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

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 Or 15(d) of the
Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): February 4, 2019

GT Biopharma, Inc.

(Exact name of Registrant as specified in its charter)

Delaware

000-08092

94-1620407

(State or other Jurisdiction of
Incorporation or organization)

(Commission File Number)

(IRS Employer I.D. No.)

310 N. Westlake Blvd
Suite 206
Westlake Village, CA 91362
Phone: (800) 304-9888

(Address, including zip code, and telephone number, including area code, of
registrant's principal executive offices)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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

Emerging growth company

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

Item 1.01. Entry into a Material Definitive Agreement.

On February 4, 2019, GT Biopharma, Inc. (the “Company”) entered into a Securities Purchase Agreement (the “Purchase Agreement”) with the purchasers identified on the signature pages thereto (individually, a “Purchaser,” and collectively, the “Purchasers”), pursuant to which the Company issued to the Purchasers, on February 4, 2019, Secured Convertible Notes in an aggregate principal amount of \$1,352,224 (the “Notes”), consisting of gross proceeds of \$1,052,224 and settlement of existing debt of \$300,000, which Notes shall be convertible at any time after issuance into shares (the “Conversion Shares”) of the Company’s common stock, par value \$0.001 per share (the “Common Stock”), at a conversion price of \$0.60 per share (the “Conversion Price”).

The Notes accrue interest at the rate of 10% per annum and mature on August 2, 2019. Interest on the Notes is payable in cash or, at a Purchaser’s option, in shares of Common Stock at the Conversion Price. Upon the occurrence of an event of default, interest accrues at 18% per annum. The Notes contain customary default provisions, including provisions for potential acceleration, and covenants, including negative covenants regarding additional indebtedness and dividends. The Conversion Price is subject to adjustment due to certain events, including stock dividends and stock splits, and is subject to reduction in certain circumstances if the Company issues Common Stock or Common Stock equivalents at an effective price per share that is lower than the Conversion Price then in effect. The Company may only prepay the Notes with the prior written consent of the respective Purchasers thereof.

Contemporaneously with the execution and delivery of the Purchase Agreement, on February 4, 2019, the Company and certain of its wholly-owned subsidiaries entered into a Security Agreement (the “Security Agreement”) with Alpha Capital Anstalt, as collateral agent on behalf of the Purchasers, and with the Purchasers, pursuant to which the Purchasers have been granted a first-priority security interest in substantially all of the assets of the Company and such subsidiaries securing (i) an aggregate principal amount of \$1,352,224 of Notes and (ii) an aggregate principal amount of \$9,058,962 of the Company’s 10% Senior Convertible Debentures issued on August 2, 2018, September 7, 2018 and September 24, 2018 held by such Purchasers.

The Purchase Agreement contains customary representations, warranties and covenants, including covenants, subject to certain exceptions, that the Company, until the date on which less than 10% of the Notes are outstanding, shall not effect any Variable Rate Transaction (as defined in the Purchase Agreement) and that, for as long as a Purchaser holds any Notes or Conversion Shares, the Company shall amend the terms and conditions of the Purchase Agreement and the transactions contemplated thereby with respect to such Purchaser to give such Purchaser the benefit of any terms or conditions under which the Company agrees to issue or sell any Common Stock or Common Stock equivalents that are more favorable to an investor than the terms and conditions granted to such Purchaser under the Purchase Agreement and the transactions contemplated thereby.

In addition, the Company entered into a registration rights agreement (the “Registration Rights Agreement”) with the Purchasers, pursuant to which the Company has agreed to file, within 14 days after February 4, 2019, one or more registration statements on Form S-3 (or, if Form S-3 is not then available to the Company, such form of registration that is then available to effect a registration for resale of the subject securities) covering the resale of all Conversion Shares, subject to certain penalties set forth in the Registration Rights Agreement.

The issuance of the Notes and offer of the Conversion Shares is being made in reliance on the exemption provided by Section 4(a)(2) of the Securities Act of 1933, as amended (the “Securities Act”), for the offer and sale of securities not involving a public offering and Regulation D promulgated under the Securities Act.

The foregoing description is qualified in its entirety by reference to the full text of the form of Note, the Purchase Agreement, the Security Agreement and the Registration Rights Agreement, as applicable, a copy of each of which is filed as Exhibit 4.1, Exhibit 10.1, 10.2, 10.3 and Exhibit 10.4 hereto, respectively, and each of which is incorporated herein by reference.

Item 2.03. Creation of a Direct Financial Obligation or an Obligation under an Off-Balance Sheet Arrangement of a Registrant.

The information set forth above in Item 1.01 of this Report is incorporated by reference herein.

Item 3.02. Unregistered Sales of Equity Securities.

The information set forth above in Item 1.01 of this Report is incorporated by reference herein.

ITEM 9.01 Financial Statements and Exhibits.

(d) Exhibits

<u>Exhibit No.</u>	<u>Description</u>
4.1	Form of Secured Convertible Note, dated February 4, 2019.
10.1	Securities Purchase Agreement by and among the Company and the Purchasers, dated February 4, 2019.
10.2	Security Agreement by and among the Company, Alpha Capital Anstalt, as collateral agent, and the Purchasers, dated February 4, 2019.
10.3	Registration Rights Agreement by and among the Company and the Purchasers, dated February 4, 2019.

SIGNATURES

Pursuant to the requirement of the Securities and Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

GT Biopharma, Inc.

Dated: February 6, 2019

By: /s/ Raymond W. Urbanski
Raymond W. Urbanski
Chairman and Chief Executive Officer

NEITHER THIS SECURITY NOR THE SECURITIES INTO WHICH THIS SECURITY IS CONVERTIBLE HAVE BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS AS EVIDENCED BY A LEGAL OPINION OF COUNSEL TO THE TRANSFEROR TO SUCH EFFECT, THE SUBSTANCE OF WHICH SHALL BE REASONABLY ACCEPTABLE TO BORROWER. THIS SECURITY AND THE SECURITIES ISSUABLE UPON CONVERSION OF THIS SECURITY MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT WITH A REGISTERED BROKER-DEALER OR OTHER LOAN WITH A FINANCIAL INSTITUTION THAT IS AN "ACCREDITED INVESTOR" AS DEFINED IN RULE 501(a) UNDER THE SECURITIES ACT OR OTHER LOAN SECURED BY SUCH SECURITIES.

Original Issue Date: **February __, 2019**

Principal Amount: \$[__]

Original Conversion Price (subject to adjustment herein): \$0.60

**SECURED CONVERTIBLE NOTE
DUE AUGUST 2, 2019**

THIS CONVERTIBLE NOTE is one of a series of duly authorized and validly issued Notes of **GT BIOPHARMA, INC.**, a Delaware corporation, (the "Borrower"), having its principal place of business at 310 N. Westlake Blvd, Suite 206, Westlake Village, CA 91362, due **August 2, 2019** (this note, the "Note" and, collectively with the other notes of such series, the "Notes").

FOR VALUE RECEIVED, Borrower promises to pay to [__] or its registered assigns (the "Holder"), with an address at: [__], Fax: [__], or shall have paid pursuant to the terms hereunder, the principal sum of [__] **Dollars (\$[__])** on **August 2, 2019** (the "Maturity Date") or such earlier date as this Note is required or permitted to be repaid as provided hereunder, and to pay interest, if any, to the Holder on the aggregate unconverted and then outstanding principal amount of this Note in accordance with the provisions hereof.

The Holder of this Note has been granted a security interest in assets of Borrower.

This Note is subject to the following additional provisions:

Section 1. Definitions. For the purposes hereof, in addition to the terms defined elsewhere in this Note, (a) capitalized terms not otherwise defined herein shall have the meanings set forth in the Purchase Agreement and (b) the following terms shall have the following meanings:

"Alternate Consideration" shall have the meaning set forth in Section 5(e).

“Bankruptcy Event” means any of the following events: (a) Borrower or any Subsidiary thereof commences a case or other proceeding under any bankruptcy, reorganization, arrangement, adjustment of debt, relief of debtors, dissolution, insolvency or liquidation or similar law of any jurisdiction relating to Borrower or any Subsidiary thereof, (b) there is commenced against Borrower or any Subsidiary thereof any such case or proceeding that is not dismissed within 60 days after commencement, (c) Borrower or any Subsidiary thereof is adjudicated insolvent or bankrupt or any order of relief or other order approving any such case or proceeding is entered, (d) Borrower or any Subsidiary thereof suffers any appointment of any custodian or the like for it or any substantial part of its property that is not discharged or stayed within 60 calendar days after such appointment, (e) Borrower or any Subsidiary thereof makes a general assignment for the benefit of creditors, (f) Borrower or any Subsidiary thereof calls a meeting of its creditors with a view to arranging a composition, adjustment or restructuring of its debts or (g) Borrower or any Subsidiary thereof, by any act or failure to act, expressly indicates its consent to, approval of or acquiescence in any of the foregoing or takes any corporate or other action for the purpose of effecting any of the foregoing.

“Beneficial Ownership Limitation” shall have the meaning set forth in Section 4(d).

“Business Day” means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are required by law or other governmental action to close.

“Buy-In” shall have the meaning set forth in Section 4(c)(v).

“Change of Control Transaction” means, other than by means of conversion or exercise of the Notes and the Securities issued together with the Notes, the occurrence after the date hereof of any of (a) an acquisition after the date hereof by an individual or legal entity or “group” (as described in Rule 13d-5(b)(1) promulgated under the Exchange Act) of effective control (whether through legal or beneficial ownership of capital stock of Borrower, by contract or otherwise) of in excess of 50% of the voting securities of Borrower, (b) Borrower merges into or consolidates with any other Person, or any Person merges into or consolidates with Borrower and, after giving effect to such transaction, the stockholders of Borrower immediately prior to such transaction own less than 50% of the aggregate voting power of Borrower or the successor entity of such transaction, (c) Borrower sells or transfers all or substantially all of its assets to another Person and the stockholders of Borrower immediately prior to such transaction own less than 50% of the aggregate voting power of the acquiring entity immediately after the transaction, (d) a replacement at one time or within a three year period of more than one-half of the members of the Board of Directors which is not approved by a majority of those individuals who are members of the Board of Directors on the Original Issue Date (or by those individuals who are serving as members of the Board of Directors on any date whose nomination to the Board of Directors was approved by a majority of the members of the Board of Directors who are members on the date hereof), or (e) the execution by Borrower of an agreement to which Borrower is a party or by which it is bound, providing for any of the events set forth in clauses (a) through (d) above.

“Conversion” shall have the meaning ascribed to such term in Section 4.

“Conversion Date” shall have the meaning set forth in Section 4(a).

“Conversion Price” shall have the meaning set forth in Section 4(b).

“Conversion Shares” means, collectively, the shares of Common Stock issuable upon conversion of this Note in accordance with the terms hereof.

“Dilutive Issuance” shall have the meaning set forth in Section 5(e).

“Equity Conditions” means, during the period in question, (a) Borrower shall have duly honored all conversions scheduled to occur or occurring by virtue of one or more Notices of Conversion of the applicable Holder on or prior to the dates so requested or required, if any, (b) Borrower shall have paid all liquidated damages and other amounts owing to the applicable Holder in respect of this Note and the other Transaction Documents, (c) all of the Underlying Shares (and shares issuable in lieu of cash payments of interest) may be resold by Persons other than Affiliates of the Borrower pursuant to Rule 144 without volume or manner-of-sale restrictions or current public information requirements as confirmed by counsel to Borrower in a written opinion letter to such effect, addressed and acceptable to the Borrower’s Transfer Agent and the affected Holders, (d) the Common Stock is listed or quoted for trading on a Trading Market (and Borrower believes, in good faith, that trading of the Common Stock on a Trading Market will continue uninterrupted for the foreseeable future), (e) there is a sufficient number of authorized, but unissued and otherwise unreserved, shares of Common Stock for the issuance of all of the shares then issuable pursuant to the Transaction Documents, (f) an Event of Default has not occurred, whether or not such Event of Default has been cured, (g) there is no existing event which, with the passage of time or the giving of notice, would constitute an Event of Default, (h) the issuance of the shares in question to the applicable Holder would not exceed the Beneficial Ownership Limitation, (i) there has been no public announcement of a pending or proposed Fundamental Transaction or Change of Control Transaction that has not been consummated, (j) the applicable Holder, if not an Affiliate of the Borrower is not in possession of any information provided by Borrower that constitutes, or may constitute, material non-public information, and (k) a Public Information Failure has not occurred.

