of proceeds	322,644	7,174,634
Loss on extinguishment of secured convertible promissory note - related party	-	590,392
Amortization of debt discount	438,964	34,608
Changes in assets and liabilities:		
Prepaid expenses	(302,248)	194,906
Other current assets	(766)	(2,609)
Accounts payable	191,333	(55,418)
Accounts payable to related party	-	15,000
Other current liabilities	134,469	(48,407)
Net cash used in operating activities	(4,524,712)	(2,928,857)
Cash flows from investing activities:		
Purchases of property and equipment	-	(4,385)
Net cash used in investing activities	-	(4,385)
Cash flows from financing activities:		
Proceeds from Common stock issuance, net of $16,901 issuance costs	-	3,233,099
Proceeds from Series B warrant exercises	-	98,700
Proceeds from secured convertible promissory note - related party	-	400,000
Proceeds from convertible multi-draw credit agreement, net of $9,301 issuance costs	3,990,699	-
Net cash provided by financing activities	3,990,699	3,731,799
Net (decrease) increase in cash and restricted cash	(534,013)	798,557
Cash and restricted cash, beginning of period	$ 1,857,885	$ 264,383
Cash and restricted cash, end of period	$ 1,323,872	$ 1,062,940
Supplemental disclosures of cash-flow information:		
Reconciliation of cash and restricted cash:		
Cash	$ 1,319,360	$ 1,058,438
Restricted cash	4,512	4,502
Total cash and restricted cash shown in the condensed consolidated statements of cash flows	$ 1,323,872	$ 1,062,940
Cash paid during the period for:		
Interest	$ 272,611	$ -
Income taxes	1,600	1,642
Supplemental disclosures of non-cash financing activities:		
Conversion of outstanding preferred stock into common stock	$ -	$ 1,947,227
Conversion of outstanding preferred stock subject to redemption into common stock	-	828,916
Reclassification of warrant liabilities to equity from exercise of warrants	144,375	1,333,866
Fair value of common stock issued in extinguishment of convertible debt	-	1,710,000
Fair value of warrants issued in connection with financings	-	10,424,634
Proceeds allocated to equity classified warrants issued with convertible multi-draw credit agreement	716,110	-
Fair value of compound derivative liability bifurcated from convertible multi-draw credit agreement	193,414	-
Beneficial conversion feature on convertible multi-draw credit agreement	1,584,850	-

See accompanying notes to the condensed consolidated financial statements.

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EMERALD BIOSCIENCE, INC. AND SUBSIDIARIES
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' DEFICIT

(UNAUDITED)

	Convertible Series F Preferred Stock		Convertible Series D Preferred Stock		Redeemable Convertible Series B Preferred Stock		Stockholders' Deficit				
							Common Stock		Additional Paid-In		Total Stockholders
	Shares	Amounts	Shares	Amounts	Shares	Amounts	Shares	Amounts	Capital	Accumulated Deficit	Deficit
Balance, January 1, 2018	**2,000**	**$ 1,777,781**	**200**	**$ 169,447**	**2,834**	**$ 822,201**	**33,622,829**	**$ 33,623**	**$ 10,427,742**	**$ (14,030,871)**	**$ (3,569,506)**
Stock-based compensation expense	-	-	-	-	-	-	2,500,000	2,500	227,109	-	229,609
Issuance of common stock net of issuance costs of $16,900	-	-	-	-	-	-	32,500,000	32,500	(32,500)	-	-
Conversion of Series B Preferred Stock and conversion liability into common stock at $0.10 and $0.001 per share	-	-	-	-	(2,834)	(822,201)	28,385,000	28,385	800,530	-	828,915
Conversion of Series D Preferred Stock to common stock at $0.10 per share	-	-	(200)	(169,447)	-	-	2,000,000	2,000	167,447	-	169,447
Conversion of Series F Preferred Stock to common stock at $0.10 per share	(2,000)	(1,777,781)	-	-	-	-	20,000,000	20,000	1,757,781	-	1,777,781
Conversion of secured convertible promissory note - related party and accrued interest	-	-	-	-	-	-	9,000,000	9,000	1,691,878	-	1,700,878
Series B warrant exercises	-	-	-	-	-	-	4,406,250	4,406	1,318,284	-	1,322,690
Net loss for the three months ended March 31, 2018	-	-	-	-	-	-	-	-	-	(8,213,793)	(8,213,793)
Balance, March 31, 2018	**-**	**$ -**	**-**	**$ -**	**-**	**$ -**	**132,414,079**	**$ 132,414**	**$ 16,358,271**	**$ (22,244,664)**	**$ (5,753,979)**
Stock-based compensation expense	-	-	-	-	-	-	-	-	100,603	-	100,603
Common stock issuance costs paid of $7,778	-	-	-	-	-	-	-	-	(7,778)	-	(7,778)
Series B warrant exercises	-	-	-	-	-	-	287,500	288	77,587	-	77,875
Net loss for the three months ended June 30, 2018	-	-	-	-	-	-	-	-	-	(2,662,000)	(2,662,000)
Balance, June 30, 2018	**-**	**$ -**	**-**	**$ -**	**-**	**$ -**	**132,701,579**	**$ 132,702**	**$ 16,528,683**	**$ (24,906,664)**	**$ (8,245,279)**
Stock-based compensation expense	-	-	-	-	-	-	643,501	643	153,865	-	154,508
Series B warrant exercises	-	-	-	-	-	-	100,000	100	31,900	-	32,000
Net loss for the three months ended September 30, 2018	-	-	-	-	-	-	-	-	-	(2,096,349)	(2,096,349)
Balance, September 30, 2018	**-**	**$ -**	**-**	**$ -**	**-**	**$ -**	**133,445,080**	**$ 133,445**	**$ 16,714,448**	**$ (27,003,013)**	**$ (10,155,120)**

	Convertible Series F Preferred Stock		Convertible Series D Preferred Stock		Redeemable Convertible Series B Preferred Stock		Stockholders' Deficit				
							Common Stock		Additional Paid-In		Total Stockholders'
	Shares	Amounts	Shares	Amounts	Shares	Amounts	Shares	Amounts	Capital	Accumulated Deficit	Deficit
Balance, January 1, 2019	**-**	**$ -**	**-**	**$ -**	**-**	**$ -**	**133,907,747**	**$ 133,908**	**$ 17,528,947**	**$ (33,225,107)**	**$ (15,562,252)**
Stock-based compensation expense	-	-	-	-	-	-	-	-	171,493	-	171,493
Warrants issued in connection with convertible multi-draw credit agreement, related party	-	-	-	-	-	-	-	-	716,110	-	716,110

Beneficial conversion feature in connection with convertible multi-draw credit agreement - related party	-	-	-	-	-	-	-	-	1,584,850	-	1,584,850
Net loss for the three months ended March 31, 2019	-	-	-	-	-	-	-	-	-	(14,774,392)	(14,774,392)
Balance, March 31, 2019	**-**	**$ -**	**-**	**$ -**	**-**	**$ -**	**133,907,747**	**$ 133,908**	**$ 20,001,400**	**$ (47,999,499)**	**$ (27,864,191)**
Stock-based compensation expense	-	-	-	-	-	-	-	-	173,084	-	173,084
Series B warrant exercises	-	-	-	-	-	-	187,500	187	144,188	-	144,375
Net income for the three months ended June 30, 2019	-	-	-	-	-	-	-	-	-	15,905,290	15,905,290
Balance, June 30, 2019	**-**	**$ -**	**-**	**$ -**	**-**	**$ -**	**134,095,247**	**$ 134,095**	**$ 20,318,672**	**$ (32,094,209)**	**$ (11,641,442)**
Stock-based compensation expense	-	-	-	-	-	-	-	-	170,106	-	170,106
Net loss for the three months ended September 30, 2019	-	-	-	-	-	-	-	-	-	(4,931,125)	(4,931,125)
Balance, September 30, 2019	**-**	**$ -**	**-**	**$ -**	**-**	**$ -**	**134,095,247**	**$ 134,095**	**$ 20,488,778**	**$ (37,025,334)**	**$ (16,402,461)**

See accompanying notes to the condensed consolidated financial statements.

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EMERALD BIOSCIENCE, INC. AND SUBSIDIARIES
NOTES TO THE CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(UNAUDITED)

1. Nature of Operations and Business Activities

Nature of Operations

Emerald Bioscience, Inc. (the "Company") was initially incorporated in Nevada on March 16, 2011 as Load Guard Logistics, Inc. On October 31, 2014, the Company closed a reverse merger transaction (the "Merger") pursuant to which Nemus, a California corporation ("Nemus Sub"), became the Company's wholly-owned subsidiary, and the Company assumed the operations of Nemus Sub. Nemus Sub was incorporated in the State of California on July 17, 2012. On November 3, 2014, the Company changed its name to Nemus Bioscience, Inc. by merging with Nemus Sub.

In August 2019, the Company formed a new subsidiary in Australia, EMBI Australia Pty Ltd., an Australian proprietary limited company ("EMBI Australia"), in order to qualify for the Australian government's research and development tax credit for research and development dollars spent in Australia. The primary purpose of EMBI Australia is to conduct clinical trials for the Company's product candidates.

On February 11, 2019, the Company's Board of Directors (the "Board") and majority stockholder unanimously approved an amendment to the Company's articles of incorporation to change the name of the Company to Emerald Bioscience, Inc. Effective March 25, 2019, the Company filed a Certificate of Amendment with the Nevada Secretary of State changing the Company's name to Emerald Bioscience, Inc.

Emerald Bioscience, Inc. is a biopharmaceutical company located in Long Beach, California that plans to research, develop and commercialize therapeutics derived from cannabinoids through several license agreements with the University of Mississippi ("UM"). UM is the only entity federally permitted and licensed to cultivate cannabis for research purposes in the United States.

In January 2018, the Company entered into a securities purchase agreement with Emerald Health Sciences, Inc. ("Emerald Health Sciences") discussed in Note 5, pursuant to which Emerald Health Sciences purchased a majority of the equity interest in the Company, resulting in a change in control. As part of the transaction, the Company's Board members, with the exception of Dr. Brian Murphy, the Company's CEO/CMO, tendered their resignation and Emerald Health Sciences appointed two new nominees to the Board. Later, in October 2018, the Board appointed Dr. Avtar Dhillon, the Chairman, Chief Executive Officer and President of Emerald Health Sciences, as the Executive Chairman of the Company's Board.

As of September 30, 2019, the Company has devoted substantially all its efforts to securing product licenses, carrying out research and development, building infrastructure and raising capital. The Company has not yet realized revenue from its planned principal operations and is a number of years from potentially being able to do so.

Liquidity and Going Concern

The Company has incurred operating losses and negative cash flows from operations since inception and as of September 30, 2019, had an accumulated deficit of $37,025,334, a stockholders' deficit of $16,402,461 and a working capital deficit of $12,540,955. The Company anticipates that it will continue to incur net losses into the foreseeable future in order to advance and develop a number of potential drug candidates into preclinical and clinical development activities and support its corporate infrastructure which includes the costs associated with being a public company. As of September 30, 2019, the Company had cash in the amount of $1,319,360, as compared to $1,853,373 in cash as of December 31, 2018. During the nine months ended September 30, 2019, the Company received net cash proceeds of $3,990,699 from the Credit Agreement (defined below) with Emerald Health Sciences. However, the Company's cash balance as of September 30, 2019, including the cash balance as of December 31, 2018 and the net cash proceeds from the Credit Agreement, has been offset by cash used in operating activities of $4,524,712 for the nine months ended September 30, 2019. The Company had operating cash outflows primarily due to net loss from operations and a non-cash adjustment to add back the gain from the change in the fair value of derivative liabilities. Without additional funding, management believes that the Company will not have enough funds to meet its obligations within one year from the date the Condensed Consolidated Financial Statements are issued. These conditions give rise to substantial doubt as to the Company's ability to continue as a going concern. The accompanying Condensed Consolidated Financial Statements do not include any adjustments that might result from the outcome of this uncertainty.

The Company's continued existence is dependent on its ability to raise additional sufficient funding to cover operating expenses and to invest in research and development activities. On October 5, 2018, the Company entered into a Multi Draw Credit Agreement (the "Credit Agreement") with Emerald Health Sciences (See Note 4). Under the Credit Agreement the Company can draw down up to $20,000,000 from time to time in principal amounts of at least $250,000. The drawdowns are subject to approval by the Company's Board, which is controlled by the directors and principal executive officer of Emerald Health Sciences.

The Company plans to continue to pursue funding through public or private equity or debt financings, licensing arrangements, asset sales, government grants or other arrangements. However, the Company cannot provide any assurances that such additional funds will be available on reasonable terms, or at all. If the Company raises additional funds by issuing equity securities, substantial dilution to existing stockholders would result. If the Company is unable to secure adequate additional funding, the Company may be forced to reduce spending, extend payment terms with suppliers, liquidate assets where possible, suspend or curtail planned programs or cease operations.

2. Summary of Significant Accounting Policies

Basis of Presentation

In the opinion of management, the accompanying Unaudited Condensed Consolidated Financial Statements have been prepared on a consistent basis with the Company's Audited Consolidated Financial Statements for the fiscal year ended December 31, 2018, and include all adjustments, consisting of only normal recurring adjustments, necessary to fairly state the information set forth herein. The Condensed Consolidated Financial Statements have been prepared in accordance with the rules and regulations of the Securities and Exchange Commission ("SEC") and therefore, omit certain information and footnote disclosure necessary to present the financial statements in accordance with generally accepted accounting principles in the United States ("GAAP").

The results of operations for the three and nine months ended September 30, 2019 are not necessarily indicative of the results to be expected for the year ending December 31, 2019 or any future periods. The Condensed Consolidated Balance sheet as of December 31, 2018 was derived from the Company's audited financial statements as of December 31, 2018, which are included in the Company's Annual Report on Form 10-K filed with the SEC on March

14, 2019. The unaudited financial statements included in this Quarterly Report on Form 10-Q should be read in conjunction with the audited consolidated financial statements and notes thereto included in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2018, which includes a broader discussion of the Company's business and the risks inherent therein.

Certain reclassifications have been made to prior year amounts to conform to the current period's presentation. Such reclassifications had no net effect on total assets, total liabilities, total stockholders' deficit, net losses and cash flows.

Use of Estimates

The preparation of the Unaudited Condensed Consolidated Financial Statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the Condensed Consolidated Financial Statements and the reported amounts of income and expense during the reporting period. Actual results could differ from those estimates. The most significant accounting estimates inherent in the preparation of the Company's financial statements include estimates as to the appropriate carrying value of certain assets and liabilities which are not readily apparent from other sources. Such estimates and judgments are utilized for stock-based compensation expense and equity securities, derivative liabilities and debt with embedded features.

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Risks and Uncertainties

The Company's operations are subject to a number of risks and uncertainties, including but not limited to, changes in the general economy, the size and growth of the potential markets for any of the Company's product candidates, results of research and development activities, uncertainties surrounding regulatory developments in the United States and the Company's ability to attract new funding.

Fair Value Measurements

Certain assets and liabilities are carried at fair value under GAAP. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (the "exit price") in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. A fair value hierarchy based on three levels of inputs, of which the first two are considered observable and the last is considered unobservable, is used to measure fair value:

Level 1: Valuations for assets and liabilities traded in active markets from readily available pricing sources such as quoted prices in active markets for identical assets or liabilities.

Level 2: Observable inputs (other than Level 1 quoted prices) such as quoted prices in active markets for similar assets or liabilities, quoted prices in markets that are not active for identical or similar assets or liabilities, or other inputs that are observable or can be corroborated by observable market data.

Level 3: Unobservable inputs that are supported by little or no market activity and that are significant to determining the fair value of the assets or liabilities, including pricing models, discounted cash flow methodologies and similar techniques.

The carrying values of the Company's financial instruments, with the exception of the convertible multi draw credit agreement - related party and derivative liabilities, including, cash, prepaid expenses, accounts payable, and other current liabilities approximate their fair value due to the short maturities of these financial instruments. The derivative liabilities were valued on a recurring basis utilizing Level 3 inputs.

Advances under the convertible multi draw credit agreement - related party, noncurrent are not recorded at fair value. However, fair value can be approximated and disclosed utilizing Level 3 inputs and independent third-party valuation techniques (See Note 3). At September 30, 2019, the fair value of the advances under the Credit Agreement were estimated at $8,247,319. The carrying amount of the liability at September 30, 2019 was $3,296,249 and is included in Convertible multi draw credit agreement - related party, net of discount in the Company's balance sheets.

Convertible Instruments

The Company accounts for hybrid contracts with embedded conversion features in accordance with GAAP. ASC 815,*Derivatives and Hedging Activities* ("ASC 815") requires companies to bifurcate conversion options from their host instruments and account for them as free standing derivative financial instruments according to certain criteria. The criteria includes circumstances in which (a) the economic characteristics and risks of the embedded derivative instrument are not clearly and closely related to the economic characteristics and risks of the host contract, (b) the hybrid instrument that embodies both the embedded derivative instrument and the host contract is not re-measured at fair value under otherwise applicable generally accepted accounting principles with changes in fair value reported in earnings as they occur and (c) a separate instrument with the same terms as the embedded derivative instrument would be considered a derivative instrument.

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The Company accounts for convertible debt instruments with embedded conversion features in accordance with ASC 470-20 *Debt with Conversion and Other Options* ("ASC 470-20") if it's determined that the conversion feature should not be bifurcated from their host instruments. Under ASC 470-20, the Company records, when necessary, discounts to convertible notes for the intrinsic value of conversion options embedded in debt instruments based upon the difference between the fair value of the underlying common stock at the commitment date and the embedded effective conversion price. When the Company determines that the embedded conversion option should be bifurcated from its host instrument, the embedded feature is accounted for in accordance with ASC 815. Under ASC 815, a portion of the proceeds received upon the issuance of the hybrid contract is allocated to the fair value of the derivative. The derivative is subsequently marked to market at each reporting date based on current fair value, with the changes in fair value reported in results of operations.

The Company also follows ASC 480-10, *Distinguishing Liabilities from Equity* ("ASC 480-10") when evaluating the accounting for its hybrid instruments. A financial instrument that embodies an unconditional obligation, or a financial instrument other than an outstanding share that embodies a conditional obligation, that the issuer must or may settle by issuing a variable number of its equity shares shall be classified as a liability (or an asset in some circumstances) if, at inception, the monetary value of the obligation is based solely or predominantly on any one of the following: (a) a fixed monetary amount known at inception (for example, a payable settled with a variable number of the issuer's equity shares); (b) variations in something other than the fair value of the issuer's equity shares (for example, a financial instrument indexed to the Standard and Poor's S&P 500 Index and settled with a variable number of the issuer's equity shares); or (c) variations inversely related to changes in the fair value of the issuer's equity shares (for example, a written put option that could be net share settled). Hybrid instruments meeting these criteria are not further evaluated for any embedded derivatives and are carried as a liability at fair value at each balance sheet date with a re-measurement reported other (income) expense in the accompanying Condensed Consolidated Statements of Comprehensive Loss.

When determining short-term vs. long-term classification of derivative liabilities, the Company first evaluates the instruments' exercise provisions. Generally, if a derivative is a liability and exercisable within one year, it will be classified as short-term. However, because of the unique provisions and circumstances that may impact the accounting for derivative instruments, the Company carefully evaluates all factors that could potentially restrict the instrument from being exercised or create a situation where exercise would be considered remote. The Company re-evaluates its derivative liabilities at each reporting period end and makes updates for any changes in facts and circumstances that may impact classification.

Warrants Issued in Connection with Financings

The Company generally accounts for warrants issued in connection with debt and equity financings as a component of equity, unless the warrants include a conditional obligation to issue a variable number of shares or there is a deemed possibility that the Company may need to settle the warrants in cash. For warrants issued with a conditional obligation to issue a variable number of shares or the deemed possibility of a cash settlement, the Company records the fair value of the warrants as a liability at each balance sheet date and records changes in fair value in other (income) expense in the Condensed Consolidated Statements of Comprehensive Loss.

Debt Issuance Costs and Interest

Discounts related to bifurcated derivatives, freestanding instruments issued in bundled transactions and issuance costs are recorded as a reduction to the carrying value of the debt and amortized over the life of the debt using the effective interest method. The Company makes changes to the effective interest rate, as necessary, on a prospective basis. For debt facilities that provide for multiple advances, the Company initially defers any issuance costs until the first advance is made and then amortizes the costs over the life of the facility.

Research and Development Expenses and Licensed Technology

Research and development costs are expensed when incurred. These costs may consist of external research and development expenses incurred under agreements with third-party contract research organizations and investigative sites, third-party manufacturing organizations and consultants; license fees; employee-related expenses, which include salaries and benefits for the personnel involved in the Company's preclinical and clinical drug development activities; and facilities expense, depreciation and other allocated expenses; and equipment and laboratory supplies.

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Costs incurred for the rights to use licensed technologies in the research and development process, including licensing fees and milestone payments, are charged to research and development expense as incurred in situations where the Company has not identified an alternative future use for the acquired rights, and are capitalized in situations where there is an identified alternative future use. No cost associated with the use of licensed technologies has been capitalized to date.

Stock-Based Compensation for Employees

Stock-based compensation cost is estimated at the grant date based on the fair value of the award, and the cost is recognized as expense ratably over the vesting period with forfeitures accounted for as they occur. The Company uses the Black-Scholes Merton option pricing model for estimating the grant date fair value of stock options using the following assumptions:

- Volatility - Stock price volatility is estimated over the expected term based on a blended rate of industry peers and the Company's actual stock volatility adjusted for periods in which significant financial variability was identified.

- Expected term - The expected term is based on a simplified method which defines the life as the weighted average of the contractual term of the options and the vesting period for each award.

- Risk-free rate - The risk-free interest rate for the expected term of the option is based on the average market rate on U.S. treasury securities in effect during the period in which the awards were granted.

- Dividends - The dividend yield assumption is based on the Company's history and expectation of paying no dividends in the foreseeable future.

Earnings/ Loss Per Share of Common Stock

The Company applies FASB ASC No. 260, *Earnings per Share.* The basic earnings or net loss per share of common stock is computed by dividing loss available to common stockholders by the weighted-average number of shares of common stock outstanding for the period. The diluted earnings or net loss per share of common stock is computed by giving effect to all potential common stock equivalents outstanding for the period determined using the treasury stock method. For purposes of this calculation, convertible preferred stock, options to purchase common stock, restricted stock subject to vesting, warrants to purchase common stock and common shares underlying convertible debt instruments are considered common stock equivalents.

The computations of basic and diluted net loss per common share are as follows:

	Three Months Ended September 30, (Unaudited)		Nine Months Ended September 30, (Unaudited)	
	2019	**2018**	**2019**	**2018**
Basic net loss per share:				
Net loss	$ (4,931,125)	$ (2,096,349)	$ (3,800,227)	$ (12,972,142)
Weighted average common shares outstanding – basic	133,001,746	131,445,057	132,885,675	117,434,563
Net loss per share - basic	**$ (0.04)**	**$ (0.02)**	**$ (0.03)**	**$ (0.11)**
Diluted net loss per share:				
Net loss (as adjusted)	$ (4,931,125)	$ (2,096,349)	$ (5,656,982)	$ (12,972,142)
Weighted average common shares outstanding – diluted	133,001,746	131,445,057	167,690,989	117,434,563
Net loss per share - diluted	**$ (0.04)**	**$ (0.02)**	**$ (0.03)**	**$ (0.11)**

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The following outstanding shares of common stock equivalents were excluded from the computation of diluted earnings per share of common stock for the periods presented because including them would have been antidilutive:

	As of Three Months Ended September 30, (Unaudited)		As of Nine Months Ended September 30, (Unaudited)	
	2019	2018	2019	2018
Stock options	4,512,715	1,850,073	4,512,715	1,850,073
Unvested restricted stock	1,093,501	1,918,501	1,093,501	1,918,501
Common shares underlying convertible debt	15,000,000	-	15,000,000	-
Warrants	57,943,250	51,055,750	23,137,935	51,055,750

Recent Accounting Pronouncements

In November 2018, the FASB issued ASU No. 2018-08 *Collaborative Arrangements* (Topic 808) intended to improve financial reporting around collaborative arrangements and align the current guidance under ASC 808 with ASC 606 *Revenue from Contracts with Customers.* The ASU affects all companies that enter into collaborative arrangements. The ASU clarifies when certain transactions between collaborative arrangement participants should be accounted for as revenue under Topic 606 and changes certain presentation requirements for transactions with collaborative arrangement participants that are not directly related to sales to third parties. For public companies, the standard is effective for fiscal years beginning after December 15, 2019 and interim periods therein. Earlier adoption is permitted for any annual or interim period for which consolidated financial statements have not yet been issued. The Company has not entered into any collaborative arrangements and therefore does not currently expect the adoption of this standard to have a material effect on its Condensed Consolidated Financial Statements. The Company plans to adopt this ASU either on the effective date of January 1, 2020 or possibly in an earlier period if a collaborative arrangement is entered. Upon adoption, the Company will utilize the retrospective transition approach, as prescribed within this ASU.

Recently Adopted Accounting Standards

In February 2016, the FASB issued ASU No. 2016-02 *Leases* (Topic 842). In January, July and December 2018, and in March 2019, the FASB issued additional amendments to the new lease guidance relating to, transition, and clarification. This ASU requires most lessees to recognize right of use assets and lease liabilities and recognize expenses in a manner similar to current accounting standards. For public companies, the standard is effective for fiscal years beginning after December 15, 2018 and interim periods therein. The Company adopted this ASU on the effective date of January 1, 2019. Pursuant to ASU 2018-11, issued in July 2018, the Company elected to use the effective date as of the date of application for transition. Upon adoption there was no cumulative effect recorded to the accumulated deficit, as the Company has no lease terms in excess of one year. The Company has elected the short-term lease practical expedient under the ASU which resulted in no change to the current recognition accounting under ASC 840.

In July 2017, the FASB issued ASU 2017-11, *Earnings Per Share (Topic 260), Distinguishing Liabilities from Equity (Topic 480) and Derivatives and Hedging (Topic 815): I. Accounting for Certain Financial Instruments with Down Round Features; II. Replacement of the Indefinite Deferral for Mandatorily Redeemable Financial Instruments of Certain Nonpublic Entities and Certain Mandatorily Redeemable Noncontrolling Interests with a Scope Exception* ("ASU 2017-11"). Part I of this update addresses the complexity of accounting for certain financial instruments with down round features. Down round features are features of certain equity-linked instruments (or embedded features) that result in the strike price being reduced on the basis of the pricing of future equity offerings. Current accounting guidance creates cost and complexity for entities that issue financial instruments (such as warrants and convertible instruments) with down round features that require fair value measurement of the entire instrument or conversion option. Part II of this update addresses the difficulty of navigating *Topic 480, Distinguishing Liabilities from Equity*, because of the existence of extensive pending content in the FASB Accounting Standards Codification. This pending content is the result of the indefinite deferral of accounting requirements about mandatorily redeemable financial instruments of certain nonpublic entities and certain mandatorily redeemable non-controlling interests. The amendments in Part II of this update do not have an accounting effect. The Company adopted this ASU on the effective date of January 1, 2019. The adoption of this standard using a retrospective cumulative-effect adjustment approach had no impact to the Company's accumulated deficit. The outstanding warrants issued in the Emerald Financing contain a down-round provision. However, in the absence of the down-round these warrants would require liability accounting and be considered derivatives due to the presence of a put option (See Note 3). As such, the adoption of ASU 2017-11 on January 1, 2019 did not have an impact on the Company's Condensed Consolidated Financial Statements and Notes thereto.

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3. Warrants and Derivative Liabilities

Warrants

There are significant judgments and estimates inherent in the determination of the fair value of the Company's warrants. These judgments and estimates included the assumptions regarding its future operating performance, the time to completing a liquidity event and the determination of the appropriate valuation methods. If the Company had made different assumptions, the fair value of the warrants could have been significantly different (See Note 2).