“Event of Default” shall have the meaning set forth in Section 8(a).

“Fundamental Transaction” shall have the meaning set forth in Section 5(d).

“Interest Payment Date” shall have the meaning set forth in Section 2(1).

“Majority in Interest” means, at any given time, the Holders then holding at least 51% in principal amount of the then outstanding Notes and Other Notes which must include Alpha Capital Anstalt and Bristol Investment Fund Ltd. of the component of the affected Securities then outstanding.

“Mandatory Default Amount” means the sum of (a) the greater of (i) the outstanding principal amount of this Note divided by the Conversion Price on the date the Mandatory Default Amount is either (A) demanded (if demand or notice is required to create an Event of Default) or otherwise due or (B) paid in full, whichever has a lower Conversion Price, multiplied by the VWAP on the date the Mandatory Default Amount is either (x) demanded (if demand or notice is required to create an Event of Default) or otherwise due or (y) paid in full, whichever has a higher VWAP, or (ii) 130% of the outstanding principal amount of this Note and (b) all other amounts, costs, expenses and liquidated damages due in respect of this Note.

“New York Courts” shall have the meaning set forth in Section 10(d).

“Note Register” shall have the meaning set forth in Section 2(c).

“Notice of Conversion” shall have the meaning set forth in Section 4(a).

“Original Issue Date” means the date of the first issuance of the Notes, regardless of any transfers of any Note and regardless of the number of instruments which may be issued to evidence such Notes.

“Other Holders” means holders of Other Notes.

“Other Notes” means Notes nearly identical to this Note issued to other Holders pursuant to the Purchase Agreement.

“Permitted Indebtedness” shall have the meaning provided in the Purchase Agreement.

“Permitted Lien” shall have the meaning provided in the Purchase Agreement.

“Purchase Agreement” means the Securities Purchase Agreement, dated as of December __, 2018 among Borrower and the original Holders, as amended, modified or supplemented from time to time in accordance with its terms.

“Registration Statement” shall have the meaning set forth in the Purchase Agreement and Registration Rights Agreement.

“Securities Act” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

“Share Delivery Date” shall have the meaning set forth in Section 4(c)(ii).

“Successor Entity” shall have the meaning set forth in Section 5(e).

“Trading Day” means a day on which the principal Trading Market is open for trading.

“Trading Market” means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE American, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, the New York Stock Exchange, the OTC Bulletin Board, the OTCQB, the OTCQX or the OTC Pink Marketplace (or any successors to any of the foregoing).

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if any of the Nasdaq markets or exchanges is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the OTC Bulletin Board, (c) if the Common Stock is not then listed or quoted for trading on the OTC Bulletin Board and if prices for the Common Stock are then reported on the OTCQX, OTCQB or OTC Pink Marketplace maintained by the OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the volume weighted average price of the Common Stock on the first such facility (or a similar organization or agency succeeding to its functions of reporting prices), or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Majority in Interest and reasonably acceptable to Borrower, the fees and expenses of which shall be paid by Borrower.

Section 2. Interest and General Provisions.

a) Payment of Interest in Cash or Kind. The Borrower shall pay interest to the Holder on the aggregate unconverted and then outstanding principal amount of this Note at the rate of 10% per annum, payable on each Conversion Date (as to that principal amount then being converted), and on the Maturity Date (each such date, an “Interest Payment Date”) (if any Interest Payment Date is not a Business Day, then the applicable payment shall be due on the next succeeding Business Day), in cash or, at the Holder’s option, in duly authorized, validly issued, fully paid and non-assessable shares of Common Stock based on the Conversion Price then in effect. Borrower may not pay any interest in shares of Common Stock in excess of the Beneficial Ownership Limitation when applicable, unless waived by Holder. Following the occurrence and during the continuance of an Event of Default, then from the first date of such occurrence, the annual interest rate on this Note shall be eighteen percent (18%). Such interest shall be due and payable on the Maturity Date, whether by acceleration or otherwise.

b) Payment Grace Period. Except as described in this Note, the Borrower shall not have any grace period to pay any monetary amounts due under this Note.

c) Conversion Privileges. The Conversion Rights set forth in Section 4 shall remain in full force and effect immediately from the date hereof and until the Note is paid in full regardless of the occurrence of an Event of Default. This Note shall be payable in full on the Maturity Date, unless previously converted into Common Stock in accordance with Section 4 hereof.

d) Application of Payments. Interest on this Note shall be calculated on the basis of a 360-day year and the actual number of days elapsed. Payments made in connection with this Note shall be applied first to amounts due hereunder other than principal and interest, thereafter to interest and finally to principal.

e) Pari Passu. Except as otherwise set forth herein, all payments made on this Note and the Other Notes and all actions taken by the Borrower with respect to this Note and the Other Notes, shall be made and taken *pari passu* with respect to this Note and the Other Notes. Notwithstanding anything to the contrary contained herein or in the Transaction Documents, it shall not be considered non-pari passu for a Holder or Other Holder to elect to receive interest paid in Common Stock or for Borrower to actually pay interest in Common Stock to such electing Holder or Other Holder.

f) Manner and Place of Payment. Principal and interest on this Note and other payments in connection with this Note shall be payable at the Holder’s offices as designated above in lawful money of the United States of America in immediately available funds without set-off, deduction or counterclaim. Upon assignment of the interest of Holder in this Note, Borrower shall instead make its payment pursuant to the assignee’s instructions upon receipt of written notice thereof. Except as set forth herein, this Note may not be prepaid or mandatorily converted without the consent of the Holder.

g) Prepayment. Except as otherwise set forth in this Note, the Borrower may not prepay any portion of the principal amount of this Note without the prior written consent of the Holder.

Section 3. Registration of Transfers and Exchanges.

a) Different Denominations. This Note is exchangeable for an equal aggregate principal amount of Notes of different authorized denominations, as requested by the Holder surrendering the same. No service charge will be payable for such registration of transfer or exchange.

b) Investment Representations. This Note has been issued subject to certain investment representations of the original Holder set forth in the Purchase Agreement and may be transferred or exchanged only in compliance with the Purchase Agreement and applicable federal and state securities laws and regulations.

c) Reliance on Note Register. Prior to due presentment for transfer to Borrower of this Note, Borrower and any agent of Borrower may treat the Person in whose name this Note is duly registered on the Note Register as the owner hereof for the purpose of receiving payment as herein provided and for all other purposes, whether or not this Note is overdue, and neither Borrower nor any such agent shall be affected by notice to the contrary.

Section 4. Conversion.

a) Voluntary Conversion. At any time after the Original Issue Date until this Note is no longer outstanding, this Note including interest accrued hereon shall be convertible, in whole or in part, into shares of Common Stock at the option of the Holder, at any time and from time to time (subject to the conversion limitations set forth in Section 4(d) hereof). The Holder shall effect conversions by delivering to Borrower a Notice of Conversion, the form of which is attached hereto as Annex A (each, a “Notice of Conversion”), specifying therein the principal amount of this Note and accrued interest, if any, to be converted and the date on which such conversion shall be effected (such date, the “Conversion Date”). If no Conversion Date is specified in a Notice of Conversion, the Conversion Date shall be the date that such Notice of Conversion is deemed delivered hereunder. To effect conversions hereunder, the Holder shall not be required to physically surrender this Note to Borrower unless the entire principal amount of this Note has been so converted. Conversions hereunder shall have the effect of lowering the outstanding principal amount of this Note in an amount equal to the applicable conversion. The Holder and Borrower shall maintain records showing the principal amount(s) converted and the date of such conversion(s). Borrower may deliver an objection to any Notice of Conversion within one (1) Business Day of delivery of such Notice of Conversion. In the event of any dispute or discrepancy, the records of the Holder shall be controlling and determinative in the absence of manifest error. **The Holder, and any assignee by acceptance of this Note, acknowledges and agrees that, by reason of the provisions of this paragraph, following conversion of a portion of this Note, the unpaid and unconverted principal amount of this Note may be less than the amount stated on the face hereof.**

b) Conversion Price. The conversion price for the principal and interest, if any, in connection with voluntary conversions by the Holder shall be \$0.60 per share of Common Stock, subject to adjustment herein (the “Conversion Price”).

c) Mechanics of Conversion.

i . Conversion Shares Issuable Upon Conversion of Principal Amount. The number of Conversion Shares issuable upon a conversion hereunder shall be determined by the quotient obtained by dividing (x) the outstanding principal amount of this Note to be converted plus interest, if any, elected by the Holder to be converted by (y) the Conversion Price.

ii. Delivery of Certificate Upon Conversion. In connection with sales of the Underlying Shares, not later than two (2) Trading Days after each Conversion Date (the “Share Delivery Date”), Borrower shall deliver, or cause to be delivered, to the Holder a certificate or certificates representing the Conversion Shares which, on or after the earlier of the one year or six month anniversary of the Original Issue Date in accordance with Rule 144, shall be free of restrictive legends and trading restrictions (other than those which may then be required by the Purchase Agreement) representing the number of Conversion Shares being acquired upon the conversion of this Note. Borrower shall use its best efforts to deliver any certificate or certificates required to be delivered by Borrower under this Section 4(c) electronically through the Depository Trust Company or another established clearing corporation performing similar functions.

iii. Failure to Deliver Certificates. If, in the case of any Notice of Conversion, such certificate or certificates are not delivered to or as directed by the applicable Holder by the Share Delivery Date, the Holder shall be entitled to elect by written notice to Borrower at any time on or before its receipt of such certificate or certificates, to rescind such Conversion, in which event Borrower shall promptly return to the Holder any original Note delivered to Borrower and the Holder shall promptly return to Borrower the Common Stock certificates issued to such Holder pursuant to the rescinded Conversion Notice.

i v . Obligation Absolute; Partial Liquidated Damages. Borrower's obligations to issue and deliver the Conversion Shares upon conversion of this Note in accordance with the terms hereof are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by the Holder or any other Person of any obligation to Borrower or any violation or alleged violation of law by the Holder or any other Person, and irrespective of any other circumstance which might otherwise limit such obligation of Borrower to the Holder in connection with the issuance of such Conversion Shares; provided, however, that such delivery shall not operate as a waiver by Borrower of any such action Borrower may have against the Holder. In the event the Holder of this Note shall elect to convert any or all of the outstanding principal amount hereof, Borrower may not refuse conversion based on any claim that the Holder or anyone associated or affiliated with the Holder has been engaged in any violation of law, agreement or for any other reason, unless an injunction from a court, on notice to Holder, restraining and or enjoining conversion of all or part of this Note shall have been sought and obtained, and Borrower posts a surety bond for the benefit of the Holder in the amount of 150% of the outstanding principal amount of this Note, which is subject to the injunction, which bond shall remain in effect until the completion of arbitration/litigation of the underlying dispute and the proceeds of which shall be payable to the Holder to the extent it obtains judgment. In the absence of such injunction, Borrower shall issue Conversion Shares or, if applicable, cash, upon a properly noticed conversion. If Borrower fails for any reason to deliver to the Holder such certificate or certificates pursuant to Section 4(c)(ii) by the Share Delivery Date, Borrower shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of principal amount being converted, \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth (5th) Trading Day after such liquidated damages being to accrue) for each Trading Day after such Share Delivery Date until such certificates are delivered or Holder rescinds such conversion. Nothing herein shall limit a Holder's right to pursue actual damages or declare an Event of Default pursuant to Section 8 hereof for Borrower's failure to deliver Conversion Shares within the period specified herein and the Holder shall have the right to pursue all remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief. The exercise of any such rights shall not prohibit the Holder from seeking to enforce damages pursuant to any other Section hereof or under applicable law.