Warrants vested and outstanding as of September 30, 2019 are summarized as follows:

Source	Exercise Price	Term (Years)	Amount Vested and Outstanding
Pre 2015 Common Stock Warrants	$ 1.00	6-10	4,000,000
2015 Common Stock Warrants	$ 1.15-5.00	5-10	442,000
Common Stock Warrants to Series B Stockholders	$ 0.00	5	1,031,250
2016 Common Stock Warrants to Service Providers	$ 1.15	10	40,000
2016 Series C Common Stock Warrants to Placement Agent	$ 0.40	5	125,000
2017 Series D Common Stock Warrants to Placement Agent	$ 0.25	5	480,000
2017 Common Stock Warrants to Service Provider	$ 0.41	5	125,000
2018 Emerald Financing Warrants	$ 0.10	5	44,200,000
Emerald Multi Draw Credit Agreement Warrants	$ 0.50	5	7,500,000

Total warrants vested and outstanding as of September 30, 2019	**57,943,250**

Emerald Multi Draw Credit Agreement Warrants

During the nine months ended September 30, 2019, the Company issued 5,000,000 fully vested common stock warrants to Emerald Health Sciences, in conjunction with advances under the Credit Agreement discussed below (See Note 4). The warrants are equity classified at issuance and the Company allocated an aggregate of $716,110 of the gross proceeds to the warrants on a relative fair value basis. The proceeds allocated to the warrants were recorded as discounts to each advance and are being amortized over the term of the debt. The warrants vested immediately and had an estimated aggregate fair value of $1,830,573 utilizing the Black-Scholes option pricing model with the following assumptions:

	At Issuance
Dividend yield	0.00%
Volatility factor	91.6-92.1%
Risk-free interest rate	2.23-2.51%
Expected term (years)	5.0
Underlying common stock price	$ 0.33-0.69

2018 Emerald Financing Warrants

In January and February 2018, the Company issued an aggregate of 40,800,000 and 3,400,000 fully vested common stock warrants to Emerald Health Sciences and an accredited investor, respectively, in conjunction with the Emerald Financing discussed below (See Note 5). The Company reviewed the warrants for liability or equity classification under the guidance of ASC 480-10, *Distinguishing Liabilities from Equity*, and concluded that these warrants should be classified as liabilities. See additional discussion below, *Derivative Liabilities- Emerald Financing Warrant Liability.*

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Derivative Liabilities

The following tables summarize the activity of derivative liabilities for the periods indicated:

	Nine Months Ended September 30, 2019				
	December 31, 2018, Fair Value of Derivative Liabilities	**Fair Value of Derivative Liabilities Issued**	**Change in Fair value of Derivative Liabilities**	**Reclassification of Derivatives to Equity**	**September 30, 2019, Fair Value of Derivative Liabilities**
Emerald Multi Draw Credit Agreement - compound derivative liability (1)	$ 219,453	$ 516,058	$ (167,905)	$ -	$ 567,606
Emerald Financing - warrant liability (2)	15,251,413	-	(1,895,193)	-	13,356,220
Series B - warrant liability (3)	487,500	-	38,438	(144,375)	381,563
Total derivative liabilities	**$ 15,958,366**	**$ 516,058**	**$ (2,024,660)**	**$ (144,375)**	**$ 14,305,389**
Less, noncurrent portion of derivative liabilities	(219,453)				(567,606)
Current balance of derivative liabilities	**$ 15,738,913**				**$ 13,737,783**

	Nine Months Ended September 30, 2018

	December 31, 2017, Fair Value of Derivative Liabilities	Fair Value of Derivative Liabilities Issued	Change in Fair value of Derivative Liabilities	Reclassification of Derivatives to Equity	September 30, 2018, Fair Value of Derivative Liabilities
Emerald Financing - warrant liability (2)	$ -	$ 10,424,634	$ 192,808	$ -	$ 10,617,442
Series B - warrant liability (3)	551,322	-	1,275,669	(1,333,866)	493,125
Emerald Convertible Promissory Note - conversion liability (4)	265,000	360,000	185,000	(810,000)	-
Series B Preferred Stock - conversion liability (5)	6,715	-	-	(6,715)	-
Total derivative liabilities	**$ 823,037**	**$ 10,784,634**	**$ 1,653,477**	**$ (2,150,581)**	**$ 11,110,567**
Less, noncurrent portion of derivative liabilities	(551,322)				-
Current balance of derivative liabilities	**$ 271,715**				**$ 11,110,567**

Emerald Multi Draw Credit Agreement Compound Derivative Liability (1)

In connection with the advances under the Credit Agreement (See Note 4), the Company bifurcated a compound derivative liability related to a contingent interest feature and acceleration upon default provision (contingent put option) provided to Emerald Health Sciences. The Company's estimate of fair value of the compound derivative liability was determined by using a differential cash flows valuation model, wherein the fair value of the underlying debt facility and its conversion right are estimated both with and without the presence of the contingent interest feature, holding all other assumptions constant. The resulting difference between the estimated fair values in both scenarios is the estimated fair value of the compound derivative. The fair value of the underlying debt facility is estimated by calculating the expected cash flows with consideration of the estimated probability of a change in control transaction, defined as an event of default by the agreement, and applying the expected default interest rate from the date of such default through maturity. The expected cash flows are then discounted back to the reporting date using a benchmark market yield. The conversion right component of the compound derivative is measured using a standard Black-Scholes model for each payment period. Because Emerald Health Sciences would forgo the contingent interest if the contingent put option was exercised upon an event of default, the value ascribed to the contingent put option within the compound derivative is de minimis.

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Emerald Financing Warrant Liability (2)

In January and February 2018, the Company issued 44,200,000 warrants to purchase common stock in conjunction with the Emerald Financing discussed above. The warrants vest immediately and have an exercise price of $0.10 per share with a term of five years and are exercisable in cash or through a cashless exercise provision. The warrants contain an anti-dilution protection feature provided to the investors if the Company subsequently issues or sells any shares of common stock, stock options, or convertible securities at a price less than the exercise price of $0.10. The exercise price is automatically adjusted down to the price of the instrument being issued. In addition, the warrants contain a contingent put option if the Company undergoes a subsequent financing that results in a change in control. The warrant holders also have the right to participate in subsequent financing transactions on an as-if converted basis.

The Company reviewed the warrants for liability or equity classification under the guidance of ASC 480-10, *Distinguishing Liabilities from Equity*, and concluded that the warrants should be classified as a liability and re-measured to fair value at the end of each reporting period. The Company also reviewed the warrants under ASC 815, *Derivatives and Hedging/Contracts in Entity's Own Equity*, and determined that the warrants also meet the definition of a derivative. With the assistance of a third-party valuation specialist, the Company valued the warrant liabilities utilizing the Monte Carlo valuation method pursuant to the accounting guidance of ASC 820-10, *Fair Value Measurement*s. On the closing dates, the Company estimated that the fair value of the warrants issued on January 19, 2018 and February 16, 2018 was $4,700,000 and $5,700,000, respectively.

The warrant liabilities have been valued using Monte Carlo simulations conducted at the closing dates of January 19, 2018 and February 16, 2018 and at the balance sheet dates using the following assumptions:

	September 30, 2019	December 31, 2018	At Issuance
Dividend yield	0.00%	0.00%	0.00%
Volatility factor	81.9-82.1%	92.1-92.4%	70.0%
Risk-free interest rate	1.56%	2.49%	2.45-2.60%
Expected term (years)	3.31-3.38	4.05-4.13	5.0
Underlying common stock price	$ 0.37	$ 0.40	$ 0.29-0.30

Because fair value assigned to the warrants exceeded the proceeds received in the Emerald Financing, none of the consideration was allocated to common stock and the Company recorded an adjustment for the difference between the fair value of the warrant liabilities and the total proceeds received to other expense in the Condensed Consolidated Statements Comprehensive Loss for the nine months ended September 30, 2018 as follows:

	Closing		
	January 2018	February 2018	Total
Initial Fair Value of Emerald Financing Warrant Liability	$ 4,717,211	$ 5,707,423	$ 10,424,634
Less: Proceeds from Emerald Financing	1,500,000	1,750,000	3,250,000
Excess over proceeds adjustment	**$ 3,217,211**	**$ 3,957,423**	**$ 7,174,634**

In addition, because the aggregate proceeds were allocated to the fair value of the Emerald Financing warrant liability, issuance costs totaling $137,192 were charged to other expense during the nine months ended September 30, 2018.

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Series B Warrant Liability (3)

In conjunction with the Redeemable Convertible Series B Preferred Stock financing, the Company issued the 2015 Series B Financing Warrants originally exercisable at a price of $1.15 per share. The warrants are exercisable in cash or through a cashless exercise provision and contain certain cash redemption rights. The Series B warrants also had a "down-round" protection feature if the Company subsequently issued or sold any shares of common stock, stock options, or convertible securities at a price less than the current exercise price. The down round provision was triggered and automatically adjusted down to $0.10 on December 28, 2017, after the Company entered into the Convertible Promissory Note (See Note 4) and again to $0.00 on January 19, 2018, as a result of the Emerald Financing (See Note 5). The strike price for these warrants is now permanently reset. However, because the remaining warrant holders still have certain cash redemption rights upon the occurrence of certain fundamental transactions, as defined in the Series B warrant agreements, the warrants continue to require liability classification. Subsequent to the repricing that occurred as a result of the Emerald Financing, the warrants have been valued using a Black Scholes Merton Option Pricing Model.

The Company reviewed the classification of the warrants as liabilities or equity under the guidance of ASC 480-10, *Distinguishing Liabilities from Equity*, and concluded that the Series B warrants should be classified as a liability. The Company then applied the fair value allocation methodology for

allocating the proceeds of $5,000,000 received from the Series B financing between the conversion liability and the warrants with the residual amount being allocated to the Series B Preferred Stock.

To compute the fair value of the warrants, the Company utilized the following assumptions in the Black Scholes Merton Option Pricing Model for the periods indicated:

	As of September 30, 2019	As of December 31, 2018
Dividend yield	0.00%	0.00%
Volatility factor	79.4%	93.0%
Risk-free interest rate	1.75%	2.79%
Expected term (years)	0.89	1.64-1.65
Underlying common stock price	$ 0.37	$ 0.40

Emerald Convertible Promissory Note Conversion Liability (4)

In connection with the Convertible Promissory Note (See Note 4), the Company bifurcated a conversion liability related to an embedded conversion feature with a down-round protection provision. The Company valued the conversion liability pursuant to the accounting guidance of ASC 820-10, *Fair Value Measurement*s, as of the financing date of each closing utilizing the Black Scholes valuation model and the following assumptions:

	January 19, 2018	December 28, 2017
Dividend yield	0.00%	0.00%
Volatility factor	70.0%	70.0%
Risk-free interest rate	1.29%	1.39%
Expected term (years)	0.003	0.25
Underlying common stock price	$ 0.19	$ 0.15

The fair values of the conversion liabilities on December 28, 2017 and January 19, 2018 were $265,000 and $360,000, respectively. The change in value related to the conversion liability at December 31, 2017 was deemed immaterial due to no substantial change in the assumptions from issuance until year end. In connection with the Emerald Financing discussed in Note 5 below, the Convertible Promissory Note was converted, and the conversion liability was extinguished with the debt.

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Series B Preferred Stock Conversion Liability (5)

On August 20, 2015, in connection with the Redeemable Convertible Series B Preferred Stock financing, the Company bifurcated a conversion liability related to a down-round protection provided to the Series B investors. The value of this embedded derivative was determined utilizing a "with and without" method by valuing the Series B Preferred Stock with and without the down round protection. During the first fiscal quarter of 2018, all the remaining Series B Preferred Stock was converted to common stock and as a result, the Series B conversion liability was reduced to zero. The reduction of this liability totaling $6,715 was recorded to equity during the nine months ended September 30, 2018.

4. Convertible Debt - Related Party

The Company's Convertible Debt with Emerald Health Sciences consists of the following:

	As of September 30, 2019	As of December 31, 2018
Total principal value	$ 6,000,000	$ 2,000,000
Unamortized debt discount	(2,652,112)	(587,617)
Unamortized debt issuance costs	(51,639)	(51,423)
Carrying value of total convertible debt - related party	**$ 3,296,249**	**$ 1,360,960**
Less, noncurrent portion	(3,296,249)	(1,360,960)
Current convertible debt - related party	**$ -**	**$ -**

The Company's interest expense consists of the following:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Interest expense – stated rate	$ 107,334	$ -	$ 272,611	$ 3,100
Non-cash interest expense:				
Amortization of debt discount	190,886	-	429,355	34,608
Amortization of transaction costs	3,327	-	9,609	-
	$ 301,547	**$ -**	**$ 711,575**	**$ 37,708**

Multi Draw Credit Agreement

On October 5, 2018, the Company entered into the Credit Agreement with Emerald Health Sciences, a related party (See Note 8). The Credit Agreement provides for a credit facility to the Company of up to $20,000,000 and is unsecured. Advances under the Credit Agreement bear interest at an annual rate of 7% (payable quarterly in arrears) and mature on October 5, 2022. At Emerald Health Sciences' election, advances and unpaid interest may be converted into common stock at a fixed conversion price of $0.40, subject to customary adjustments for stock splits, stock dividends, recapitalizations, etc. As of September 30, 2019, the unused portion of the credit facility is $14,000,000.

The Credit Agreement provides for customary events of default which may result in the acceleration of the maturity of the advances in addition to, but not limited to, cross acceleration to certain other indebtedness of the Company or a change in control. In the case of an event of default arising from specified events of bankruptcy or insolvency or reorganization, all outstanding advances will become due and payable immediately without further action or notice. If any other event of default under the Credit Agreement occurs or is continuing, Emerald Health Sciences may, by written notice, terminate its commitment to make any advances and/or declare all the advances with any other amounts payable due immediately. If any amount under the Credit Agreement is not paid when due, such overdue amount shall bear interest at an annual default interest rate of the applicable rate plus 10%, until such amount is paid in full.

In connection with each advance under the Credit Agreement, the Company agreed to issue to Emerald Health Sciences warrants to purchase shares of common stock in an amount equal to 50% of the number of shares of common stock that each advance may be converted into. The warrants have an exercise price of $0.50 per share, a term of five years and are immediately exercisable upon issuance. The exercise price is subject to adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events or upon any distributions of assets, including cash, stock or other property to the Company's stockholders (See Note 3).

In accounting for each convertible advance and the warrants issued under the Credit Agreement, the Company allocates the proceeds between the debt host and the freestanding warrants on a relative fair value basis for each advance. On the date of each advance if the effective conversion rate of the debt is less than the market value of the Company's common stock the Company records a beneficial conversion feature as a discount to the debt and an increase to additional paid in capital. The debt discounts related to the warrants, beneficial conversion features and compound derivatives, if any, are being amortized over the term of the Credit Agreement using the effective interest rate method. Amortization of the debt discount is recognized as non-cash interest expense and the compound derivatives related to the contingent interest feature and acceleration upon default provision are remeasured at fair value in subsequent periods in the Company's Condensed Consolidated Balance Sheets.

On November 1, 2018, the initial advance under Credit Agreement was made for $2,000,000 and the Company issued 2,500,000 warrants (See Note 3). In accounting for the convertible advances and warrants under the Credit Agreement $1,684,920 of the proceeds was allocated to the debt and $315,080 was

allocated to equity classified warrants. A beneficial conversion feature of $90,080 and a compound derivative liability of $204,102 were also recorded.

During the nine months ended September 30, 2019, the Company initiated two advances under Credit Agreement, each in the amount of $2,000,000, for an aggregate principal amount of $4,000,000, and the Company issued an aggregate of 5,000,000 warrants to Emerald Health Sciences (See Note 3). In accounting for the convertible advances and warrants issued under the Credit Agreement, an aggregate amount of $3,283,890 was allocated to the debt and $716,110 was allocated to equity classified warrants. A beneficial conversion feature of $1,584,850 and compound derivative liabilities of an aggregate of $516,058 have been recorded (See Note 3). Of the $516,058 in compound derivatives, $322,644 was recorded as other expense in the Condensed Consolidated Statements of Comprehensive Loss for the nine months ended September 30, 2019 as the value of the beneficial conversion feature exceeded the proceeds allocated to the third draw.

Aggregate financing costs of $63,007 incurred in connection with the Credit Agreement have been recorded as a discount to the debt host and are being amortized using the effective interest rate method and recognized as non-cash interest expense over the term of the Credit Agreement.

As of September 30, 2019, the unamortized debt discount will be amortized over a remaining period of approximately 3.02 years. The fair value of the underlying shares of the convertible multi draw credit agreement was $5,550,000 at September 30, 2019. As of September 30, 2019, the if-converted value did not exceed the principal balance.

Secured Convertible Promissory Note

On December 28, 2017, the Company entered into a convertible Secured Promissory Note and Security Agreement with Emerald Health Sciences (the "Convertible Promissory Note"). The Convertible Promissory Note provided for aggregate gross proceeds to the Company of up to $900,000 and was secured by all the Company's assets. Drawdowns on the Convertible Promissory Note were interest bearing at an annual rate of 12% (compounding semi-annually), payable at maturity. The Convertible Promissory Note matured upon the earlier of June 30, 2018 or upon a default event, as defined, and elected by Emerald Health Sciences. At Emerald Health Sciences' election, drawdowns and unpaid interest were convertible into common stock at a conversion price of $0.10, subject to a full-ratchet antidilution right. The Convertible Promissory Note was automatically converted upon the occurrence of the private placement transaction with Emerald Health Sciences (the Emerald Financing) in January 2018.

The Company received proceeds of $500,000 on December 28, 2017, and on January 19, 2018 the Company received the remaining $400,000 in funding as it had satisfied the conditions required. These conditions required receipt of conversion notices from all the existing Series B stockholders to convert their preferred shares to common stock. Such conversions occurred in January and February of 2018. On each financing date, the Company bifurcated a conversion liability from the Convertible Promissory Note related to the embedded conversion feature with a down-round protection provision (See Note 3). This resulted in a conversion liability of $265,000 at the first financing date which was one trading day prior to December 31, 2017. The second funding in January 2018 resulted in an additional conversion liability of $360,000. The conversion liabilities were recorded as a discount to the debt at each draw down date and were being amortized to interest expense.

On January 19, 2018, in conjunction with the Emerald Financing (See Note 5), the Convertible Promissory Note was automatically converted into common stock at a conversion price of $0.10 per share for 9,000,000 shares of common stock. Upon conversion, the debt and associated conversion liability were extinguished resulting in a loss on extinguishment of $590,392 which was recorded as other expense for the nine months ended September 30, 2018. For the nine months ended September 30, 2018, the effective interest rate related to the Convertible Promissory Note was 13.94%.

5. Stockholders' Deficit and Capitalization

Common Stock

On November 14, 2018, the Company amended its articles of incorporation to increase the number of authorized shares of common stock available for issuance to 500,000,000.

Emerald Financing

On January 19, 2018, the Company entered into a Securities Purchase Agreement pursuant to which the Company sold to Emerald Health Sciences 15,000,000 shares of common stock and a warrant to purchase 20,400,000 shares of common stock at an exercise price of $0.10 for aggregate gross proceeds of $1,500,000 (the "Emerald Financing"). This transaction also resulted in the conversion of the $900,000 Convertible Promissory Note (See Note 4). As part of the transaction, the Company's Board members, with the exception of Dr. Brian Murphy, the Company's CEO/CMO, tendered their

resignation and Emerald Health Sciences appointed two new nominees to the Board. The Securities Purchase Agreement also provides that in the case of a subsequent financing in which the purchase price is less than $0.10 per share, Emerald Health Sciences shall be issued additional shares in order to protect against anti-dilution.

The second closing under the Emerald Financing occurred on February 16, 2018, pursuant to which the Company issued and sold to Emerald Health Sciences 15,000,000 shares of the Company's common stock, and a warrant to purchase 20,400,000 shares of common stock at an exercise price of $0.10 per share for a term of five years. In addition, an accredited investor purchased 2,500,000 shares of common stock and a warrant to purchase 3,400,000 shares of common stock at an exercise price of $0.10 per share for a term of five years. The Company received aggregate gross proceeds of $1,750,000 from the second closing. In connection with the private placement, the Company incurred issuance costs of $154,092, of which $137,192 was allocated to the warrant liability and expensed during the period and $16,900 was recorded as a reduction to additional paid in capital from the issuance of common stock.

Preferred Stock

The Company has 20,000,000 authorized shares of preferred stock, with a par value of $0.001 per share. As of September 30, 2019, there were no shares of preferred stock issued and outstanding.

During the nine months ended September 30, 2018, all remaining Preferred Series B, D, and F shares that were previously issued and outstanding were converted to common stock.

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6. Stock-Based Compensation

Stock Incentive Plan

On October 31, 2014, after the closing of the Merger, the Board approved the Company's 2014 Omnibus Incentive Plan (the "2014 Plan"). The 2014 Plan initially reserved 3,200,000 shares for future grants, and in October 2018, the Company increased the share reserve under the 2014 Plan to equal 10% of the number of issued and outstanding shares of common stock of the Company. The 2014 Plan authorizes the issuance of awards including stock options, stock appreciation rights, restricted stock, stock units and performance units to employees, directors, and consultants of the Company. As of September 30, 2019, the Company had 8,248,381 shares available for future grant under the 2014 Plan.

Stock Options

The following is a summary of option activities under the Company's 2014 Plan for the nine months ended September 30, 2019:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (Years)

Outstanding, December 31, 2018	2,405,000	$ 0.33	8.71
Granted	1,262,642	0.30	
Cancelled	(196,875)	0.26	
Forfeited	(153,125)	0.26	
Outstanding, September 30, 2019	3,317,642	$ 0.33	8.59
Exercisable, September 30, 2019	1,807,333	$ 0.43	7.90

During the nine months ended September 30, 2019, no stock options were exercised. The weighted-average fair value of stock options granted during the nine months ended September 30, 2019 was $0.22. No options were granted to non-employees during the three and nine months ended September 30, 2019.

The fair value of each stock option grant was estimated on the date of grant using the Black-Scholes option pricing model under the following assumptions:

	Nine Months Ended September 30, 2019
Dividend yield	0.00%
Risk-free interest rate	1.49%
Expected term (years)	5.65
Volatility	93.72%

Restricted Stock Awards

There was no restricted stock award ("RSA") activity under the Company's 2014 Plan during the three and nine months ended September 30, 2019.

On February 28, 2018, in conjunction with the signing of the K2C separation agreement discussed in Note 8 below, Mr. Lykos' RSAs amounting to 325,000 shares vested immediately resulting in a Type III award modification and a credit to stock compensation of $98,042 for the nine months ended September 30, 2018 due to a lower fair value of those shares as of the modification date.

On May 25, 2018, in conjunction with the signing of her separation agreement, the former Nemus CFO, Ms. Elizabeth Berecz's RSA's amounting to 350,000 shares vested immediately resulting in a Type III award modification and a credit to stock compensation of $97,183 for the nine months ended September 30, 2018 due to a lower fair market value of those shares as of the modification date as compared to the fair value immediately prior to acceleration.

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Awards Granted Outside the 2014 Plan

Options

There was no option activity outside of the 2014 Plan during the three and nine months ended September 30, 2019.

On May 25, 2018, the Company entered into Stock Option Agreement with Douglas Cesario, CFO, granting 1,195,073, stock options with an exercise price equal to $0.25 and a grant date fair market value of $200,172. The options vest 25% on July 23, 2018, and the remaining 75% vest 1/33 on each of the next 33 months thereafter. Options will fully vest upon a Triggering Event (as defined in the Stock Option Agreement), including a Sale of the Company (as defined in the Stock Option Agreement) or a Merger (as defined in the Stock Option Agreement) that results in change of control.

Restricted Stock Awards

The following is a summary of RSA activity outside of the Company's 2014 Plan during the nine months ended September 30, 2019:

	Number of Shares	Weighted Average Grant Date Fair Value
Unvested, December 31, 2018	**900,000**	$ 0.19
Granted	-	-
Released	(450,000)	0.19
Unvested, September 30, 2019	**450,000**	$ 0.19

On February 28, 2018, in conjunction with the signing of the K2C separation agreement discussed in Note 8 below, Mr. Lykos' Restricted stock awards amounting to 900,000 shares became immediately vested resulting in a Type III award modification and stock compensation expense of $216,000 for the nine months ended September 30, 2018, due to an increase in the fair value of the award immediately before and after the modification date.

On May 25, 2018, in conjunction with the signing of her separation agreement discussed above, the former Nemus CFO, Ms. Elizabeth Berecz's Restricted stock awards amounting to 700,000 shares became immediately vested resulting in the recording of compensation expense of $184,800 for the nine months ended September 30, 2018, due to an increase in the fair value of the award immediately before and after the modification date.

Stock-Based Compensation Expense

The Company recognizes stock-based compensation expense using the straight-line method over the requisite service period. For the three months ended September 30, 2019 and 2018, the Company recognized stock-based compensation expense of $170,106 and $154,508, respectively (including compensation expense for RSAs discussed above), which was recorded as a general and administrative expense in the Condensed Consolidated Statements of Comprehensive Loss. For the nine months ended September 30, 2019 and 2018, the Company recognized stock-based compensation expense of $514,683 and $484,720, respectively (including compensation expense for RSAs discussed above), which was recorded as a general and administrative expense in the Condensed Consolidated Statements of Comprehensive Loss. The total amount of unrecognized compensation cost was $478,442 as of September 30, 2019. This amount will be recognized over a weighted average period of 0.99 years.

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7. Significant Contracts - University of Mississippi

UM 5050 Pro-Drug and UM 8930 Analog Agreements

In July 2018, the Company renewed its ocular licenses for UM 5050, related to the pro-drug formulation of tetrahydrocannabinol ("THC"), and UM 8930, related to an analog formulation of cannabidiol ("CBD"). On May 24, 2019, the ocular delivery licenses were replaced by "all fields of use" licenses for both UM 5050 and UM 8930 (collectively, the "License Agreements"). Pursuant to the License Agreements, UM granted the Company an exclusive, perpetual license, including, with the prior written consent of UM, the right to sublicense, to intellectual property related to UM 5050 and UM 8930 for all fields of use.

The License Agreements contain certain milestone payments, royalty and sublicensing fees payable by the Company, as defined therein. Each License Agreement provides for an annual maintenance fee of $75,000 payable on the anniversary of the effective date. The upfront payment for UM 5050 is $100,000 and the upfront payment for UM 8930 is $200,000. Additionally, there is also a $200,000 fee due within 30 days upon receipt of the first United States Patent and Trademark Office Notice of Allowance for UM 8930. The milestone payments payable for each license are as follows:

i) $100,000 paid within 30 days following the submission of the first Investigational New Drug Application to the Food and Drug Administration or an equivalent application to a regulatory agency anywhere in the world, for a product;

ii) $200,000 paid within 30 days following the first submission of an NDA, or an equivalent application to a regulatory agency anywhere in the world, for each product that is administered in a different route of administration from that of the early submitted product(s); and

iii) $400,000 paid within 30 days following the approval of an NDA, or an equivalent application to a regulatory agency anywhere in the world, for each product that is administered in a different route of administration from that of the early approved product(s).

The royalty percentage due on net sales under each License Agreement is in the mid-single digits. The Company must also pay to UM a portion of all licensing fees received from any sublicensees, subject to a minimum royalty on net sales, and the Company is required to reimburse patent costs incurred by UM related to the licensed products. The royalty obligations apply by country and by licensed product, and end upon the later of the date that no valid claim of a licensed patent covers a licensed product in a given country, or 10 years after the first commercial sale of such licensed product in such country.

Each License Agreement continues, unless terminated, until the later of the expiration of the last to expire of the patents or patent applications within the licensed technology or the expiration of the Company's payment obligations under such License Agreement. UM may terminate each License Agreement, by giving written notice of termination, upon the Company's material breach of such License Agreement, including failure to make payments or satisfy covenants, representations or warranties without cure, noncompliance, a bankruptcy event, the Company's dissolution or cessation of operations, the Company's failure to make reasonable efforts to commercialize at least one product or failure to keep at least one product on the market after the first commercial sale for a continuous period of one year, other than for reasons outside the Company's control, or the Company's failure to meet certain pre-established development milestones. The Company may terminate each License Agreement upon 60 days' written notice to UM.

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UM 5070 License Agreement

In January 2017, the Company entered into a license agreement with UM pursuant to which UM granted us an exclusive, perpetual license, including the right to sublicense, to intellectual property related to a platform of cannabinoid-based molecules ("UM 5070"), to research, develop and commercialize products for the treatment of infectious diseases. The license agreement culminates roughly one year of screening and target molecule identification studies especially focused on therapy-resistant infectious organisms like Methicillin-resistant Staphylococcus aureus ("MRSA").

The Company paid UM an upfront license fee under the license agreement. Under the license agreement, the Company is also responsible for annual maintenance fees that will be credited against royalties in the current fiscal year, contingent milestone payments upon achievement of development and regulatory milestones, and royalties on net sales of licensed products sold for commercial use. The aggregate milestone payments due under the license agreement if all the milestones are achieved is $700,000 and the royalty percentage due on net sales is in the mid-single digits. The Company must also pay to UM a percentage of all licensing fees we receive from any sublicensees, subject to a minimum royalty on net sales by such sublicensees. The Company's royalty obligations apply on a country by country and licensed product by licensed product basis, and end upon the later of the date that no valid claim of a licensed patent covers a licensed product in a given country, or ten years after first commercial sale of such licensed product in such country.