v. Compensation for Buy-In on Failure to Timely Deliver Certificates Upon Conversion. In addition to any other rights available to the Holder, if Borrower fails for any reason to deliver to the Holder such certificate or certificates by the Share Delivery Date pursuant to Section 4(c)(ii), and if after such Share Delivery Date the Holder is required by its brokerage firm to purchase (in an open market transaction or otherwise), or the Holder or Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Conversion Shares which the Holder was entitled to receive upon the conversion relating to such Share Delivery Date (a "Buy-In"), then Borrower shall (A) pay in cash to the Holder (in addition to any other remedies available to or elected by the Holder) the amount, if any, by which (x) the Holder's total purchase price (including any brokerage commissions) for the Common Stock so purchased exceeds (y) the product of (1) the aggregate number of shares of Common Stock that the Holder was entitled to receive from the conversion at issue multiplied by (2) the actual sale price at which the sell order giving rise to such purchase obligation was executed (including any brokerage commissions) and (B) at the option of the Holder, either reissue (if surrendered) this Note in a principal amount equal to the principal amount of the attempted conversion (in which case such conversion shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued if Borrower had timely complied with its delivery requirements under Section 4(c)(ii). For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted conversion of this Note with respect to which the actual sale price of the Conversion Shares (including any brokerage commissions) giving rise to such purchase obligation was a total of \$10,000 under clause (A) of the immediately preceding sentence, Borrower shall be required to pay the Holder \$1,000. The Holder shall provide Borrower written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of Borrower, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to Borrower's failure to timely deliver certificates representing shares of Common Stock upon conversion of this Note as required pursuant to the terms hereof.

vi. Reservation of Shares Issuable Upon Conversion. Borrower covenants that it will at all times reserve and keep available out of its authorized and unissued shares of Common Stock for the sole purpose of issuance upon conversion of this Note as herein provided, free from preemptive rights or any other actual contingent purchase rights of Persons other than the Holder (and the other holders of the Notes), not less than 150% of the aggregate number of shares of the Common Stock as shall (subject to the terms and conditions set forth in the Purchase Agreement) be issuable (taking into account the adjustments and restrictions of Section 5) upon the conversion of the then outstanding principal amount of this Note and interest which has accrued and would accrue on such principal amount assuming such principal amount was not converted through the Maturity Date. Borrower covenants that all shares of Common Stock that shall be so issuable shall, upon issue, be duly authorized, validly issued, fully paid and nonassessable.

vii. Fractional Shares. No fractional shares or scrip representing fractional shares shall be issued upon the conversion of this Note. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such conversion, Borrower shall at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Conversion Price or round up to the next whole share.

v i i i . Transfer Taxes and Expenses. The issuance of certificates for shares of the Common Stock on conversion of this Note shall be made without charge to the Holder hereof for any documentary stamp or similar taxes that may be payable in respect of the issue or delivery of such certificates, provided that, Borrower shall not be required to pay any tax that may be payable in respect of any transfer involved in the issuance and delivery of any such certificate upon conversion in a name other than that of the Holder of this Note so converted and Borrower shall not be required to issue or deliver such certificates unless or until the Person or Persons requesting the issuance thereof shall have paid to Borrower the amount of such tax or shall have established to the satisfaction of Borrower that such tax has been paid. Borrower shall pay all Transfer Agent fees required for same-day processing of any Notice of Conversion.

d) Holder's Conversion Limitations. Borrower shall not effect any conversion of this Note, and a Holder shall not have the right to convert any portion of this Note, to the extent that after giving effect to the conversion set forth on the applicable Notice of Conversion, the Holder (together with the Holder's Affiliates, and any Persons acting as a group together with the Holder or any of the Holder's Affiliates) would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates shall include the number of shares of Common Stock issuable upon conversion of this Note with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which are issuable upon (i) conversion of the remaining, unconverted principal amount of this Note beneficially owned by the Holder or any of its Affiliates and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of Borrower subject to a limitation on conversion or exercise analogous to the limitation contained herein (including, without limitation, any other Notes) beneficially owned by the Holder or any of its Affiliates. Except as set forth in the preceding sentence, for purposes of this Section 4(d), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. To the extent that the limitation contained in this Section 4(d) applies, the determination of whether this Note is convertible (in relation to other securities owned by the Holder together with any Affiliates) and of which principal amount of this Note is convertible shall be in the sole discretion of the Holder, and the submission of a Notice of Conversion shall be deemed to be the Holder's determination of whether this Note may be converted (in relation to other securities owned by the Holder together with any Affiliates) and which principal amount of this Note is convertible, in each case subject to the Beneficial Ownership Limitation. To ensure compliance with this restriction, the Holder will be deemed to represent to Borrower each time it delivers a Notice of Conversion that such Notice of Conversion has not violated the restrictions set forth in this paragraph and Borrower shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 4(d), in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as stated in the most recent of the following: (i) Borrower's most recent periodic or annual report filed with the Commission, as the case may be, (ii) a more recent public announcement by Borrower, or (iii) a more recent written notice by Borrower or Borrower's transfer agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, Borrower shall within two Trading Days confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of Borrower, including this Note, by the Holder or its Affiliates since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon conversion of this Note held by the Holder. The Holder may decrease the Beneficial Ownership Limitation at any time upon not less than 61 days' prior notice to Borrower, and may increase the Beneficial Ownership Limitation provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon conversion of this Note held by the Holder and the Beneficial Ownership Limitation provisions of this Section 4(d) shall continue to apply. Any such increase will not be effective until the 61st day after such notice is delivered to Borrower. The Beneficial Ownership Limitation provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 4(d) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation contained herein or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Note.

Section 5. Certain Adjustments.

a) Stock Dividends and Stock Splits If Borrower, at any time while this Note is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions payable in shares of Common Stock on shares of Common Stock or any Common Stock Equivalents (which, for avoidance of doubt, shall not include any shares of Common Stock issued by Borrower upon conversion of the Notes), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of a reverse stock split) outstanding shares of Common Stock into a smaller number of shares or (iv) issues, in the event of a reclassification of shares of the Common Stock, any shares of capital stock of Borrower, then the Conversion Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding any treasury shares of Borrower) outstanding immediately before such event, and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to this Section shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

b) Subsequent Equity Sales. In addition to the reductions of the Conversion Price described in Section 4(b), if, at any time while this Note is outstanding, the Borrower or any Subsidiary, as applicable, sells or grants any option to purchase or sells or grants any right to reprice, or otherwise disposes of or issues (or announces any sale, grant or any option to purchase or other disposition), any Common Stock or Common Stock Equivalents entitling any Person to acquire Common Stock at an effective price per share that is lower than the then Conversion Price (such lower price, the "Base Conversion Price" and such issuances, collectively, a "Dilutive Issuance") (if the holder of the Common Stock or Common Stock Equivalents so issued shall at any time, whether by operation of purchase price adjustments, reset provisions, floating conversion, exercise or exchange prices or otherwise, or due to warrants, options or rights per share which are issued in connection with such issuance, be entitled to receive Common Stock at an effective price per share that is lower than the Conversion Price, such issuance shall be deemed to have occurred for less than the Conversion Price on such date of the Dilutive Issuance), then the Conversion Price shall be reduced to equal the Base Conversion Price, subject to adjustment for reverse and forward stock splits and the like. Such adjustment shall be made whenever such Common Stock or Common Stock Equivalents are issued. Notwithstanding the foregoing, no adjustment will be made under this Section 5(b) in respect of an Exempt Issuance. If the Borrower enters into a Variable Rate Transaction, despite the prohibition set forth in the Purchase Agreement, the Borrower shall be deemed to have issued Common Stock or Common Stock Equivalents at the lowest possible conversion price at which such securities may be converted or exercised. The Borrower shall notify the Holder in writing, no later than the Trading Day following the issuance of any Common Stock or Common Stock Equivalents subject to this Section 5(b), indicating therein the applicable issuance price, or applicable reset price, exchange price, conversion price and other pricing terms (such notice, the "Dilutive Issuance Notice"). For purposes of clarification, whether or not the Borrower provides a Dilutive Issuance Notice pursuant to this Section 5(b), upon the occurrence of any Dilutive Issuance, the Holder is entitled to receive a number of Conversion Shares based upon the Base Conversion Price on or after the date of such Dilutive Issuance, regardless of whether the Holder accurately refers to the Base Conversion Price in the Notice of Conversion.

c) Subsequent Rights Offerings. In addition to any adjustments pursuant to Sections 5(a) and (b) above, if at any time Borrower grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete conversion of this Note (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

d) Pro Rata Distributions. During such time as this Note is outstanding, if Borrower shall declare or make any dividend whether or not permitted, or makes any other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "Distribution"), at any time after the issuance of this Note, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Note (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, to the extent that the Holder's right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

e) Fundamental Transaction. If, at any time while this Note is outstanding, (i) Borrower, directly or indirectly, in one or more related transactions effects any merger or consolidation of Borrower with or into another Person, (ii) Borrower, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by Borrower or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) Borrower, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, (v) Borrower, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) (each a "Fundamental Transaction"), then, upon any subsequent conversion of this Note, the Holder shall have the right to receive, for each Conversion Share that would have been issuable upon such conversion immediately prior to the occurrence of such Fundamental Transaction (without regard to any limitation in Section 4(d) on the conversion of this Note), the number of shares of Common Stock of the successor or acquiring corporation or of Borrower, if it is the surviving corporation, and any additional consideration (the "Alternate Consideration") receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Note is convertible immediately prior to such Fundamental Transaction (without regard to any limitation in Section 4(d) on the conversion of this Note). For purposes of any such conversion, the determination of the Conversion Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one (1) share of Common Stock in such Fundamental Transaction, and Borrower shall apportion the Conversion Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any conversion of this Note following such Fundamental Transaction. Borrower shall cause any successor entity in a Fundamental Transaction in which Borrower is not the survivor (the "Successor Entity") to assume in writing all of the obligations of Borrower under this Note and the other Transaction Documents (as defined in the Purchase Agreement) in accordance with the provisions of this Section 5(e) pursuant to written agreements in form and substance reasonably satisfactory to the Majority in Interest (which approval shall not be unreasonably withheld, delayed or conditioned) prior to such Fundamental Transaction and shall, at the option of the holder of this Note, deliver to the Holder in exchange for this Note a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Note which is convertible for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon conversion of this Note (without regard to any limitations on the conversion of this Note) prior to such Fundamental Transaction, and with a conversion price which applies the conversion price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such conversion price being for the purpose of protecting the economic value of this Note immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Note and the other Transaction Documents referring to the "Borrower" shall refer instead to the Successor Entity), and may exercise every right and power of Borrower and shall assume all of the obligations of Borrower under this Note and the other Transaction Documents with the same effect as if such Successor Entity had been named as Borrower herein.

f) Calculations. All calculations under this Section 5 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 5, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding any treasury shares of Borrower) issued and outstanding.

g) Notice to the Holder.

i. Adjustment to Conversion Price. Whenever the Conversion Price is adjusted pursuant to any provision of this Section 5, Borrower shall promptly deliver to each Holder a notice setting forth the Conversion Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Conversion by Holder. If (A) Borrower shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) Borrower shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) Borrower shall authorize the granting to all holders of the Common Stock of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of Borrower shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which Borrower is a party, any sale or transfer of all or substantially all of the assets of Borrower, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property or (E) Borrower shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of Borrower, then, in each case, Borrower shall cause to be filed at each office or agency maintained for the purpose of conversion of this Note, and shall cause to be delivered to the Holder at its last address as it shall appear upon the Note Register, at least twenty (20) calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange, provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided hereunder constitutes, or contains, material, non-public information regarding Borrower or any of the Subsidiaries, Borrower shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to convert this Note during the 20-day period commencing on the date of such notice through the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

Section 6. Registration Rights. The Company shall file a registration statement pursuant to the terms of the Purchase Agreement and Registration Rights Agreement.