The license agreement continues, unless terminated, until the later of the expiration of the last to expire of the patents or patent applications within the licensed technology or expiration of the Company's payment obligations under the license. UM may terminate the license agreement, effective with the giving of notice, if: (a) the Company fails to pay any material amount payable to UM under the license agreement and do not cure such failure within 60 days after UM notifies us of such failure, (b) the Company materially breaches any covenant, representation or warranty in the license agreement and do not cure such breach within 60 days after UM notifies the Company of such breach, (c) the Company fails to comply in any material respect with the terms of the license and do not cure such noncompliance within 60 days after UM notifies us of such failure, (d) the Company is subject to a bankruptcy event, (e) the Company dissolves or ceases operations or (f) if after the first commercial sale of a product during the term of the license agreement, the Company materially fails to make reasonable efforts to commercialize at least one product or fail to keep at least one product on the market after the first commercial sale for a continuous period of one year, other than for reasons outside of the Company's control. The Company may terminate the license agreement upon 60 days' written notice to UM.

8. Related Party Matters

K2C, Inc.

In June 2014, the Company's U.S. subsidiary entered into an independent contractor agreement with K2C, Inc. ("K2C"), which is wholly owned by the Company's former Executive Chairman and Co-Founder, Mr. Cosmas N. Lykos, pursuant to which the Company paid K2C a monthly fee for services performed by Mr. Lykos for the Company. The agreement expired on June 1, 2017 and was automatically renewed for one year pursuant to the terms of the agreement. The monthly fee under the agreement was $10,000 and increased to $20,000 effective April 1, 2017.

In February 2018, the Company entered into a separation and release agreement with K2C, which provided for a lump sum payment of $180,000 and the immediate vesting of 900,000 shares of restricted common stock granted on January 18, 2018, 325,000 shares of restricted common stock granted on October 20, 2015, and 125,000 options granted on November 21, 2014, in exchange for a release of claims and certain other agreements. During the nine months ended September 30, 2018, the Company recognized additional stock-based compensation expense of $112,270 for these restricted stock and option awards.

For the three and nine months ended September 30, 2018, total expense incurred under this agreement was $-0- and $220,000 (including the previously discussed lump sum payment), respectively. For the three and nine months ended September 30, 2019, no expense was incurred under this agreement. Under the separation agreement, Mr. Lykos was allowed to participate in the Company's health, death and disability insurance plans for six months subsequent to K2C's separation.

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Emerald Health Sciences

On February 1, 2018, the Company entered into an Independent Contractor Agreement with Emerald Health Sciences, pursuant to which Emerald Health Sciences agreed to provide such services as are mutually agreed between the Company and Emerald Health Sciences, including reimbursement for reasonable expenses incurred in the performance of the Independent Contractor Agreement. These services can include, but are not limited to, corporate advisory services and technical expertise in the areas of business development, marketing, investor relations, information technology and product development. The Independent Contractor Agreement has an initial term of 10 years and specifies compensation which is agreed upon between the Company's Chief Executive Officer and Emerald Health Sciences' Chairman, CEO and President on a month-to-month basis. The fee due under this agreement is payable on a monthly basis; however, if the Company is unable to make payments due to insufficient funds, then interest on the outstanding balance will accrue at a rate of 12% per annum, calculated semi-annually. Under this agreement, for the three months ended September 30, 2019 and

2018, the Company incurred expenses of $150,000 in each period. For the nine months ended September 30, 2019 and 2018, the Company incurred expenses of $450,000 and $400,000, respectively.

On February 6, 2018, the Company entered into a Consulting Agreement with Dr. Avtar Dhillon, the Chairman, Chief Executive Officer and President of Emerald Health Sciences. The services under the Consulting Agreement included corporate finance and strategic business advisory services. The Consulting Agreement had an initial term of one year and was renewable automatically unless terminated by either party. The agreement specified an annual fee of $60,000, payable semi-monthly in installments, and included reimbursement for reasonable expenses incurred in the performance of the services. Under the agreement, Dr. Avtar Dhillon was also entitled to a discretionary annual bonus, payable 120 days after each fiscal year end, to be determined by the Board upon its annual review. Under this agreement, for the three and nine months ended September 30, 2018, the Company incurred $15,000 and $45,000, respectively. The Consulting Agreement was canceled on October 5, 2018 in connection with the Company's entry into the Credit Agreement with Emerald Health Sciences (See Note 4), and Dr. Avtar Dhillon was appointed as the Executive Chairman of the Company's Board.

9. Subsequent Events

There have been no subsequent events since September 30, 2019.

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our financial statements for the three and nine months ended September 30, 2019 and 2018 (unaudited) and the year ended December 31, 2018 together with notes thereto. In addition to historical information, this discussion and analysis contains forward-looking statements that involve risks, uncertainties and assumptions. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of certain factors, including, but not limited, to those set forth under "Risk Factors" and elsewhere in this Quarterly Report on Form 10-Q.

Unless otherwise provided in this Quarterly Report, references to "we," "us," "our" and "Emerald Bioscience" in this discussion and analysis refer to Emerald Bioscience, Inc., a Nevada corporation formerly known as Nemus Bioscience, Inc. and Load Guard Logistics, Inc., together with its wholly-owned subsidiaries, Nemus, a California corporation, and EMBI Australia, an Australian proprietary limited company.

Overview

We are a biopharmaceutical company targeting the discovery, development, and the commercialization of cannabinoid-based therapeutics, through a

number of license agreements with the University of Mississippi ("UM"). UM holds the only contract to cultivate cannabis for research purposes on behalf of the Federal Government of the United States since 1968, and it has significant expertise in cannabis cultivation and the extraction, separation, process and manufacture of cannabis extracts as well as the chemistry and physiology of cannabinoid molecules. We strive to serve as UM's partner for the development and commercialization of cannabinoid-based therapeutics, and the realization of this partnership will depend on the successful development of these compounds through the regulatory requirements of drug approval agencies, like the FDA in the United States and the EMA in the European Union.

Effective March 25, 2019, we changed the Company's name from Nemus Bioscience, Inc. to Emerald Bioscience, Inc.

In August 2019, we formed a new subsidiary in Australia, EMBI Australia, in order to qualify for the Australian government's research and development tax credit for research and development dollars spent in Australia. The primary purpose of EMBI Australia is to conduct clinical trials for our product candidates.

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Recent Events and Significant Contracts.

Expansion of UM 5050 and UM 8930 Licenses from Ocular Delivery Only to All Fields of Use

On May 24, 2019, we executed two restated and amended license agreements with UM which expanded our use of UM 5050, a pro-drug of tetrahydrocannabinol ("THC"), and UM 8930, an analog of cannabidiol ("CBD"), from ocular delivery only to all fields of use. Pursuant to these license agreements, we have exclusive, perpetual, worldwide licenses related to UM 5050 and UM 8930. Additionally, with the prior written consent of UM, we have the right to sublicense the licensed intellectual property.

The all fields use for tetrahydrocannabinol-valine-hemisuccinate ("THCVHS"), the proprietary prodrug of THC, is expected to allow the Company to explore related uses for the active moiety of the prodrug, namely THC. Independent *in vitro* and *in vivo* studies have demonstrated the potential use of THC in a variety of potential indications based on the ability of the cannabinoid to act as an anti-inflammatory, anti-fibrotic, and/or inhibitor of

neovascularization. The Company has generated data related to these effects using an *ex vivo* human tissue model of the eye. The prodrug technology employed in THCVHS is designed to enhance the bioavailability and pharmacokinetic predictability of the active part of the molecule, once introduced into the body through routes of administration currently being considered by the development team. Given the positive data accumulated to date in studies of the eye, the Company could explore additional central nervous system applications for THCVHS. The Company expects to develop strategic collaborations to identify and advance these applications.

The all fields use of cannabidiol-valine-hemisuccinate ("CBDVHS"), the analog of CBD, is expected to permit the Company to expand research and development into organ systems outside of the current ocular space. Potential disease targets over time could involve the central nervous system, the gastrointestinal tract, the endocrine/metabolic system, reproductive system diseases, or as yet unrecognized opportunities. This bioengineered version of CBD is expected to enlarge the disease target pool by virtue of new routes of administration into the body, thereby enhancing bioavailability. The determination by the DEA that CBDVHS is not a controlled substance permits the Company to enlarge the potential pool of clinical test sites and a more diverse patient pool in the study of disease. The Company expects to develop strategic collaborations to identify and advance these applications.

NB1111

We continue to advance our lead drug candidate, NB1111, towards first-in-human studies to be conducted in both normal controls and patients with glaucoma or ocular hypertension (the "Clinical Trial"). We anticipate launching the Clinical Trial in the second half of 2020 in Australia. During 2019, we achieved various milestones related to the research and development of NB1111, including the following:

- In August 2019, EMBI Australia Pty Ltd entered into a start-up agreement with Novotech (Australia) Pty Limited ("Novotech"). The start-up agreement is being entered into in connection with the launch of the Clinical Trial. The Company expects to pay approximately $45,000 in professional fees and pass through costs in connection with the services provided for in the start-up agreement. Additionally, on September 26, 2019, EMBI Australia Pty Ltd and Novotech executed a Master Services Agreement and anticipate entering into project agreements covering all anticipated services to be provided by Novotech to the Company in connection with the Clinical Trial.

- In August 2019, EMBI Australia entered into a master service agreement and initial statement of work with Agilex Biolabs Pty Ltd ("Agilex"), pursuant to which Agilex would assist with the assay set up for the anticipated Clinical Trial.

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- In August 2019, we executed an agreement with Bioscience Laboratories, Inc. to complete Draize testing in advance of the anticipated Clinical Trial.

- Albany Molecular Research Inc. ("AMRI") worked toward closing the synthesis validation pathway to manufacture cGMP API of THCVHS with validation of drug product purity. In turn, on April 30, 2019, we entered into an additional agreement with AMRI related to non-GMP synthesis of a demonstration batch of our pro-drug of THC. In August 2019, our manufacturing agreement with AMRI for THCVHS that was executed in July 2018 was replaced by the agreement with Noramco discussed below.

- On August 7, 2019, we entered into a first amendment to its agreement with Noramco to manufacture THCVHS (the "Noramco Agreement", as amended from time to time). CBDVHS was being manufactured pursuant to the Noramco Agreement prior to the amendment. We paid $257,800 upfront to add the manufacture of THCVHS to the Noramco Agreement and additional payments will be made upon Noramco's shipping of the GMP active pharmaceutical ingredient to us. All other material terms of the Noramco Agreement remain the same.

- In January 2019, we engaged RRD International, LLC ("RRD") to provide strategic ophthalmic 505(b)(2) regulatory planning, prepare a Pre-IND meeting briefing book, and schedule and represent us at the Pre-IND meeting with the FDA. In May 2019, we executed a change order to extend our work with RRD as we continue to progress toward our Pre-IND meeting. In August 2019, we executed an additional work order with RRD to assist us in preparing an investigator's brochure to support the Clinical Trial.

- UM completed experiments showing that NB1111 was statistically superior in lowering intraocular pressure ("IOP") compared to the prostaglandin-based therapy, latanoprost, the current standard-of-care for treating glaucoma. Significance was reached across multiple timepoints during a seven-day course of dosing using a validated rabbit normotensive ocular model and NB1111 exerted pharmacologic activity consistent with twice-daily dosing.

- Glauconix Biosciences Inc. (“Glauconix”) completed their pilot study to research the mechanism of action and IOP-lowering ability of THC when administered into an *ex vivo* model of a 3D-human trabecular meshwork using both healthy and glaucomatous-derived tissues. The Glauconix study validated the mechanism of action of NB1111 in lowering IOP, a defining disease process of hypertensive glaucoma. Additionally, biomarkers associated with inflammation and fibrosis in both normal and tissues affected by glaucoma were significantly decreased, pointing to anti-inflammatory and anti-fibrotic activities that are often associated with the cannabinoid class of molecules in other disease-states. Additionally, data revealed that biomarkers associated with neovascularization, a disease process of new blood vessel formation that can damage the retina in a variety of ocular diseases, was also inhibited by THC, prompting further study for the utility of this drug in diseases of the retina.

- In January 2019, we executed an agreement with Pharmaceuticals International, Inc. (“PII”) to conduct studies to determine options for producing a sterile dosage form which can be dosed in humans in a clinical study. PII will conduct appropriate formulation studies to determine storage and processing options. Pursuant to the terms of the agreement, we paid $72,500 to initiate the project. After the initial evaluation, we have agreed to pay additional fees and expenses upon completion of certain milestones.

NB2222

NB2222 is the ocular formulation of our proprietary CBD analog. We have embarked on studies with UM exploring the utility of our drug candidate NB2222 as an eye drop nanoemulsion for the potential treatment and management of several eye diseases, including but not limited to, uveitis, dry eye syndrome, macular degeneration and diabetic retinopathy.

In July 2019, we engaged Glauconix to conduct research as to whether CBD or CBDVHS is associated with an increase in IOP and, if so, what the potential mechanism of action would be by exposing the 3D-human trabecular meshwork tissue constructs to these molecules. The Company paid $69,000 upfront and expects to pay Glauconix an additional $60,000 upon the completion of this study.

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Additionally, in the second quarter of 2019, UM also completed pre-clinical experiments showing that NB2222 exhibited an ability to penetrate multiple chambers of the eye and reach the optic nerve. These findings support the therapeutic potential to provide ocular neuroprotection of retinal ganglion cells, an important goal in treating diseases which lead to vision loss. The data were published in the peer-reviewed Journal of Ocular Pharmacology and Therapeutics in a paper titled, "Analog Derivatization of Cannabidiol for Improved Ocular Permeation" (2019; volume 35 (5): 1-10).

In February 2019, we entered into the Noramco Agreement to provide manufacturing and product development services for our analog formulation of CBD. The Company paid $146,386 upfront and additional payments will be made upon Noramco's shipping of the active pharmaceutical ingredient to us.

NB3111

NB3111 is a proprietary cannabinoid cocktail currently undergoing testing as an anti-infective agent against multiple strains of antibiotic resistant bacteria, particularly methicillin-resistant Staphylococcus aureus ("MRSA"). These studies look to examine the utility of cannabinoid-based therapies against a variety of MRSA strains and other gram-positive bacterial infections. We plan to continue to present data from these studies at an upcoming peer-reviewed scientific meeting focused on infectious diseases.

Other Development Programs

The Company plans to continue to work with UM to explore other potential indications and associated routes of administration to expand the UM5050 and UM 8930 licenses. The Company's decision to advance a potential therapeutic candidate will be influenced by a number of criteria, including but not limited to, pre-clinical data, synthesis and formulation capability as well as prevailing market conditions.

In July 2019, the Company engaged StemoniX to evaluate CBD and CBDVHS (and possibly additional CBD-derivatives) in a human in vitro neural model with an application to epilepsy. The series of experiments are designed to provide insight into how these cannabinoids stabilize neuronal cells.

Critical Accounting Policy and Estimates.

Our Management's Discussion and Analysis of Financial Condition and Results of Operations section discusses our financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of income and expenses during the reporting period. On an on-going basis, management evaluates its estimates and judgments, including those related to accrued expenses, financing operations, and contingencies and litigation. Management bases its estimates and judgments on historical experience and on various other factors that are believed to be 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. The most significant accounting estimates inherent in the preparation of our financial statements include estimates as to the appropriate carrying value of certain assets and liabilities which are not readily apparent from other sources. We consider certain accounting policies related to fair value measurements, convertible instruments, warrants issued in connection with financings, stock-based compensation expense, and earnings per share to be critical accounting policies that require the use of significant judgments and estimates relating to matters that are inherently uncertain and may result in materially different results under different assumptions and conditions.

Management assessed the critical accounting policies as disclosed in our Annual Report on Form 10-K for the year ended December 31, 2018 and determined that there were no changes to our critical accounting policies and estimates during the three and nine months ended September 30, 2019.

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Recently Issued and Adopted Accounting Pronouncements

See Note 2 to the accompanying condensed consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q for information on recently issued accounting pronouncements and recently adopted accounting pronouncements. While we expect certain recently adopted accounting pronouncements to impact our estimates in future periods, the impact upon adoption was not significant to our current estimates and operations.

Results of Operations

For the three months ended September 30, 2019 and 2018

Revenues. To date, we have not generated any revenues, and do not expect to generate any revenue from the sale of products in the near future.

Operating expenses. For the three months ended September 30, 2019, our total operating expenses were $1,503,114 as compared to $1,045,620 for the three months ended September 30, 2018. The increase in operating expenses was due to the items noted below:

Research and development. Research and development expenses for the three months ended September 30, 2019 were $513,004, which consisted of expenses including salaries and benefits and consulting fees for the staff involved in our preclinical and clinical drug development activities, contract

research and development fees paid to Glauconix, StemoniX and Bioscience Laboratories, regulatory consulting fees paid to RRD, fees related to contract manufacturing paid to Noramco, fees related to contract formulation work paid to PII and fees paid to Novotech and Agilex in preparation of the Clinical Trial expected to launch in the second half of 2020. Research and development expenses for the three months ended September 30, 2018 were $67,291, which consisted of the annual license maintenance fee for UM5050 related to ocular delivery, contract research and development fees with UM, and fees related to our contract with AMRI to manufacture our prodrug of THC.

General and administrative. General and administrative expenses for the three months ended September 30, 2019 were $990,110, which primarily consisted of salaries, stock compensation expense, general legal and patent related fees, consulting fees and professional fees related to the Company's capital raising efforts and regulatory filings. By comparison, general and administrative expenses for the three months ended September 30, 2018 were $978,329, which primarily consisted of the same components. General and administrative expenses remained relatively constant period over period.

Other expense (income). For the three months ended September 30, 2019, the Company had other expense of $3,428,011 related primarily to the increase in the fair value of our derivative liabilities by $3,126,464 which was driven by the increase in our stock price. We also realized additional interest expense for the three months ended September 30, 2019 as compared to the three months ended September 30, 2018 due to the amortization of the debt discount and interest payments associated with the outstanding balance under the Credit Agreement which was entered during the fourth quarter of 2018.

For the three months ended September 30, 2018, the Company had other expense of $1,050,729 which consisted of the change in fair value of derivative liabilities driven by an increase in our stock during that period.

Net loss and comprehensive loss. For the three months ended September 30, 2019, we had net loss of $4,931,125 as compared to a net loss of $2,096,349 for the three months ended September 30, 2018. The change was primarily attributable to increases in research and development expenses and other expenses. We expect to incur net losses for the foreseeable future.

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For the nine months ended September 30, 2019 and 2018

Revenues. To date, we have not generated any revenues, and do not expect to generate any revenue from the sale of products in the near future.

Operating expenses. For the nine months ended September 30, 2019, our total operating expenses were $4,789,068 as compared to $3,377,171 for the nine months ended September 30, 2018. The increase in operating expenses was due to the items noted below:

Research and development. Research and development expenses for the nine months ended September 30, 2019 were $1,522,031, which consisted of the upfront payments for the all fields of use licenses for UM 5050 and UM 8930, the annual license maintenance fee for UM 5070, salaries and benefits and consulting fees for the staff involved in our preclinical and clinical drug development activities, contract research and development fees paid to UM, Glauconix, StemoniX and Bioscience Laboratories, regulatory consulting fees paid to RRD, fees related to contract manufacturing paid to AMRI, Noramco and ElSohly Laboratories, fees related to contract formulation work paid to PII and fees paid to Novotech and Agilex in preparation of the Clinical Trial expected to launch in the second half of 2020.

Research and development expenses for the nine months ended September 30, 2018 were $92,291 which consisted of the annual license maintenance fees for UM5050 related to ocular delivery and for UM 5070, contract research and development fees with UM, and fees related to our contract with AMRI to manufacture our prodrug of THC.

For the nine months ended September 30, 2019, research and development expenses increased by $1,429,740, as compared to the nine months ended September 30, 2018. The increase is primarily due to upfront payments for the all fields of use licenses for UM 5050 and UM 8930, contract manufacturing expenses, contract formulation expenses, regulatory fees, salaries and benefits and consulting fees for the staff involved in our preclinical and clinical drug development activities and contract research and development expenses, as the procurement of the Credit Agreement has allowed us to

continue to focus on ramping up our research and development efforts.

General and administrative. General and administrative expenses for the nine months ended September 30, 2019 were $3,267,037, which primarily consisted of salaries, stock compensation expense, general legal and patent related fees, consulting fees and professional fees related to the Company's capital raising efforts and regulatory filings. By comparison, general and administrative expenses for the nine months ended September 30, 2018 were $3,284,880, which primarily consisted of the same components. General and administrative expenses remained relatively constant period over period.

Other expense (income). For the nine months ended September 30, 2019, the Company had other income of $990,441 related primarily to the decrease in fair value of our derivative liabilities which was driven by the decrease in our stock price. In addition, we initiated drawdowns under the Credit Agreement which required us to bifurcate compound embedded derivatives and record an additional charge for the fair value of such instruments in excess of proceeds. We also realized additional interest expense for the nine months ended September 30, 2019 as compared to the nine months ended September 30, 2018 due to the amortization of the debt discount and interest payments associated with the outstanding balance under the Credit Agreement which was entered during the fourth quarter of 2018.

For the nine months ended September 30, 2018, the Company had other expense of $9,593,329 which consisted of the following primary components:

- $1,653,477 represented a net increase in fair value of our derivative liabilities for the nine-month period ended September 30, 2018.
- $7,174,634 represented a loss from the excess of the fair value of the warrants on the date of issuance over the proceeds received in the Emerald Financing transaction.
- We recognized $590,392 and $34,608 from a loss on extinguishment and amortization of the discount, respectively, related to the Convertible debt – related party
- $137,192 in financing costs related to the Emerald Financing transaction.

Net loss and comprehensive loss. For the nine months ended September 30, 2019, we had net loss of $3,800,227 as compared to a net loss of $12,972,142 for the nine months ended September 30, 2018. The decrease in the net loss was primarily attributable to an increase in other income which was offset by an increase in research and development expenses. We expect to incur net losses for the foreseeable future.

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Liquidity and Capital Resources.

We have incurred operating losses and negative cash flows from operations since our inception and as of September 30, 2019, had an accumulated deficit of $37,025,334, a stockholders' deficit of $16,402,461 and a working capital deficit of $12,540,955. We anticipate that we will continue to incur net losses into the foreseeable future in order to advance and develop several potential drug candidates into preclinical and clinical development activities and support our corporate infrastructure, which includes the costs associated with being a public company. We had cash of $1,319,360 as of September 30, 2019, as compared to $1,853,373 as of December 31, 2018. During the nine months ended September 30, 2019, we received net cash proceeds of $3,990,699 from the Credit Agreement with Emerald Health Sciences. The cash balance as of September 30, 2019, including the cash balance as of December 31, 2018 and the net cash proceeds from the Credit Agreement, has been offset by cash used in operating activities of $4,524,712 for the nine months ended September 30, 2019. We had operating cash outflows primarily due to the net loss from operations and a non-cash adjustment to add back the gain from the change in the fair value of derivative liabilities to our net loss. Without additional funding, management believes that we will not have enough funds to meet our obligations beyond one year after the date the Condensed Consolidated Financial Statements are issued. These conditions give rise to substantial doubt as to our ability to continue as a going concern.

On October 5, 2018, we secured a Credit Agreement with Emerald Health Sciences, providing for a credit facility of up to $20,000,000 to the Company. Under the Credit Agreement, we can draw up to $20,000,000 in advances from Emerald Health Sciences from time to time, each in a principal amount of at least $250,000. The advances are subject to approval by our Board, which is controlled by the directors and principal executive officer of Emerald Health Sciences. As of September 30, 2019, we have effected three drawdowns under the Credit Agreement, each in the amount of $2,000,000, for an aggregate principal amount of $6,000,000 in advances, and have issued to Emerald Health Sciences warrants to purchase an aggregate of 7,500,000 shares of common stock at an exercise price of $0.50 per share.

We filed a registration statement on Form S-1/A on October 23, 2019, which has been declared effective as of October 28, 2019. Subject to market conditions, we expect to commence the sale of securities under the Form S-1 as soon as practicable. The specific terms of the offering under the registration statement, if it occurs, will be established at the time of such offering. We cannot assure you that this offering will result in our raising additional capital on terms favorable to us or at all.

We intend to continue working toward identifying and obtaining new sources of financing. No assurances can be given that we will be successful in obtaining additional financing in the future. Any future financing that we may obtain may cause significant dilution to existing stockholders. Any debt financing or other financing of securities senior to common stock that we can obtain will likely include financial and other covenants that will restrict our flexibility. Any failure to comply with these covenants would have a negative impact on our business, prospects, financial condition, results of operations and cash flows.

If adequate funds are not available, we may be required to delay, scale back or eliminate portions of our operations, cease operations or obtain funds through arrangements with strategic partners or others that may require us to relinquish rights to certain of our assets. Accordingly, the inability to obtain such financing could result in a significant loss of ownership and/or control of our assets and could also adversely affect our ability to fund our continued operations and our expansion efforts.

During the next 12 months, we expect to incur significant research and development expenses with respect to our products. The majority of our research and development activity is focused on development of potential drug candidates and preclinical trials.

We also expect to incur significant legal and accounting costs in connection with being a public company. We expect those fees will be significant and will continue to impact our liquidity. Those fees will be higher as our business volume and activity increases.

We also anticipate that we will need to hire additional employees or independent contractors as the Company prepares to enter clinical studies.

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Going Concern

Our independent registered public accounting firm has issued a report on our audited financial statements for the fiscal year ended December 31, 2018 that included an explanatory paragraph referring to our recurring operating losses and expressing substantial doubt in our ability to continue as a going concern. Our condensed consolidated financial statements have been prepared on a going concern basis, which assumes the realization of assets and settlement of liabilities in the normal course of business. Our ability to continue as a going concern is dependent upon our ability to generate profitable operations in the future and/or to obtain the necessary financing to meet our obligations and repay our liabilities arising from normal business operations when they become due. The outcome of these matters cannot be predicted with any certainty at this time and raise substantial doubt that we will be able to continue as a going concern. Our condensed consolidated financial statements do not include any adjustments to the amount and classification of assets and liabilities that may be necessary should we be unable to continue as a going concern.

Off-Balance Sheet Arrangements

There are no off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that is material to investors.

Item 3. Quantitative and Qualitative Disclosures about Market Risk.

Not applicable.

Item 4. Controls and Procedures.

Evaluation of disclosure controls and procedures. We maintain controls and procedures that are designed to ensure that information required to be disclosed in the reports that we file or submit under the Securities Exchange Act of 1934 is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our principal executive and principal financial officers, as appropriate, to allow timely decisions regarding required disclosures. In designing and evaluating the disclosure controls and procedures, management recognizes that any control and procedures, no matter how well designed and operated, can only provide reasonable assurance of achieving the desired control objectives, and in reaching a reasonable level of assurance, management necessarily is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

We conducted an evaluation, under the supervision and with the participation of our principal executive and financial officers, of the effectiveness of the design and operation of our disclosure controls and procedures as of September 30, 2019. Based upon their evaluation and subject to the foregoing, the principal executive and financial officers have concluded that, as of the end of the period covered by this report, the disclosure controls and procedures were effective at a reasonable assurance level.

Changes in internal controls. Management determined there were no changes in our internal control over financial reporting that occurred during the fiscal quarter covered by this report that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

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PART II - OTHER INFORMATION

Item 1. Legal Proceeding

There have been no other material developments with respect to previously reported legal proceedings discussed in our Annual Report on Form 10-K for the year ended December 31, 2018.

Item 1A. Risk Factors.

Investing in our common stock involves a high degree of risk. Our Annual Report on Form 10-K for the year ended December 31, 2018 includes a detailed discussion of our risk factors under the heading "Part I, Item 1A-Risk Factors." Except for the additional risk factors below, there are no changes from the risk factors previously disclosed in our Annual Report on Form 10-K. You should carefully consider the risk factors discussed in our Annual Report on Form 10-K and in this report, as well as the other information in this report before deciding whether to invest in shares of our common stock. The occurrence of any of the risks discussed in the Annual Report on Form 10-K and in this report could harm our business, financial condition, results of operations or growth prospects. In that case, the trading price of our common stock could decline, and you may lose all or part of your investment.

We conduct clinical trials for certain of our product candidates at sites outside the United States, and the FDA may not accept data from trials conducted in such locations.