Section 7. Negative Covenants. As long as any portion of this Note remains outstanding, unless the Majority in Interest shall have otherwise given prior written consent, Borrower shall not directly or indirectly:

- a) other than Permitted Indebtedness, enter into, create, incur, assume, guarantee or suffer to exist any indebtedness for borrowed money of any kind, including, but not limited to, a guarantee, on or with respect to any of its property or assets now owned or hereafter acquired or any interest therein or any income or profits therefrom;
- b) other than Permitted Liens, enter into, create, incur, assume or suffer to exist any Liens of any kind, on or with respect to any of its property or assets now owned or hereafter acquired or any interest therein or any income or profits therefrom;
- c) amend its charter documents, including, without limitation, its certificate of incorporation and bylaws, in any manner that materially and adversely affects any rights of the Holder, provided however, the consent of a Majority in Interest shall not be required in connection with an increase in the authorized shares by the Company;
- d) repay, repurchase or offer to repay, repurchase or otherwise acquire any shares of its Common Stock or Common Stock Equivalents other than as to the Conversion Shares as permitted or required under the Transaction Documents;
- e) redeem, defease, repurchase, repay or make any payments in respect of, by the payment of cash or cash equivalents (in whole or in part, whether by way of open market purchases, tender offers, private transactions or otherwise), all or any portion of any Indebtedness (other than Permitted Indebtedness or the Notes if on a pro-rata basis), whether by way of payment in respect of principal of (or premium, if any) or interest on, such Indebtedness, the foregoing restriction shall also apply to Permitted Indebtedness from and after the occurrence of an Event of Default;
- f) declare or make any dividend or other distribution of its assets or rights to acquire its assets to holders of shares of Common Stock, by way of return of capital or otherwise including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, liquidation, distribution, preferential payments in connection with any securities or debt issuances, corporate rearrangement, scheme of arrangement or other similar transaction;
- g) issue any Common Stock or Common Stock Equivalents in violation of the terms of the Purchase Agreement;
- h) enter into any transaction with any Affiliate of Borrower which would be required to be disclosed by a company subject to the reporting requirements of Section 12(g) of the Exchange Act in any public filing with the Commission, unless such transaction is made on reasonable commercial terms and expressly approved by either (i) a majority of the disinterested directors of Borrower (even if less than a quorum otherwise required for board approval) or (ii) all of the directors; or
- i) enter into any agreement with respect to any of the foregoing.

Section 8. Events of Default.

- a) “Event of Default” means, wherever used herein, any of the following events (whatever the reason for such event and whether such event shall be voluntary or involuntary or effected by operation of law or pursuant to any judgment, decree or order of any court, or any order, rule or regulation of any administrative or governmental body):
- i. any default in the payment of (A) the principal amount of this Note, or (B) interest, liquidated damages and other amounts owing to a Holder on any Note, as and when the same shall become due and payable (whether on a Conversion Date or the Maturity Date or by acceleration or otherwise) which default, solely in the case of a default under clause (B) above, is not cured within 3 Trading Days after Borrower has become aware of such default;
 - ii. Borrower shall fail to observe or perform any other material covenant or agreement contained in the Notes (other than a breach by Borrower of its obligations to deliver shares of Common Stock to the Holder upon conversion, which breach is addressed in clause (ix) below) which failure is not cured, if possible to cure, within the earlier to occur of (A) 5 Trading Days after notice of such failure sent by the Holder or by any Other Holder to Borrower and (B) 10 Trading Days after Borrower has become aware of such failure;
 - iii. a material default or event of default (subject to any grace or cure period provided in the applicable agreement, document or instrument) shall occur under (A) any of the Transaction Documents, including but not limited to failure to strictly comply with the material provisions of the Transaction Documents, or (B) any other material agreement, lease, document or instrument to which Borrower or any Subsidiary is obligated (and not covered by clause (vi) below), which in the case of subsection (B) would reasonably be expected to have a Material Adverse Effect;
 - iv. any material representation or warranty made in this Note, any other Transaction Documents, any written statement pursuant hereto or thereto or any other report, financial statement or certificate made or delivered to the Holder or any Other Holder shall be untrue or incorrect in any material respect as of the date when made or deemed made;
 - v. Borrower or any Subsidiary shall be subject to a Bankruptcy Event;
 - vi. Borrower or any Subsidiary shall default on any of its obligations under any mortgage, credit agreement or other facility, indenture agreement, factoring agreement or other instrument under which there may be issued, or by which there may be secured or evidenced, any indebtedness for borrowed money or money due under any long term leasing or factoring arrangement that (a) involves an obligation greater than \$50,000, whether such indebtedness now exists or shall hereafter be created, and (b) results in such indebtedness becoming or being declared due and payable prior to the date on which it would otherwise become due and payable;
 - vii. Borrower shall be a party to any Change of Control Transaction or Fundamental Transaction or disposition of all or in excess of 30% of its assets in one transaction or a series of related transactions (whether or not such sale would constitute a Change of Control Transaction);
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- viii. Borrower does not meet the current public information requirements under Rule 144;
- ix. Borrower shall fail for any reason to deliver certificates to a Holder prior to the fifth Trading Day after a Conversion Date pursuant to Section 4(c) or Borrower shall provide at any time notice to the Holder, including by way of public announcement, of Borrower's intention to not honor requests for conversions of any Notes in accordance with the terms hereof;
- x. any Person shall materially breach any agreement delivered to the initial Holders pursuant to Section 2.2 of the Purchase Agreement, which breach is not cured within any allowed cure period;
- xi. any monetary judgment, writ or similar final process shall be entered or filed against Borrower, or any of its respective property or other assets for more than \$50,000, and such judgment, writ or similar final process shall remain unvacated, unbonded or unstayed for a period of 90 calendar days;
- xii. any dissolution, liquidation or winding up by Borrower, of a substantial portion of their business;
- xiii. cessation of operations by Borrower;
- xiv. the failure by Borrower or any material Subsidiary to maintain any material intellectual property rights, personal, real property, equipment, leases or other assets which are necessary to conduct its business (whether now or in the future) and such breach is not cured with twenty (20) days after written notice to the Borrower from the Holder;
- xv. the occurrence of a Listing Default;
- xvi. a Commission or judicial stop trade order or suspension from the Borrower's Principal Trading Market;
- xvii. the restatement after the date hereof of any financial statements filed by the Borrower with the Commission for any date or period from the Original Issue Date and until this Note is no longer outstanding, if the result of such restatement would, by comparison to the unrestated financial statements, have constituted a Material Adverse Effect. For the avoidance of doubt, any restatement related to new accounting pronouncements shall not constitute a default under this Section;
- xviii. the Borrower effectuates a reverse split of its Common Stock without five (5) days prior written notice to the Holder;
- xix. a failure by Borrower to notify Holder of any material event of which Borrower is obligated to notify Holder pursuant to the terms of this Note or any other Transaction Document;
- xx. a default by the Borrower of a material term, covenant, warranty or undertaking of any other agreement to which the Borrower and Holder are parties, or the occurrence of an event of default under any such other agreement to which Borrower and Holder are parties which is not cured after any required notice and/or cure period;

xxi. the occurrence of an Event of Default under any Other Note;

xxii. any material provision of any Transaction Document shall at any time for any reason (other than pursuant to the express terms thereof) cease to be valid and binding on or enforceable against the Borrower, or the validity or enforceability thereof shall be contested by Borrower, or a proceeding shall be commenced by Borrower or any governmental authority having jurisdiction over Borrower or Holder, seeking to establish the invalidity or unenforceability thereof, or Borrower shall deny in writing that it has any liability or obligation purported to be created under any Transaction Document; or

xxiii. any default under the Registration Rights Agreement including but not limited to the timely compliance with all filing and effectiveness deadlines.

In the event more than one grace, cure or notice period is applicable to an Event of Default, then the shortest grace, cure or notice period shall be applicable thereto.

b) Remedies Upon Event of Default, Fundamental Transaction and Change of Control Transaction. If any Event of Default or a Fundamental Transaction or a Change of Control Transaction occurs, the outstanding principal amount of this Note, liquidated damages and other amounts owing in respect thereof through the date of acceleration, shall become, at the Holder's election, immediately due and payable in cash at the Mandatory Default Amount. Commencing on the Maturity Date and also five (5) days after the occurrence of any Event of Default interest on this Note shall accrue at an interest rate equal to the lesser of 18% per annum or the maximum rate permitted under applicable law. Upon the payment in full of the Mandatory Default Amount, the Holder shall promptly surrender this Note to or as directed by Borrower. In connection with such acceleration described herein, the Holder need not provide, and Borrower hereby waives, any presentment, demand, protest or other notice of any kind, and the Holder may immediately and without expiration of any grace period enforce any and all of its rights and remedies hereunder and all other remedies available to it under applicable law. Such acceleration may be rescinded and annulled by Holder at any time prior to payment hereunder and the Holder shall have all rights as a holder of the Note until such time, if any, as the Holder receives full payment pursuant to this Section 8(b). No such rescission or annulment shall affect any subsequent Event of Default or impair any right consequent thereon.

Section 9. Security Interest/Waiver of Automatic Stay. This Note is secured by a security interest granted to the Holder pursuant to a Security Agreement, as delivered by Borrower to Holder. The Borrower acknowledges and agrees that should a proceeding under any bankruptcy or insolvency law be commenced by or against the Borrower or a Subsidiary, or if any of the Collateral (as defined in the Security Agreement) should become the subject of any bankruptcy or insolvency proceeding, then the Holder should be entitled to, among other relief to which the Holder may be entitled under the Transaction Documents and any other agreement to which the Borrower or a Subsidiary and Holder are parties (collectively, "Loan Documents") and/or applicable law, an order from the court granting immediate relief from the automatic stay pursuant to 11 U.S.C. Section 362 to permit the Holder to exercise all of its rights and remedies pursuant to the Loan Documents and/or applicable law. THE BORROWER EXPRESSLY WAIVES THE BENEFIT OF THE AUTOMATIC STAY IMPOSED BY 11 U.S.C. SECTION 362. FURTHERMORE, THE BORROWER EXPRESSLY ACKNOWLEDGES AND AGREES THAT NEITHER 11 U.S.C. SECTION 362 NOR ANY OTHER SECTION OF THE BANKRUPTCY CODE OR OTHER STATUTE OR RULE (INCLUDING, WITHOUT LIMITATION, 11 U.S.C. SECTION 105) SHALL STAY, INTERDICT, CONDITION, REDUCE OR INHIBIT IN ANY WAY THE ABILITY OF THE HOLDER TO ENFORCE ANY OF ITS RIGHTS AND REMEDIES UNDER THE LOAN DOCUMENTS AND/OR APPLICABLE LAW. The Borrower hereby consents to any motion for relief from stay that may be filed by the Holder in any bankruptcy or insolvency proceeding initiated by or against the Borrower and, further, agrees not to file any opposition to any motion for relief from stay filed by the Holder. The Borrower represents, acknowledges and agrees that this provision is a specific and material aspect of the Loan Documents, and that the Holder would not agree to the terms of the loan Documents if this waiver were not a part of this Note. The Borrower further represents, acknowledges and agrees that is waiver is knowingly, intelligently and voluntarily made, that neither the Holder nor any person acting on behalf of the Holder has made any representations to induce this waiver, that the Borrower has been represented (or has had the opportunity to be represented) in the signing of this Note and the Loan Documents and in the making of this waiver by independent legal counsel selected by the Borrower and that the Borrower has discussed this waiver with counsel.

Section 10. Miscellaneous.

a) Notices. All notices, demands, requests, consents, approvals, and other communications required or permitted hereunder shall be in writing and, unless otherwise specified herein, shall be (i) personally served, (ii) deposited in the mail, registered or certified, return receipt requested, postage prepaid, (iii) delivered by reputable air courier service with charges prepaid, or (iv) transmitted by hand delivery, telegram, facsimile, or electronic mail, addressed as set forth below or to such other address as such party shall have specified most recently by written notice. Any notice or other communication required or permitted to be given hereunder shall be deemed effective (a) upon hand delivery or delivery by facsimile, with accurate confirmation generated by the transmitting facsimile machine, at the address or number designated below (if delivered on a business day during normal business hours where such notice is to be received), or the first business day following such delivery (if delivered other than on a business day during normal business hours where such notice is to be received), or (b) upon receipt, when sent by electronic mail (provided confirmation of transmission is electronically generated and kept on file by the sending party), or (c) on the second business day following the date of mailing by express courier service, fully prepaid, addressed to such address, or upon actual receipt of such mailing, whichever shall first occur. The addresses for such communications shall be: (i) if to Borrower, to: GT Biopharma, Inc., 310 N. Westlake Blvd, Suite 206, Westlake Village, CA 91362 , Attn: Chief Executive Officer, and (ii) if to the Holder, to: the address and fax number indicated on the front page of this Note, with an additional copy by fax only to (which shall not constitute notice): Grushko & Mittman, P.C., 515 Rockaway Avenue, Valley Stream, New York 11581, fax: (212) 697-3575.

b) Absolute Obligation. Except as expressly provided herein, no provision of this Note shall alter or impair the obligation of Borrower, which is absolute and unconditional, to pay the principal of, liquidated damages and accrued interest, as applicable, on this Note at the time, place, and rate, and in the coin or currency, herein prescribed. This Note is a direct debt obligation of Borrower. This Note ranks pari passu with all other Notes now or hereafter issued under the terms set forth herein.

c) Lost or Mutilated Note. If this Note shall be mutilated, lost, stolen or destroyed, Borrower shall execute and deliver, in exchange and substitution for and upon cancellation of a mutilated Note, or in lieu of or in substitution for a lost, stolen or destroyed Note, a new Note for the principal amount of this Note so mutilated, lost, stolen or destroyed, but only upon receipt of evidence of such loss, theft or destruction of such Note, and of the ownership hereof, reasonably satisfactory to Borrower.

d) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Note shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflict of laws thereof. Each party agrees that all legal proceedings concerning the interpretation, enforcement and defense of the transactions contemplated by any of the Transaction Documents (whether brought against a party hereto or its respective Affiliates, directors, officers, shareholders, employees or agents) shall be commenced in the state and federal courts sitting in the City of New York, Borough of Manhattan (the "New York Courts"). Each party hereto hereby irrevocably submits to the exclusive jurisdiction of the New York Courts for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of such New York Courts, or such New York Courts are improper or inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Note and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by applicable law. Each party hereto hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Note or the transactions contemplated hereby. If any party shall commence an action or proceeding to enforce any provisions of this Note, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its attorneys fees and other costs and expenses incurred in the investigation, preparation and prosecution of such action or proceeding. **This Note shall be deemed an unconditional obligation of Borrower for the payment of money and, without limitation to any other remedies of Holder, may be enforced against Borrower by summary proceeding pursuant to New York Civil Procedure Law and Rules Section 3213 or any similar rule or statute in the jurisdiction where enforcement is sought. For purposes of such rule or statute, any other document or agreement to which Holder and Borrower are parties or which Borrower delivered to Holder, which may be convenient or necessary to determine Holder's rights hereunder or Borrower's obligations to Holder are deemed a part of this Note, whether or not such other document or agreement was delivered together herewith or was executed apart from this Note.**

e) Waiver. Any waiver by Borrower or the Holder of a breach of any provision of this Note shall not operate as or be construed to be a waiver of any other breach of such provision or of any breach of any other provision of this Note. The failure of Borrower or the Holder to insist upon strict adherence to any term of this Note on one or more occasions shall not be considered a waiver or deprive that party of the right thereafter to insist upon strict adherence to that term or any other term of this Note on any other occasion. Any waiver by Borrower or the Holder must be in writing.

f) Severability. If any provision of this Note is invalid, illegal or unenforceable, the balance of this Note shall remain in effect, and if any provision is inapplicable to any Person or circumstance, it shall nevertheless remain applicable to all other Persons and circumstances.

g) Usury. If it shall be found that any interest or other amount deemed interest due hereunder violates the applicable law governing usury, the applicable rate of interest due hereunder shall automatically be lowered to equal the maximum rate of interest permitted under applicable law. Borrower covenants (to the extent that it may lawfully do so) that it shall not at any time insist upon, plead, or in any manner whatsoever claim or take the benefit or advantage of, any stay, extension or usury law or other law which would prohibit or forgive Borrower from paying all or any portion of the principal of or interest on this Note as contemplated herein, wherever enacted, now or at any time hereafter in force, or which may affect the covenants or the performance of this Note, and Borrower (to the extent it may lawfully do so) hereby expressly waives all benefits or advantage of any such law, and covenants that it will not, by resort to any such law, hinder, delay or impede the execution of any power herein granted to the Holder, but will suffer and permit the execution of every such as though no such law has been enacted.

h) Next Business Day. Whenever any payment or other obligation hereunder shall be due on a day other than a Business Day, such payment shall be made on the next succeeding Business Day.

i) Headings. The headings contained herein are for convenience only, do not constitute a part of this Note and shall not be deemed to limit or affect any of the provisions hereof.

j) Amendment. This Note may be amended and any provisions hereof may be waived by written consent of Borrower and the Majority in Interest.

k) Facsimile Signature. In the event that the Borrower's signature is delivered by facsimile transmission, PDF, electronic signature or other similar electronic means, such signature shall create a valid and binding obligation of the Borrower with the same force and effect as if such signature page were an original thereof.

(Signature Pages Follow)

IN WITNESS WHEREOF, Borrower has caused this Note to be signed in its name by an authorized officer as of the ____ day of February, 2019.

GT BIOPHARMA, INC.

By: _____
Name: Raymond W. Urbanski
Title: Chief Executive Officer

WITNESS:

ANNEX A

NOTICE OF CONVERSION

The undersigned hereby elects to convert principal under the Convertible Note Due August 2, 2019 of GT Biopharma, Inc., a Delaware corporation (the "Company"), into shares of common stock (the "Common Stock"), of Borrower according to the conditions hereof, as of the date written below. If shares of Common Stock are to be issued in the name of a person other than the undersigned, the undersigned will pay all transfer taxes payable with respect thereto and is delivering herewith such certificates and opinions as reasonably requested by Borrower in accordance therewith. No fee will be charged to the holder for any conversion, except for such transfer taxes, if any.

By the delivery of this Notice of Conversion the undersigned represents and warrants to Borrower that its ownership of the Common Stock does not exceed the amounts specified under Section 4 of this Note, as determined in accordance with Section 13(d) of the Exchange Act.

The undersigned agrees to comply with the prospectus delivery requirements under the applicable securities laws in connection with any transfer of the aforesaid shares of Common Stock.

Conversion calculations:

Date to Effect Conversion: _____

Principal Amount of Note to be Converted: \$ _____

Accrued Interest to be Converted, if any: \$ _____

Conversion Price: \$ _____

Number of shares of Common Stock to be issued: _____

Signature: _____

Name: _____

Address for Delivery of Common Stock Certificates: _____

Or

DWAC Instructions: _____

Broker No: _____

Account No: _____

SECURITIES PURCHASE AGREEMENT

This Securities Purchase Agreement (this "Agreement") is dated as of February 4, 2019, between GT Biopharma, Inc., a Delaware corporation and includes any successor Company thereto (the "Company"), and each purchaser identified on the signature pages hereto (each, including its successors and permitted assigns, a "Purchaser" and collectively, the "Purchasers").

WHEREAS, subject to the terms and conditions set forth in this Agreement and pursuant to Section 4(a)(2) of the Securities Act of 1933, as amended (the "Securities Act"), and Rule 506 promulgated thereunder, the Company desires to issue and sell to each Purchaser, and each Purchaser, severally and not jointly, desires to purchase in not more than two closings from the Company, securities of the Company as more fully described in this Agreement (the "Offering").

NOW, THEREFORE, IN CONSIDERATION of the mutual covenants contained in this Agreement, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Company and each Purchaser agree as follows:

**ARTICLE I.
DEFINITIONS**

1.1 Definitions. In addition to the terms defined elsewhere in this Agreement: (a) capitalized terms that are not otherwise defined herein have the meanings given to such terms in the Notes (as defined herein), and (b) the following terms have the meanings set forth in this Section 1.1:

"Accredited Investor" shall have the meaning ascribed to such term in Section 3.2(c).

"Acquiring Person" shall have the meaning ascribed to such term in Section 4.7.

"Action" shall have the meaning ascribed to such term in Section 3.1(j).

"Affiliate" means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 405 under the Securities Act.

"Applicable Law" shall mean any law, rule or regulation of any governmental authority or jurisdiction applicable to any party to this Agreement, as the case may be.

"Board of Directors" means the board of directors of the Company.

"Business Day" means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are required by law or other governmental action to close.

"Buy-In" shall have the meaning ascribed to such term in Section 4.1(h).

"Closing" means the closing of the purchase and sale of the Securities pursuant to Section 2.1.

“Closing Date” means, with respect to any Closing, the date of such Closing.

“Commission” means the United States Securities and Exchange Commission.

“Common Stock” means the common stock of the Company, par value \$0.001 per share, and any other class of securities into which such securities may hereafter be reclassified or changed.

“Common Stock Equivalents” means any securities of the Company or the Subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

“Conversion Price” shall have the meaning ascribed to such term in the Notes.

“Debentures” means those certain 10% Senior Convertible Debentures of the Company issued on August 2, 2018, September 7, 2018 and September 24, 2018.

“DGCL” means the Delaware General Corporation Law.

“Disclosure Schedules” means the Disclosure Schedules of the Company delivered concurrently herewith.

“Disqualification Event” shall have the meaning ascribed to such term in Section 3.1(o).

“Effective Date” means the earliest of the date that (a) a Registration Statement has been declared effective by the Commission with respect to all of the Underlying Shares (as defined herein) and has been continuously effective for not less than sixty (60) Business Days, or (b) (i) all of the Underlying Shares have been sold pursuant to Rule 144, or (ii) may be sold by the holders thereof (other than Affiliates of the Company) pursuant to Rule 144 without the requirement for the Company to be in compliance with the current public information required under Rule 144 and without volume or manner-of-sale restrictions, and (c) Company counsel has delivered to the Transfer Agent and Purchasers a standing written unqualified opinion that resales may then be made by such holders of the Underlying Shares (other than Affiliates of the Company) pursuant to an effective Registration Statement or the exemption described in (b)(ii) above, which opinion shall be in form and substance reasonably acceptable to such Purchasers.

“End Date” means the first date that (i) less than 10% of the aggregate amount of Note principal is outstanding, and (ii) no Event of Default (as defined in the Note) nor an event which with the passage of time or the giving of notice could become an Event of Default is pending.

“Equity Line of Credit” shall have the meaning ascribed to such term in Section 4.13.

“Event of Default” shall have the meaning ascribed to such term in the Note.