We conduct one or more of our clinical trials outside the United States. Although the FDA may accept data from clinical trials conducted outside the United States, acceptance of this data is subject to certain conditions imposed by the FDA. For example, the clinical trial must be well designed and conducted and performed by qualified investigators in accordance with ethical principles. The trial population must also adequately represent the U.S. population, and the data must be applicable to the U.S. population and U.S. medical practice in ways that the FDA deems clinically meaningful. Generally, the patient population for any clinical trials conducted outside of the United States must be representative of the population for whom we intend to seek approval in the United States. In addition, while these clinical trials are subject to the applicable local laws, FDA acceptance of the data will be dependent upon its determination that the trials also complied with all applicable U.S. laws and regulations. There can be no assurance that the FDA will accept data from trials conducted outside of the United States. If the FDA does not accept the data from any of our clinical trials that we conduct outside the United States, it would likely result in the need for additional trials, which would be costly and time-consuming and delay or permanently halt our development of the product candidate.

In addition, the conduct of clinical trials outside the United States could have a significant impact on us. Risks inherent in conducting international clinical trials include:

- foreign regulatory requirements that could restrict or limit our ability to conduct our clinical trials;
- administrative burdens of conducting clinical trials under multiple foreign regulatory schema;
- foreign exchange fluctuations; and
- diminished protection of intellectual property in some countries.

We conduct certain research and development operations through our Australian wholly-owned subsidiary. If we lose our ability to operate in Australia, or if our subsidiary is unable to receive the research and development tax credit allowed by Australian regulations, our business and results of operations could suffer.

In August 2019, we formed a wholly-owned Australian subsidiary, EMBI Australia, to conduct various clinical activities for our product candidates in Australia. Due to the geographical distance and lack of employees currently in Australia, as well as our lack of experience operating in Australia, we may not be able to efficiently or successfully monitor, develop and commercialize our lead product candidate in Australia, including conducting clinical trials. Furthermore, we have no assurance that the results of any clinical trials that we conduct for our product candidates in Australia will be accepted by the FDA or foreign regulatory authorities for development and commercialization approvals.

In addition, current Australian tax regulations provide for a refundable R&D tax credit equal to 43.5% of qualified expenditures. If our subsidiary loses its ability to operate in Australia, or if we are ineligible or unable to receive the R&D tax credit, or the Australian government significantly reduces or eliminates the tax incentive program, our business and results of operation may be adversely affected.

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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.

10.1*	First Amendment to Master Development and Clinical Supply Agreement, dated as of August 7, 2019, by and between the Company and Noramco, Inc. (1)
10.2*	Start-Up Agreement, dated as of August 23, 2019, by and between the Company and Novotech (2)
10.3	Master Services Agreement, dated as of September 20, 2019, by and between EMBI Australia and Novotech (Australia) Pty Limited
31.1	Certification of Principal Executive Officer, pursuant to Rule 13a-14 and 15d-14 of the Securities Exchange Act of 1934
31.2	Certification of Principal Financial Officer, pursuant to Rule 13a-14 and 15d-14 of the Securities Exchange Act of 1934
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	Instance Document
101.sch	XBRL Taxonomy Schema Document
101.cal	XBRL Taxonomy Calculation Linkbase Document
101.def	XBRL Taxonomy Definition Linkbase Document
101.lab	XBRL Taxonomy Label Linkbase Document
101.pre	XBRL Taxonomy Presentation Linkbase Document

(1) Included as exhibit to our Current Report on Form 8-K filed on August 8, 2019.

(2) Included as exhibit to our Current Report on Form 8-K filed on August 27, 2019.
+ Furnished herewith and not "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.

* Certain confidential portions of this Exhibit were omitted by means of marking such portions with brackets ("[****]") because the identified confidential portions (i) are not material and (ii) would be competitively harmful if publicly disclosed.

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SIGNATURES

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

Emerald Bioscience, Inc.,
a Nevada corporation

November 13, 2019

By: */s/ Brian Murphy*
Brian Murphy
Its: Chief Executive Officer
(Principal Executive Officer)

November 13, 2019

By: */s/ Doug Cesario*
Doug Cesario
Its: Chief Financial Officer
(Principal Financial and Accounting Officer)

NOVOTECH
The Asia Pacific CRO

Master Services Agreement

Date: September 20, 2019

Parties

1. **Novotech (Australia) Pty Limited** ACN 071 874 881 of Level 3, 235 Pyrmont Street, Pyrmont, NSW 2009, Australia (**Novotech**)

2 . **EMBI Australia Pty Ltd** ACN 635 424 047, a company incorporated in Victoria, Australia, having its principal place of business at 58 Gipps Street, Collingwood, 3066 Vic, Australia, (**Sponsor**)

Background

A Novotech is a clinical research organization engaged in the business of providing clinical management, data management, biostatistical, medical monitoring, quality assurance, regulatory, site management organisation, central laboratory and other related services to support clinical trials.

B Sponsor is an organization engaged in the business of developing pharmaceutical, biotechnology, and/or device products for human therapeutic use.

C Sponsor would like to retain the services of Novotech from time to time to perform clinical research and related services in connection with certain clinical research projects Sponsor is conducting as set out in a project agreement pursuant to the terms of this Agreement.

D Novotech is willing to provide services to Sponsor in accordance with the terms and conditions of this Agreement.

The Parties hereby agree as follows:

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1 Defined terms and interpretation

Defined terms

1.1 In this Agreement, any capitalised terms that are not defined have the meaning given to them below:

Affiliate means any entity under common control, controlled by or which controls a Party. Control of an entity includes the power to directly:

(a) determine the financial or operating policies of the entity;

(b) control the membership of the board or other governing body of the entity; or

(c) control the casting of more than one half of the maximum number of votes that may be cast at a general meeting of the entity,

Claim means an allegation, debt, cause of action, liability, claim, proceeding, suit or demand of any nature however arising, whether present or future, fixed or not, actual or contingent.

Confidential Information means all confidential or proprietary information whether in visual, documentary, oral or electronic form which includes systems, process and procedures, in respect of the Discloser, made available to the Recipient (whether disclosed orally or disclosed or accessed in written, electronic or other form or media, and whether or not marked, designated or otherwise identified as "confidential"), unless expressly agreed in writing not to be confidential.

Discloser means the party disclosing Confidential Information.

Dispute means any dispute, controversy, difference or claim between the Parties about this Agreement or any matter arising out of this Agreement but does not include any matter entitling a party to seek interlocutory relief.

FDA means the U.S. Food and Drug Administration.

ICH GCP Guidelines means the International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use Guideline for Good Clinical Practice E6.

Intellectual Property means data, software, designs, utilities, tools, models, systems and other methodologies and know-how.

Intellectual Property Rights includes current or future rights to Intellectual Property, inventions, process improvements and knowledge developed as a result of performing the Services.

Loss means costs, claims, liabilities, damage, demands, actions and expenses (including reasonable legal expenses).

Personal Information means information which identifies an individual or from which an individual can be identified.

Project Agreement means the written agreement between the Parties which sets out with specificity the Services to be performed, the timeline for the performance of the Services, the fees for the Services, the schedule of payments for the performance of the Services and any other matters relevant to the Services and which is specifically incorporated by reference into this Agreement.

Protocol means the protocol associated with the Study as described in a Project Agreement.

Recipient means the party receiving Confidential Information.

Records means hard copy and electronic data provided to, received or created by Novotech during the course of providing the Services.

Representatives means the directors, officers, executives, employees and contractors of a Party or its Affiliated entities, and any other person acting on behalf of a Party.

Services means the clinical research or other related services provided by Novotech as described in a Project Agreement.

Study means a clinical trial or clinical research conducted by the Sponsor.

Study Drug means the medicine or device provided by the Sponsor pursuant to the Protocol and which is being tested or trialled during the Study.

Interpretation

1.2 In this Agreement, unless the context requires otherwise:

(a) the singular includes the plural and vice versa;

(b) the “Background” section set forth in the preamble of this Agreement forms part of this Agreement;

(c) a reference to a Party includes its executors, administrators, successors, substitutes (including persons taking by novation) and permitted assigns; and

(d) no rule of construction applies to the disadvantage of a Party because that Party was responsible for the preparation of this Agreement or any part of it.

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2 Services

2.1 Sponsor hereby engages Novotech and Novotech agrees to perform the Services as set out in a Project Agreement agreed and executed by both Parties from time to time.

2.2 Novotech will perform the Services with professional care and skill and in accordance with:

(a) the terms of this Agreement;

(b) the terms of a Project Agreement;

(c) (in relation to a Project Agreement), the Protocol, agreed Standard Operating Procedures and any responsibilities allocated to Novotech for the Transfer of Sponsor Obligations (as required by FDA regulations 21 CFR 312.52); and

(d) relevant professional standards and all applicable laws, rules and regulations, including, but not limited to, ICH GCP Guidelines, FDA regulations and guidance.

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3 Project Agreements

3.1 Separate Project Agreements will be prepared and agreed between the Parties for each Study and will be subject to the terms of this Agreement. Novotech will not commence providing the Services without a Project Agreement executed by authorized representatives of both Parties.

3.2 The performance of obligations under any one Project Agreement will not affect, and will at all times be unrelated to, the performance of any other Project Agreement entered under this Agreement except that breach of an obligation under any one Project Agreement will be treated as a breach of this Agreement.

3.3 In the event of a conflict between the terms of this Agreement and a Project Agreement, the terms of this Agreement will govern except to the extent that the applicable Project Agreement expressly and specifically states an intent to supersede this Agreement on a specific matter as it relates to such Project Agreement.

3.4 Novotech will only perform any additional services not specified in a Project Agreement upon execution by both Parties of a change order. If Sponsor submits a change request to Novotech, Novotech shall review such change request, and within seven (7) business days of receipt of such request, provide Sponsor with information regarding the impact of the applicable change on the implementation of the Services, and any applicable fee adjustments. Sponsor shall have the right to review such information and determine in its discretion whether to proceed with the applicable change, which shall not be implemented by Novotech unless the parties enter into a change order as required pursuant to this Section 3.4.

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4 Term

Agreement

4.1 This Agreement commences on the date the last Party signs the Agreement and will end five (5) years from that date unless terminated earlier in accordance with this Agreement. The Parties may mutually agree in writing to extend the term of this Agreement.

Project Agreement

4.2 The term of any Project Agreement commences on the date the last Party signs the Project Agreement and ends when the Services have been completed and all invoices have been paid by the Sponsor (unless terminated earlier in accordance with this Agreement).

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5 Sponsor Obligations

5.1 Sponsor will do all things reasonably necessary to ensure that Novotech may provide the Services, as specifically set forth in each applicable Project Agreement.

5.2 In relation to a Project Agreement, solely to the extent applicable to the Services provided pursuant to the applicable Project Agreement, the Sponsor agrees to:

(a) comply with ICH GCP Guidelines, FDA regulations and guidance, the Protocol, all Standard Operating Procedures as agreed between the Parties and any other applicable documents agreed by the Parties which are applicable to Sponsor in connection with the Services (such as Study Plans etc).

(b) provide the Study Drug necessary for the performance of the Services;

(c) provide all clinical, pharmacology and toxicology information and advice required for the proper planning and performance of the Services including, but not limited to, any information on serious adverse drug experience;

(d) any other reasonable assistance or information as requested from time to time.

5.3 The Sponsor acknowledges and agrees that, in relation to a Project Agreement, Novotech relies on the following representations by the Sponsor, and the Sponsor represents and warrants that on and as of the date of a Project Agreement, to the best knowledge of the Sponsor:

(a) the Study Drug is of satisfactory quality and fit for the purposes of the Study; and

(b) any clinical, pharmacology and toxicology information and advice provided is accurate, complete and fit for the purposes of Novotech providing the Services.

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6 Personnel and Subcontracting

Personnel

6.1 Novotech will allocate sufficient professionally trained clinical research personnel to provide the Services in accordance with the Project Agreement(s).

6.2 The Services will be performed under the direction of a Novotech project manager and/or project director (if applicable).

Subcontracting

6.3 Novotech may at its discretion use its Affiliates or a third party to assist it provide the Services; provided, that, Novotech shall obtain Sponsor's prior written consent prior to engaging any such Affiliate or third party to provide such assistance. Novotech will procure its Affiliates or any third party to be subject to the key terms agreed by the Parties. Novotech will be responsible to the Sponsor, and remain liable, for the acts or omissions of its Affiliates or a third party in the performance of the Services.

Third Party Involvement

6.4 If the Services include or require Novotech to act on behalf of the Sponsor including but not limited to submitting regulatory applications or entering into agreements with third parties such as laboratory services, labelling services, sites or investigators (Third Party Agreement), if Sponsor requests that Novotech acts on its behalf in such capacity, Sponsor expressly authorises Novotech to act on its behalf, enter into and execute Third Party Agreements and take any and all other actions reasonably required and related to performance of the Third Party Agreement. If required by the Sponsor, the form of the Third Party Agreement (including all associated costs) will be agreed between Novotech and the Sponsor prior to Novotech entering into the Third Party Agreement.

Debarment

6.5 Novotech will not knowingly use in the performance of the Services any person or entity that has been debarred by the FDA pursuant to 21 U.S.C. §335a, *et seq.* or under an equivalent provision of any country where the Services are provided. If, during the term of a Project Agreement, Novotech becomes aware of the debarment or threatened debarment of Novotech or of any person or entity retained by it then Novotech will notify the Sponsor as soon as practicable.

Non-solicitation

6.6 During the term of this Agreement and for a period of one (1) year thereafter, each Party agrees not to solicit for hiring any of the other Party's employees that is directly involved in the performance of Services. The Parties expressly agree that a hiring that results from an employee response to a job posting or similar classified advertisement shall not constitute a "solicitation".

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7 Information

Confidential Information

7.1 Sponsor and Novotech executed a confidentiality agreement dated July 8, 2019 (Confidentiality Agreement).

7.2 The Parties agree that all Confidential Information disclosed during the term of this Agreement will be subject to the confidentiality obligations in, and governed by the terms of the Confidentiality Agreement.

Personal Information

7.3 The Parties acknowledge and agree that information collected in respect of a Study may include Personal Information and sensitive Personal Information which is subject to specific legislation relating to the processing, storage, transfer and use of such data.

7.4 For the purposes of this clause:

(a) Novotech will comply with all applicable laws and regulations relating to the protection and use of Personal Information and data privacy in its conduct and reporting of the Study;

(b) Novotech will take all reasonable technical and organisational measures to prevent unauthorised or unlawful processing, accidental loss, destruction of, damage to, or disclosure of such information; and

(c) the Sponsor shall take appropriate measures to protect the confidentiality and security of all Personal Information that it receives from Novotech in respect of the Study and comply with all applicable laws and regulations relating to the protection and use of Personal Information and data privacy.

Publicity

7.5 The Parties agree not to release any statement, information, advertisement, or publicity referring to the other without their express written approval in each instance.

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8 Intellectual Property

8.1 Novotech agrees that Intellectual Property created by Novotech directly related to or arising from the performance of Services (excluding any proprietary information owned by Novotech) will be solely and exclusively owned by Sponsor and constitute Sponsor's Intellectual Property Rights. To the extent any rights in such Intellectual Property are deemed to vest in Novotech, by operation of law or otherwise, Novotech shall irrevocably assign, and hereby irrevocably assigns to Sponsor in perpetuity, all right, title and interest in and to such Intellectual Property.

8.2 Sponsor agrees that any Intellectual Property created by Novotech which further develops Novotech's clinical trial methodologies, technologies and processes that were in existence as of the Effective Date will be Novotech's Intellectual Property Rights.

8.3 Each Party grants the other a licence to use their Intellectual Property Rights solely during the term of this Agreement to the extent necessary to obtain the benefit of the Services.

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9 Records

9.1 During the term of this Agreement, Novotech will securely maintain all Records in its possession.

9.2 Upon termination of this Agreement, the Sponsor may provide reasonable written directions to Novotech to deliver up or destroy all Records in its possession and Novotech will comply with such directions.

9.3 Notwithstanding any other clause in this Agreement, Novotech may retain one copy of the Records for archival purposes which will be held subject to its obligations of confidentiality under the terms of this Agreement.

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10 Services Audits and Inspections

10.1 Novotech agrees that during the term of this Agreement, upon 30 days' notice, the Sponsor may request and Novotech will provide:

(a) access to sites and facilities where Services are being performed (during usual business hours);

(b) access to information about the Services in the possession of Novotech,

for a maximum period of three (3) business days (unless extended by written agreement of the Parties) so that the Sponsor may conduct an audit of the services that Novotech provides, its systems, processes and methodologies and/or the Services (Services Audit).

10.2 Novotech agrees that it will:

(a) promptly notify Sponsor of any proposed regulatory inspection (Inspection) relating to the Services;

(b) where possible, allow Sponsor's Representatives to be present during any Inspection and provide Sponsor with a copy of any Inspection report; and

(c) take any reasonable steps requested by Sponsor to cure any deficiencies of Novotech's processes identified in an Inspection.

11 Insurance

11.1 During the term of this Agreement, the Parties will maintain appropriate professional indemnity and any other insurance policies sufficient to apply to any liability that may arise out of or in connection with this Agreement and any Project Agreement.

11.2 Each Party will provide certificates of currency upon request.

11.3 In the event that Novotech is required to be a named insured on the Sponsor's clinical trial insurance policy for the purposes of a Study, the Sponsor agrees that Novotech may be a named insured for that purpose and agrees to add Novotech as a named insured.

12 Liability and Indemnities

12.1 Each Party agrees to indemnify (Indemnifying Party) the other Party, its Affiliates and Representatives (Indemnified Party) in respect of any Claim or Loss suffered or incurred by any of them arising out of or in connection with the Services except to the extent that the circumstances giving rise to a Claim or Loss are directly caused by the acts or omissions or breach of this Agreement or any Project Agreement by the Indemnified Party.

Study Indemnities

12.2 Sponsor agrees to indemnify and hold harmless Novotech from and against all Claims and Losses arising out of or in any way related or incidental to Novotech providing an indemnity to any site, investigator or ethics committee against claims arising from the Study on the terms and conditions of the applicable local indemnity and agrees to adhere to any local compensation guidelines for injury resulting from participating in a clinical trial.

12.3 Novotech agrees that it will not provide any indemnity referred to in clause 12.2 without the Sponsor's written approval

Consequential Loss

12.4 Despite any other provision of this Agreement, a Party will not be liable to any other Party for and in respect of all claims by a Party for consequential, indirect or special damages including but not limited to loss of profits, loss of data, or goodwill, whether or not the likelihood of such claim was contemplated.

Conditions

12.5 The Indemnified Party must:

(a) promptly notify the other party of a Claim;

(b) co-operate with the Indemnifying Party in relation to a Claim;

(c) not admit liability, take any action or enter into any settlement without the written approval of the Indemnifying Party. The Indemnified Party will not have any authority to settle any claim on behalf of the Indemnifying Party.

Limitation of liability

12.6 Despite any other provision of this Agreement, each Party's maximum liability to the other Party pursuant to or related to the Services for any breach, negligence or any breach of statutory duty (to the extent possible) will be the amount of the fees actually paid for the Services. The limitation of liability provisions in this clause do not apply to any Losses which cannot be limited by law, or to tangible property damage, personal injury, illness or death.

13 Payment

For each Project Agreement:

Professional Fees and Expenses

13.1 The Sponsor will pay Novotech's reasonable professional fees and expenses in connection with the Services as set out in the applicable Project Agreement (Professional Fees).

13.2 The Sponsor will pay any and all applicable taxes required to be imposed by local law in relation to the provision of the Services.

Pass Through Costs

13.3 The Sponsor will pay Novotech for all reasonable and required pass through costs as set out in a Project Agreement (Pass Through Costs) and any other reasonable costs that Novotech incurs as a result of providing the Services that are approved in advance by Sponsor. Novotech will advise Sponsor promptly in writing of any additional costs not set out in a Project Agreement prior to those costs being incurred.

13.4 The Sponsor agrees to pay the agreed Professional Fees and Pass Through Costs as set out in the Project Agreement. At the conclusion of the Services, Novotech will reconcile payments made by the Sponsor and will set off any amounts owing by the Sponsor for the Services rendered. Any excess part of the payments held by Novotech will be refunded to the Sponsor within 30 days of close out of the Services.

Investigator Fees

13.5 If Novotech will be paying sites and investigators on behalf of Sponsor (as set out in any clinical trial agreement pursuant to the Services), Novotech will on a quarterly basis (unless otherwise specified in the Project Agreement):

(a) provide Sponsor with an invoice reflecting an estimate of the funding required not later than 60 days prior to the start of a quarter to be paid by Sponsor within 30 days;

(b) submit a request to Sponsor with appropriate documentation as soon as practicable if additional funds are required;

(c) adjust the forecast for the following quarter if not all funds are projected to be disbursed by the end of a given quarter; and

(d) provide Sponsor with an accounting of funds disbursed to sites and investigators and return excess funds promptly upon request of Sponsor or, 30 days after completion of the Services.

13.6 Sponsor acknowledges that Novotech will not make payments to sites and/or investigators without having first received sufficient cleared funds from Sponsor.

Invoices

13.7 Upfront Payment are payable immediately on invoice Sponsor will pay all other invoices within 30 days of the date of invoice unless otherwise specified in the Project Agreement. The parties will promptly and in good faith resolve and disputed amount.

13.8 If the Professional Fees are unitised, Novotech will issue the Sponsor monthly invoices for the Professional Fees rendered during that month.

13.9 If the Professional Fees are via monthly management fees and milestones, Novotech will issue the Sponsor invoices for each monthly management fee each month and Novotech will issue milestone invoices as and when it reaches a milestone.

13.10 Novotech will issue the Sponsor monthly invoices for reasonable and customary Pass Through Costs incurred during that month in accordance with the Project Agreement and using the applicable exchange rate as at the date of invoice. Upon request, Novotech agrees promptly to provide documentation, which reasonably substantiates any amount invoiced hereunder.

13.11 If Novotech has been providing Services pursuant to an interim agreement, Novotech agrees to reconcile all payments received from the Sponsor for the Services which have not yet been provided and credit the Sponsor that amount.

Inflation

13.12 Every 12 months during the Term, all remaining Professional Fees will increase by the percentage specified in the Health Consumer Price Index reported by the Australian Bureau of Statistics. If the Professional Fees are being paid via milestones, inflation will be estimated and included in the overall Professional Fees.

Contact Details

13.13 Novotech's finance team can be contacted in relation to Payments at AccountsReceivable@novotech-cro.com.

Financial Audit

13.14 Novotech will keep and maintain complete and accurate records of the Fees and Pass Through Costs incurred in its performance of the Services.

13.15 Novotech agrees that the Sponsor may, at the Sponsor's own expense and upon reasonable notice, audit the books and financial records of Novotech relating to the Services for the sole purpose of verifying the accuracy of the amounts invoiced.

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14 Termination

Right to terminate

14.1 Sponsor may terminate this Agreement or a Project Agreement, without cause, by providing no less than 30 days' notice in writing to the other Party. Novotech may terminate this Agreement or Project Agreement, without cause, by providing no less than 90 days' notice

14.2 A Party may terminate this Agreement or a Project Agreement with immediate effect on giving written notice if the other Party:

(a) breaches a material term of this Agreement that, if such breach is capable of remedy, is not remedied within 30 days of receipt of written notice from the non-breaching Party; or

(b) is dissolved, liquidated, an administrator or receiver is appointed, becomes insolvent or is otherwise the subject of winding up proceedings.

Co-operation and payment

14.3 Upon termination of a Project Agreement, Novotech agrees to reasonably assist and cooperate with Sponsor to provide for an orderly wind down or transfer of the Services (including novate or terminate any agreements with third parties). Upon termination of a Project Agreement for any reason, Novotech shall not be entitled to receive any termination or cancellation fee unless specifically agreed to by Sponsor and Novotech in such Project Agreement. Sponsor agrees to pay Novotech for all such Services completed prior to the date of termination, and any non-cancellable costs; provided that Novotech used commercially reasonable efforts to mitigate and reduce such non-cancellable costs).

Survival

14.4 The obligations of the Parties contained in the Information, Intellectual Property, Records, Insurance and Liability and Indemnities sections will survive termination of this Agreement.

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15 Dispute Resolution

15.1 In the event that a dispute relating to the Services, this Agreement or any Project Agreement arises between the Parties, the Parties will use all reasonable efforts to resolve the dispute through discussions with nominated senior or executive officers for a period of 30 days following receipt of written notice of the dispute.

15.2 In the event that the dispute is not resolved, the Parties must submit the dispute to mediation before having recourse to any other dispute resolution process.

15.3 If the dispute is not resolved by mediation 60 days after the dispute is submitted to mediation subject to Clause 16.5, the Parties may seek any other lawful remedy available to it.

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16 General

Notices

16.1 All notices given by a Party under or in connection with this Agreement must be in writing and sent by mail (deemed delivered 3 business days after deposit at the respective postal service) or email (deemed to be received at the beginning of the next business day) to the address of the relevant party as set out below (or otherwise updated by notice):

Novotech (Australia) Pty Limited
Attention: General Counsel
Address: Level 3, 235 Pyrmont Street, Pyrmont 2009 NSW Australia
Email: legal@novotech-cro.com

EMBI Australia Pty Ltd
Attention: Leanne Groves, Company Secretary
Address: 58 Gipps Street, Collingwood, 3066 Vic, Australia
Email: leanne.groves@cosec.com.au
Relationship of Parties

16.2 Novotech provides the Services to the Sponsor as an independent contractor and not as the Sponsor's employee, agent, partner or a joint venture party. Neither party has the right, power or authority to bind the other.

Severability

16.3 If a provision of this Agreement (in whole or in part) is deemed to be illegal, invalid or otherwise unenforceable, the other provisions will remain in full force and effect and the void provision will be replaced by a valid provision, mutually agreed between the Parties.

Assignment

16.4 Neither Party may assign, transfer or otherwise deal with this Agreement or any Project Agreement or any right or obligation under this Agreement without the prior written consent of the other party, consent not to be unreasonably withheld except that:

(a) either Party may assign, mortgage, transfer or otherwise deal with any of its rights or obligations under this Agreement without the prior written consent of the other party in the event of a merger, sale or similar transaction involving all or substantially all of its assets; and

(b) either Party may assign this Agreement to an Affiliate.

Governing law and jurisdiction

16.5 This Agreement is governed by and construed in accordance with the laws of New South Wales, Australia without giving effect to the doctrine of conflict of laws. The Parties agree and irrevocably submit to the exclusive jurisdiction of the competent courts of New South Wales, Australia.

Entire agreement

16.6 This Agreement constitutes the entire agreement between the Parties in relation to its subject matter. All prior discussions, undertakings, agreements, representations, warranties and indemnities in relation to that subject matter are replaced by this Agreement and have no further effect.

Valid execution

16.7 Each of the Parties represents and warrants that it has full power and authority to execute this Agreement and that this Agreement has been duly executed by it.

16.8 Each Party agrees this Agreement is a legal and binding agreement enforceable against either Party in accordance with the terms of the Agreement.

Counterparts

16.9 This Agreement may be executed in any number of counterparts. All counterparts taken together constitute one instrument. Signatures transmitted by facsimile transmission or in read-only digital files have the same force and effect as original signatures.

Executed as an Agreement

Signed for and on behalf of **Novotech (Australia) Pty Limited** by its authorised representative:
Signature
Name (print)
Title
Date:

Signed for and behalf of **EMBI Australia Pty Ltd** by its authorised representative:
Signature
Name (print)
Title
Date:

Signature
Name (print)
Title
Date:

EXHIBIT 31.1

Certification of Principal Executive Officer,
Required By Rule 13a-14(A) of the Securities Exchange Act of 1934, As Amended,
As Adopted Pursuant To Section 302 of the Sarbanes-Oxley Act of 2002

I, Brian Murphy, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Emerald Bioscience, Inc. for the quarter ended September 30, 2019;

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;

   (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: November 13, 2019

/s/ Brian Murphy
Brian Murphy
Chief Executive Officer

EXHIBIT 31.2

Certification of Principal Financial Officer,
Required By Rule 13a-14(A) of the Securities Exchange Act of 1934, As Amended,
As Adopted Pursuant To Section 302 of the Sarbanes-Oxley Act of 2002

I, Doug Cesario, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Emerald Bioscience, Inc. for the quarter ended September 30, 2019;

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;

   (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: November 13, 2019

/s/ Doug Cesario
Doug Cesario
Chief Financial Officer

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 Emerald Bioscience, Inc. a Nevada corporation (the "Company") on Form 10-Q for the quarter ended September 30, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), Brian Murphy, Chief Executive Officer of the Company, certifies to the best of his knowledge, 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 result of operations of the Company.

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

/s/ Brian Murphy

Brian Murphy
Chief Executive Officer
November 13, 2019

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 Emerald Bioscience, Inc. a Nevada corporation (the "Company") on Form 10-Q for the quarter ended September 30, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), Doug Cesario, Chief Financial Officer of the Company, certifies to the best of her knowledge, 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 result of operations of the Company.

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

/s/ Doug Cesario

Doug Cesario
Chief Financial Officer
November 13, 2019