“Exchange Act” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

“Exempt Issuance” means the issuance of (a) shares of Common Stock or options to employees, officers or directors of the Company pursuant to any stock or option plan duly adopted for such purpose, by a majority of the non-employee members of the Board of Directors or a majority of the members of a committee of non-employee directors established for such purpose and only as disclosed on Schedule 3.1(g), (b) securities exercisable or exchangeable for or convertible into shares of Common Stock issued and outstanding on the date of this Agreement, provided that such securities and any term thereof have not been amended since the date of this Agreement to increase the number of such securities or to decrease the issue price, exercise price, exchange price or conversion price of such securities and which securities and the principal terms thereof are set forth on Schedule 3.1(g), and described in the SEC Reports, (c) securities issued pursuant to acquisitions or strategic transactions approved by a majority of the disinterested directors of the Company, provided that any such issuance shall only be to a Person (or to the equity holders of a Person) which is, itself or through its subsidiaries, an operating company or an owner of an asset in a business synergistic with the business of the Company and shall be intended to provide to the Company substantial additional benefits in addition to the investment of funds, but shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities, (d) as set forth on Schedule 3.1(g), and (e) securities issued or issuable to the Purchasers and their assigns pursuant to this Agreement, the Notes and other Transaction Documents including without limitation, Section 4.16 and Section 4.22 herein, or upon exercise, conversion or exchange of any such securities.

“FCPA” means the Foreign Corrupt Practices Act of 1977, as amended.

“FDA” shall have the meaning ascribed to such term in Section 3.1(jj).

“GAAP” shall have the meaning ascribed to such term in Section 3.1(h).

“G&M” shall mean Grushko & Mittman, P.C., with offices located at 515 Rockaway Avenue, Valley Stream, New York 11581, Fax: 212-697-3575.

“Indebtedness” shall have the meaning ascribed to such term in Section 3.1(aa).

“Intellectual Property Rights” shall have the meaning ascribed to such term in Section 3.1(o).

“Investor Questionnaire” means the form of Accredited Investor Questionnaire annexed hereto as Exhibit B.

“Issuer Covered Person” means the Company, any of its predecessors, any affiliated issuer, any director, executive officer, other officer of the Company participating in the Offering, any beneficial owner of 20% or more of the Company’s outstanding voting equity securities, calculated on the basis of voting power, and any promoter (as that term is defined in Rule 405 under the Securities Act) connected with the Company in any capacity at the time of sale.

“Legend Removal Date” shall have the meaning ascribed to such term in Section 4.1(d).

“Liens” means a lien, charge, pledge, security interest, encumbrance, right of first refusal, preemptive right or other restriction.

“Listing Default” shall have the meaning ascribed to such term in Section 4.11(b).

“Majority in Interest” shall have the meaning ascribed to such term in Section 5.5.

“Material Adverse Effect” shall have the meaning assigned to such term in Section 3.1(b).

“Material Permits” shall have the meaning ascribed to such term in Section 3.1(m).

“Maximum Rate” shall have the meaning ascribed to such term in Section 5.17.

“Money Laundering Laws” shall have the meaning ascribed to such term in Section 3.1(qq).

“Notes” means the senior secured convertible notes issuable pursuant to this Agreement, in the form of Exhibit A hereto.

“OFAC” shall have the meaning ascribed to such term in Section 3.1(nn).

“Participation Maximum” shall have the meaning ascribed to such term in Section 4.16(a).

“Permitted Indebtedness” means (a) the Indebtedness evidenced by the Notes and the Debentures all as set forth on Schedule 3.1(aa), (b) any liabilities for borrowed money or amounts owed not in excess of \$10,000 in the aggregate (other than trade accounts payable incurred in the ordinary course of business), (c) all guaranties, endorsements and other contingent obligations in respect of indebtedness of others, whether or not the same are or should be reflected in the Company’s consolidated balance sheet (or the notes thereto) not affecting more than \$10,000 in the aggregate, except guaranties by endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business; (d) the present value of any lease payments not in excess of \$100,000 due under leases required to be capitalized in accordance with GAAP; and (e) any liabilities for borrowed money that are junior to the Notes pursuant to an intercreditor agreement acceptable to Purchasers, and the holders of which are not granted any security interest.

“Permitted Lien” means the individual and collective reference to the following: (a) Liens for taxes, assessments and other governmental charges or levies not yet due or Liens for taxes, assessments and other governmental charges or levies being contested in good faith and by appropriate proceedings for which adequate reserves (in the good faith judgment of the management of the Company) have been established in accordance with GAAP, (b) Liens imposed by law which were incurred in the ordinary course of the Company’s business, such as carriers’, warehousemen’s and mechanics’ Liens, statutory landlords’ Liens, and other similar Liens arising in the ordinary course of the Company’s business, and which (x) do not individually or in the aggregate materially detract from the value of such property or assets or materially impair the use thereof in the operation of the business of the Company and its consolidated Subsidiaries or (y) are being contested in good faith by appropriate proceedings, which proceedings have the effect of preventing for the foreseeable future the forfeiture or sale of the property or asset subject to such Liens, and (c) Liens in connection with Permitted Indebtedness under clauses (a), (b) and (c) thereunder.

“Person” means an individual, corporation or Company, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

“Pre-Notice” shall have the meaning ascribed to such term in Section 4.16(b).

“Proceeding” means an action, claim, suit, investigation or proceeding (including, without limitation, an informal investigation or partial proceeding, such as a deposition), whether commenced or threatened.

“Pro-Rata Portion” shall have the meaning ascribed to such term in Section 4.16(e).

“Public Information Failure” shall have the meaning ascribed to such term in Section 4.3(b).

“Public Information Failure Payments” shall have the meaning ascribed to such term in Section 4.3(b).

“Purchaser Party” shall have the meaning ascribed to such term in Section 4.10.

“Registration Rights Agreement” means the Registration Rights Agreement, dated the date hereof, among the Company and the Purchasers, in the form of Exhibit E attached hereto.

“Registration Statement” means a registration statement declared effective by the Commission allowing the public resale of not less than all of the Underlying Shares by the Purchaser, at the time such registration statement is effective and the prospectus contained therein is current.

“Required Approvals” shall have the meaning ascribed to such term in Section 3.1(e).

“Required Minimum” means, as of any date, 150% of the maximum aggregate number of shares of Common Stock then issued or potentially issuable in the future pursuant to the Transaction Documents, including any Underlying Shares issuable upon conversion in full of all Notes, ignoring any conversion or exercise limits set forth therein.

“Rule 144” means Rule 144 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended or interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

“SEC Reports” shall have the meaning ascribed to such term in Section 3.1(h).

“Securities” means the Notes and the Underlying Shares.

“Securities Act” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

“Security Agreement” means the Security Agreement to be entered into in connection with the sale of the Securities, a copy of which is annexed hereto as Exhibit C.

“Short Sales” means “short sales” as defined in Rule 200 of Regulation SHO under the Exchange Act and all types of direct and indirect stock pledges, forward sale contracts, options, puts, calls, swaps and similar arrangements (including on a total return basis) whether such transactions are made through U.S. or non-U.S. broker dealers or foreign regulated brokers.

“Stock Option Plans” means the Stock Option Plan of the Company in effect as the date of this Agreement, the principal terms of which have been disclosed in the SEC Reports.

“Subscription Amount” means, as to each Purchaser, the aggregate amount to be paid for the Notes purchased hereunder at the Closing as specified below such Purchaser’s name on the signature page of this Agreement and next to the heading “Subscription Amount,” in United States dollars and in immediately available funds.

“Subsequent Financing” shall have the meaning ascribed to such term in Section 4.16(a).

“Subsequent Financing Notice” shall have the meaning ascribed to such term in Section 4.16(b).

“Subsidiary” means with respect to any entity at any date, any direct or indirect Person, limited or general partnership, limited liability company, trust, estate, association, joint venture or other business entity of which (A) more than 50% of (i) the outstanding capital stock having (in the absence of contingencies) ordinary voting power to elect a majority of the board of directors or other managing body of such entity, (ii) in the case of a partnership or limited liability company, the interest in the capital or profits of such partnership or limited liability company or (iii) in the case of a trust, estate, association, joint venture or other entity, the beneficial interest in such trust, estate, association or other entity business is, at the time of determination, owned or controlled directly or indirectly through one or more intermediaries, by such entity, or (B) is under the actual control of the Company.

“Termination Date” means February 15, 2019.

“Trading Day” means a day on which the principal Trading Market is open for trading for three or more hours, or if there is no applicable Trading Market, Trading Day shall mean Business Day.

“Trading Market” means the first listed of any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE American, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, the New York Stock Exchange, the OTC Bulletin Board, the OTCQB, or the OTCQX (or any successors to any of the foregoing).

“Transaction Documents” means this Agreement, the Security Agreement, the Notes, the Registration Rights Agreement, all exhibits and schedules thereto and hereto and any other documents or agreements executed by any party hereto in connection with the transactions contemplated hereunder.

“Transfer Agent” means Computershare, the current transfer agent of the Company, with a mailing address of 350 Indiana Street, Suite 800 Golden, Colorado 80401, and a facsimile number of (303) 262-0610, and any successor transfer agent of the Company.

“Underlying Shares” means the shares of Common Stock issued and issuable upon conversion of the Notes and issued and issuable in lieu of the cash payment of interest on the Notes in accordance with the terms of the Notes and any other shares of Common Stock issued or issuable to a Purchaser in connection with or pursuant to the Securities or Transaction Documents.

“Unlegended Shares” shall have the meaning ascribed to such term in Section 4.1(d).

“Variable Priced Equity Linked Instruments” shall have the meaning ascribed to such term in Section 4.13.

“Variable Rate Transaction” shall have the meaning ascribed to such term in Section 4.13.

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if the Common Stock is not then listed or quoted for trading on a Trading Market but is then reported on the OTC Pink Marketplace maintained by the OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the volume weighted average price of the Common Stock on the first such facility (or a similar organization or agency succeeding to its functions of reporting prices), or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by a Majority in Interest and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

**ARTICLE II.
PURCHASE AND SALE**

2.1 Purchase and Sale of Notes.

(a) Subject to the terms and conditions of this Agreement, each Purchaser agrees to purchase and the Company agrees to sell and issue to each Purchaser at the Closing (as defined below) the principal amount of Notes of the Company as is set forth opposite such Purchaser's name on such Purchaser's signature page hereto. The Notes issued to the Purchasers pursuant to this Agreement (including any notes issued at the Initial Closing and any Additional Notes, as defined below) shall be referred to in this Agreement as the "Notes." Each Note shall be in the form attached hereto as Exhibit A hereto.

(b) The initial purchase and sale of the Notes shall take place remotely via the electronic exchange of documents and signatures on the Business Day on which all of the Transaction Documents have been executed and delivered by the applicable parties thereto, and all conditions precedent to (i) the Purchasers' obligation to pay the Subscription Amount at such Closing, and (ii) the Company's obligations to deliver the Securities to be issued and sold at such Closing, in each case, have been satisfied or waived, but in no event later than the tenth Business Day following the date hereof (such initial closing is referred to herein as the "Initial Closing").

(c) After the Initial Closing, the Company may sell, in one or more closings and on the terms and conditions contained in this Agreement, Notes in the aggregate principal amount of up to \$5,000,000 (collectively, the "Additional Notes"), to one or more purchasers (the "Additional Purchasers") reasonably acceptable to the Company, provided that (A) such subsequent sale is consummated prior to February 15, 2019 (the "Termination Date"), or such date as the Company and a Majority in Interest may mutually agree upon; and (B) each Additional Purchaser shall become a party to the Transaction Documents by executing and delivering a counterpart signature page to each of the Transaction Documents. Signature pages shall be added to this Agreement to reflect the amount of Additional Notes purchased at each such closing (an "Additional Closing" and together with the Initial Closing, each, a "Closing") and the parties purchasing such Additional Notes.

(d) At each Closing, the payment by a Purchaser of such Purchaser's Subscription Amount may be made (i) via wire transfer or a certified check in immediately available funds to the Company or (ii) by surrender for cancellation of Debentures held by such Purchaser in the amount of outstanding principal and interest specified on a letter of transmittal enclosed therewith; provided, however, that the portion of any Purchaser's total Subscription Amount that may be paid by cancellation of Debentures shall not exceed 90.91%.

NO MINIMUM AMOUNT OF NOTES MUST BE SOLD IN ORDER FOR THE COMPANY TO ACCEPT ANY SUBSCRIPTIONS, AND ALL NET PROCEEDS OF THE OFFERING WILL BE IMMEDIATELY AVAILABLE FOR COMPANY PURPOSES UPON CLOSING.

2.2 Deliveries.

(a) On or prior to the Closing Date, the Company shall deliver or cause to be delivered to each Purchaser the following:

(i) this Agreement duly executed by the Company;

(ii) a Note with a principal amount as set forth on the signature page hereto equal to each Purchaser's Subscription Amount, registered in the name of such Purchaser;

(iii) the Security Agreement duly executed by the Company;

(iv) the Registration Rights Agreement duly executed by the Company;

(v) a certificate executed on behalf of the Company by its Principal Executive Officer or Chief Executive Officer (each as defined in the Exchange Act) of the Company, dated as of the Closing Date, in which such officer shall certify that the conditions set forth in Section 2.3(b) have been fulfilled; and

(a)

(vi) a certificate executed on behalf of the Company by its Secretary's certificate containing (i) copies of the text of the resolutions by which the corporate action on the part of the Company necessary to approve this Agreement and the other Transaction Documents and the transactions and actions contemplated hereby and thereby, which shall be accompanied by a certificate of the corporate secretary or assistant corporate secretary of Company dated as of the Closing Date certifying to the Purchasers that such resolutions were duly adopted and have not been amended or rescinded, (ii) an incumbency certificate dated as of the Closing Date executed on behalf of Company by its corporate secretary or one of its assistant corporate secretaries certifying the office of each officer of Company executing this Agreement, or any other agreement, certificate or other instrument executed pursuant hereto, and (iii) copies of (A) the Company's Certificate of Incorporation and bylaws in effect on the Closing Date, and (B) the certificate evidencing the good standing of Company as of a day within five (5) Business Days prior to the Closing Date.

(b)

(b) On or prior to the Closing Date, each Purchaser shall deliver or cause to be delivered to the Company the following:

(i) this Agreement duly executed by such Purchaser;

(ii) such Purchaser's Subscription Amount;

(iii) Accredited Investor Questionnaire duly executed by each Purchaser;

(iv) the Security Agreement duly executed by each Purchaser and the Collateral Agent; and

(v) the Registration Rights Agreement duly executed by each Purchaser.

2.3 Closing Conditions.

(a) The obligations of the Company hereunder to effect the Closing are subject to the following conditions being met:

(i) the accuracy in all material respects (determined without regard to any materiality, Material Adverse Effect or other similar qualifiers therein) on the date of this Agreement and the Closing Date of the representations and warranties of the Purchasers contained herein (unless as of a specific date therein in which case they shall be accurate as of such date);

(ii) all obligations, covenants and agreements of each Purchaser under this Agreement required to be performed at or prior to the Closing Date shall have been performed in all material respects; and

(iii) the delivery by each Purchaser of the items set forth in Section 2.2(b) of this Agreement.

(b) The respective obligations of a Purchaser hereunder to effect the Closing, unless waived by such Purchaser, are subject to the following conditions being met:

(i) the accuracy in all material respects (determined without regard to any materiality, Material Adverse Effect or other similar qualifiers therein) on the date of this Agreement and Closing Date of the representations and warranties of the Company contained herein (unless as of a specific date therein in which case they shall be accurate as of such date);

(ii) all Required Approvals, obligations, covenants and agreements of the Company under the Transaction Documents required to be performed or obtained at or prior to the Closing Date shall have been performed or obtained;

(iii) the delivery by the Company of the items set forth in Section 2.2(a) of this Agreement;

(iv) there shall have been no Material Adverse Effect with respect to the Company since the date hereof; and

(v) from the date hereof to the Closing Date, and, at any time prior to the Closing Date, trading in securities generally as reported by Bloomberg L.P. shall not have been suspended or limited, or minimum prices shall not have been established on securities whose trades are reported by such service, or on any Trading Market, nor shall a banking moratorium have been declared either by the United States or New York State authorities nor shall there have occurred any material outbreak or escalation of hostilities or other national or international calamity of such magnitude in its effect on, or any material adverse change in, any financial market which, in each case, in the reasonable judgment of such Purchaser, makes it impracticable or inadvisable to purchase the Securities at the Closing.

ARTICLE III. REPRESENTATIONS AND WARRANTIES

3.1 Representations and Warranties of the Company. Except as set forth in the SEC Reports or the Disclosure Schedules, which Disclosure Schedules shall be deemed a part hereof and shall qualify any representation made herein only to the extent of the disclosure contained in the corresponding or cross-referenced section of the Disclosure Schedules, the Company hereby makes the following representations and warranties to each Purchaser:

(a) Subsidiaries. All of the direct and indirect Subsidiaries of the Company and the Company's ownership interests therein are set forth on Schedule 3.1(a). The Company owns, directly or indirectly, the capital stock or other equity interests of each Subsidiary set forth on Schedule 3.1(a), free and clear of any Liens, and all of the issued and outstanding shares of capital stock of each Subsidiary are validly issued and are fully paid, non-assessable and free of pre-emptive and similar rights to subscribe for or purchase securities.

(b) Organization and Qualification. The Company and each Subsidiary is an entity duly incorporated or otherwise organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation or organization, with the requisite power and authority to own and use its properties and assets and to carry on its business as currently conducted. Neither the Company nor any Subsidiary is in violation nor default of any of the provisions of its respective certificate or articles of incorporation, bylaws or other organizational or charter documents. Each of the Company and each Subsidiary is duly qualified to conduct business and is in good standing as a foreign Person or other entity in each jurisdiction in which the nature of the business conducted or property owned by it makes such qualification necessary, except where the failure to be so qualified or in good standing, as the case may be, would not reasonably be expected to result in: (i) a material adverse effect on the legality, validity or enforceability of any Transaction Document, (ii) a material adverse effect on the results of operations, assets, business, or condition (financial or otherwise) of the Company and each Subsidiary, taken as a whole, or (iii) a material adverse effect on the Company's ability to perform in any material respect on a timely basis its obligations under any Transaction Document (any of (i), (ii) or (iii), a "Material Adverse Effect") and, no Proceeding has been instituted in any such jurisdiction revoking, limiting or curtailing or seeking to revoke, limit or curtail such power and authority or qualification.

(c) Authorization; Enforcement. The Company has the requisite corporate power and authority to enter into and to consummate the transactions contemplated by this Agreement and each of the other Transaction Documents and otherwise to carry out its obligations hereunder and thereunder. The execution and delivery of this Agreement and each of the other Transaction Documents by the Company and the consummation by it of the transactions contemplated hereby and thereby have been duly authorized by all necessary action on the part of the Company and no further action is required by the Company, the Board of Directors or the Company's stockholders in connection herewith or therewith other than in connection with the Required Approvals. This Agreement and each other Transaction Document to which it is a party has been (or upon delivery will have been) duly executed by the Company and, when delivered in accordance with the terms hereof and thereof, will constitute the valid and binding obligation of the Company enforceable against the Company in accordance with its terms, except: (i) as limited by general equitable principles and applicable bankruptcy, insolvency, reorganization, moratorium and other laws of general application affecting enforcement of creditors' rights generally, (ii) as limited by laws relating to the availability of specific performance, injunctive relief or other equitable remedies and (iii) insofar as indemnification and contribution provisions may be limited by Applicable Law.

(d) No Conflicts. The execution, delivery and performance by the Company and all Persons other than the Purchasers and Collateral Agent (as defined in the Security Agreement) of this Agreement and the other Transaction Documents, the issuance and sale of the Securities and the consummation by it of the transactions contemplated hereby and thereby to which it is a party do not and will not: (i) conflict with or violate any provision of the Company's or any Subsidiary's or such other Person's certificate or articles of incorporation, bylaws or other organizational or charter documents, (ii) conflict with, or constitute a default (or an event that with notice or lapse of time or both would become a default) under, result in the creation of any Lien upon any of the properties or assets of the Company or any Subsidiary, or give to others any rights of termination, amendment, acceleration, adjustment, exchange, reset, exercise or cancellation (with or without notice, lapse of time or both) of, any agreement, credit facility, debt, equity or other instrument (evidencing Company or Subsidiary equity, debt or otherwise) or other understanding to which the Company or any Subsidiary is a party or by which any property or asset of the Company or any Subsidiary is bound or affected, or (iii) subject to the Required Approvals, conflict with or result in a violation of any law, rule, regulation, order, judgment, injunction, decree or other restriction of any court or governmental authority to which the Company or a Subsidiary or such other Person is subject (including federal and state securities laws and regulations), or by which any property or asset of the Company or a Subsidiary is bound or affected; except in the case of each of clause (iii), such as could not have or reasonably be expected to result in a Material Adverse Effect.

(e) Filings, Consents and Approvals. The Company is not required to obtain any consent, waiver, authorization or order of, give any notice to, or make any filing or registration with, any court or other federal, state, local or other governmental authority or other Person in connection with the execution, delivery and performance by the Company of the Transaction Documents, other than: (i) the filings required pursuant to Section 4.6 of this Agreement, (ii) the notice and/or application(s) to each applicable Trading Market for the issuance and sale of the Securities and the listing of the Underlying Shares for trading thereon in the time and manner required thereby and (iii) the filing of Form D with the Commission and such filings as are required to be made under applicable state securities laws (collectively, the “Required Approvals”).

(f) Issuance of the Securities. The Securities are duly authorized and, when issued and paid for in accordance with the applicable Transaction Documents, will be duly and validly issued, fully paid and nonassessable, free and clear of all Liens imposed by the Company other than restrictions on transfer provided for in the Transaction Documents. The Underlying Shares, when issued in accordance with the terms of the Transaction Documents, will be validly issued, fully paid and nonassessable, free and clear of all Liens imposed by the Company other than restrictions on transfer provided for in the Transaction Documents.

(g) Capitalization. Except as set forth on Schedule 3.1(g), the Company has not issued any capital stock since its most recently filed annual report on Form 10-K. Except as set forth on Schedule 3.1(g), no Person has any right of first refusal, preemptive right, right of participation, or any similar right to participate in the transactions contemplated by the Transaction Documents. Except as disclosed on Schedule 3.1(g), there are no outstanding options, employee or incentive stock option plans, warrants, scrip rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities, rights or obligations convertible into or exercisable or exchangeable for, or giving any Person any right to subscribe for or acquire any shares of Common Stock, or contracts, commitments, understandings or arrangements by which the Company or any Subsidiary is or may become bound to issue additional shares of Common Stock or Common Stock Equivalents. Except as set forth on Schedule 3.1(g), the issuance and sale of the Securities will not obligate the Company to issue shares of Common Stock or other securities to any Person (other than the Purchasers) and will not result in a right of any holder of Company securities to adjust the exercise, conversion, exchange or reset price under any of such securities. All of the outstanding shares of capital stock of the Company are duly authorized, validly issued, fully paid and nonassessable, have been issued in material compliance with all federal and state securities laws, and none of such outstanding shares was issued in violation of any preemptive rights or similar rights to subscribe for or purchase securities. Except as contemplated by Section 3.1(e), no further approval or authorization of any stockholder, the Board of Directors or other Person is required for the issuance and sale of the Securities and the Company’s compliance with the terms of the Transaction Documents. There are no stockholders agreements, voting agreements or other similar agreements with respect to the Company’s capital stock to which the Company is a party or, to the knowledge of the Company, between or among any of the Company’s stockholders. Except as disclosed on Schedule 3.1(g), the Company is not a party to any Variable Rate Transaction and as of Closing, there will not be outstanding any Equity Line of Credit nor Variable Priced Equity Linked Instruments as of the Closing.

(h) SEC Reports: Financial Statements. Except as set forth on Schedule 3.1(h), the Company has filed all reports, schedules, forms, statements and other documents required to be filed by the Company under the Securities Act and the Exchange Act, including pursuant to Section 13(a) or 15(d) thereof, for the three years preceding the date hereof (or such shorter period as the Company was required by law or regulation to file such material) (the foregoing materials, including the exhibits thereto and documents incorporated by reference therein, being collectively referred to herein as the “SEC Reports”) on a timely basis or has received a valid extension of such time of filing and has filed any such SEC Reports prior to the expiration of any such extension. As of their respective dates, the SEC Reports complied in all material respects with the requirements of the Securities Act and the Exchange Act, as applicable, and none of the SEC Reports, when filed, contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The Company has never been an issuer subject to Rule 144(i) under the Securities Act. The financial statements of the Company included in the SEC Reports comply in all material respects with applicable accounting requirements and the rules and regulations of the Commission with respect thereto as in effect at the time of filing. Such financial statements have been prepared in accordance with United States generally accepted accounting principles applied on a consistent basis during the periods involved (“GAAP”), except as may be otherwise specified in such financial statements or the notes thereto and except that unaudited financial statements may not contain all footnotes required by GAAP, and fairly present in all material respects the financial position of the Company and its consolidated Subsidiaries as of and for the dates thereof and the results of operations and cash flows for the periods then ended, subject, in the case of unaudited statements, to normal, immaterial, year-end audit adjustments.

(i) Material Changes: Undisclosed Events, Liabilities or Developments. Since the date of the latest audited financial statements included within the SEC Reports, except as set forth on Schedule 3.1(i) or as specifically disclosed in a subsequent SEC Report filed prior to the date hereof: (i) there has been no event, occurrence or development that has had or that could reasonably be expected to result in a Material Adverse Effect, (ii) the Company has not incurred any liabilities (contingent or otherwise) other than (A) trade payables and accrued expenses incurred in the ordinary course of business consistent with past practice and (B) liabilities not required to be reflected in the Company’s financial statements pursuant to GAAP or disclosed in filings made with the Commission, (iii) the Company has not altered its method of accounting, (iv) the Company has not declared or made any dividend or distribution of cash or other property to its stockholders or purchased, redeemed or made any agreements to purchase or redeem any shares of its capital stock and (v) the Company has not issued any equity securities to any officer, director or Affiliate, except pursuant to existing Company stock option plans. The Company does not have pending before the Commission any request for confidential treatment of information. Except for the issuance of the Securities contemplated by this Agreement or as set forth on Schedule 3.1(i), no event, liability, fact, circumstance, occurrence or development has occurred or exists or is reasonably expected to occur or exist with respect to the Company or its Subsidiaries or their respective businesses, properties, operations, assets or financial condition, that would be required to be disclosed by the Company under applicable securities laws at the time this representation is made or deemed made that has not been publicly disclosed at least one (1) Trading Day prior to the date that this representation is made.

(j) Litigation. Except as set forth in Schedule 3.1(j), there is no action, suit, inquiry, notice of violation, proceeding or investigation pending or, to the knowledge of the Company, threatened against or affecting the Company, any Subsidiary or any of their respective properties before or by any court, arbitrator, governmental or administrative agency or regulatory authority (federal, state, county, local or foreign) (collectively, an “Action”) which (i) adversely affects or challenges the legality, validity or enforceability of any of the Transaction Documents or the Securities or (ii) could, if there were an unfavorable decision, have or reasonably be expected to result in a Material Adverse Effect. Neither the Company nor any Subsidiary, nor any director or officer thereof, is or has been the subject of any Action involving a claim of violation of or liability under federal or state securities laws or a claim of breach of fiduciary duty. There has not been, and to the knowledge of the Company, there is not pending or contemplated, any investigation by the Commission involving the Company or any current or former director or officer of the Company. The Commission has not issued any stop order or other order suspending the effectiveness of any registration statement filed by the Company or any Subsidiary under the Exchange Act or the Securities Act.

(k) Labor Relations. No labor dispute exists or, to the knowledge of the Company, is imminent with respect to any of the employees of the Company, which could reasonably be expected to result in a Material Adverse Effect. None of the Company's or its Subsidiaries' employees is a member of a union that relates to such employee's relationship with the Company or such Subsidiary, and neither the Company nor any of its Subsidiaries is a party to a collective bargaining agreement, and the Company and its Subsidiaries believe that their relationships with their employees are good. To the knowledge of the Company, no executive officer of the Company or any Subsidiary, is, or is now expected to be, in violation of any material term of any employment contract, confidentiality, disclosure or proprietary information agreement or non-competition agreement, or any other contract or agreement or any restrictive covenant in favor of any third party, and the continued employment of each such executive officer does not subject the Company or any of its Subsidiaries to any liability with respect to any of the foregoing matters. Except as set forth on Schedule 3.1(k), the Company and its Subsidiaries are in compliance with all U.S. federal, state, local and foreign laws and regulations relating to employment and employment practices, terms and conditions of employment and wages and hours, except where the failure to be in compliance could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(l) Compliance. Except as set forth on Schedule 3.1(l), neither the Company nor any Subsidiary: (i) is in default under or in violation of (and no event has occurred that has not been waived that, with notice or lapse of time or both, would result in a default by the Company or any Subsidiary under), nor has the Company or any Subsidiary received notice of a claim that it is in default under or that it is in violation of, any indenture, loan or credit agreement or any other agreement or instrument to which it is a party or by which it or any of its properties is bound (whether or not such default or violation has been waived), (ii) is in violation of any judgment, decree or order of any court, arbitrator or other governmental authority or (iii) is or has been in violation of any statute, rule, ordinance or regulation of any governmental authority, including without limitation all foreign, federal, state and local laws relating to taxes, environmental protection, occupational health and safety, product quality and safety and employment and labor matters, except in each case as could not have or reasonably be expected to result in a Material Adverse Effect.

(m) Regulatory Permits. The Company and the Subsidiaries possess all certificates, authorizations and permits issued by the appropriate federal, state, local or foreign regulatory authorities necessary to conduct their respective businesses, except where the failure to possess such permits could not reasonably be expected to result in a Material Adverse Effect ("Material Permits"), and neither the Company nor any Subsidiary has received any notice of proceedings relating to the revocation or modification of any Material Permit.

(n) Title to Assets. The Company and the Subsidiaries have good and marketable title in fee simple to all real property owned by them and good and marketable title in all personal property owned by them that is material to the business of the Company and the Subsidiaries, in each case free and clear of all Liens, except for (i) Liens as do not materially affect the value of such property and do not materially interfere with the use made and proposed to be made of such property by the Company and the Subsidiaries and (ii) Liens for the payment of federal, state or other taxes, for which appropriate reserves have been made therefor in accordance with GAAP and, the payment of which is neither delinquent nor subject to penalties. Any real property and facilities held under lease by the Company and the Subsidiaries are held by them under valid, subsisting and enforceable leases with which the Company and the Subsidiaries are in compliance.

(o) Intellectual Property. The Company and the Subsidiaries have, or have rights to use, all patents, patent applications, trademarks, trademark applications, service marks, trade names, trade secrets, inventions, copyrights, licenses and other intellectual property rights and similar rights as described in the SEC Reports as necessary or required for use in connection with their respective businesses and which the failure to so have could have a Material Adverse Effect (collectively, the “Intellectual Property Rights”). None of, and neither the Company nor any Subsidiary has received a notice (written or otherwise) that any of, the Intellectual Property Rights has expired, terminated or been abandoned, or is expected to expire or terminate or be abandoned, within two (2) years from the date of this Agreement. Neither the Company nor any Subsidiary has received, since the date of the latest audited financial statements included within the SEC Reports, a written notice of a claim or otherwise has any knowledge that the Intellectual Property Rights violate or infringe upon the rights of any Person, except as could not have or reasonably be expected to not have a Material Adverse Effect. To the knowledge of the Company, all such Intellectual Property Rights are enforceable and there is no existing infringement by another Person of any of the Intellectual Property Rights. The Company and its Subsidiaries have taken reasonable security measures to protect the secrecy, confidentiality and value of all of their intellectual properties, except where failure to do so could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(p) Insurance. The Company and each Subsidiary maintain insurance coverage for Product/Human Clinical Trial Liability, Professional Liability, General Liability, Property and Directors and Officers.

(q) Transactions With Affiliates and Employees. Except as set forth in the SEC Reports and on Schedule 3.1(q), none of the officers or directors of the Company or any Subsidiary and, to the knowledge of the Company, none of the employees of the Company or any Subsidiary is presently a party to any transaction with the Company or any Subsidiary (other than for services as employees, officers and directors), including any contract, agreement or other arrangement providing for the furnishing of services to or by, providing for rental of real or personal property to or from providing for the borrowing of money from or lending of money to, or otherwise requiring payments to or from any officer, director or such employee or, to the knowledge of the Company, any entity in which any officer, director, or any such employee has a substantial interest or is an officer, director, trustee, stockholder, member or partner, in each case in excess of \$60,000 other than for: (i) payment of salary or consulting fees for services rendered, (ii) reimbursement for expenses incurred on behalf of the Company and (iii) other employee benefits, including stock option agreements under any stock option plan of the Company.

(r) Sarbanes-Oxley: Internal Accounting Controls. The Company and the Subsidiaries are not in compliance with any and all applicable requirements of the Sarbanes-Oxley Act of 2002 that are effective as of the date hereof, and any and all applicable rules and regulations promulgated by the Commission thereunder that are effective as of the date hereof and as of the Closing Date. The Company and the Subsidiaries currently do not maintain a system of internal accounting controls sufficient to provide reasonable assurance that: (i) transactions are executed in accordance with management’s general or specific authorizations, (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset accountability, (iii) access to assets is permitted only in accordance with management’s general or specific authorization, and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences.

(s) Certain Fees. No brokerage or finder’s fees or commissions are or will be payable by the Company or any Subsidiaries to any broker, financial advisor or consultant, finder, placement agent, investment banker, bank or other Person with respect to the transactions contemplated by the Transaction Documents. The Purchasers shall have no obligation with respect to any fees or with respect to any claims made by or on behalf of other Persons for fees of a type contemplated in this Section that may be due in connection with the transactions contemplated by the Transaction Documents.

(t) Private Placement. Assuming the accuracy of the Purchasers' representations and warranties set forth in Section 3.2, no registration under the Securities Act is required for the offer and sale of the Securities by the Company to the Purchasers as contemplated hereby. The issuance and sale of the Securities hereunder does not contravene the rules and regulations of the Trading Market.

(u) Investment Company. The Company is not, and is not an Affiliate of, and immediately after receipt of payment for the Securities, will not be or be an Affiliate of, an "investment company" within the meaning of the Investment Company Act of 1940, as amended. The Company shall conduct its business in a manner so that it will not become an "investment company" subject to registration under the Investment Company Act of 1940, as amended.

(v) Registration Rights. No Person has any right to cause the Company to effect the registration under the Securities Act of any securities of the Company or any Subsidiaries other than piggyback registration rights for the shares set forth on Schedule 3.1(v).

(w) Listing and Maintenance Requirements. The Common Stock is registered pursuant to Section 12(b) or 12(g) of the Exchange Act, and the Company has taken no action designed to, or which to its knowledge is likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act nor has the Company received any notification that the Commission is contemplating terminating such registration. The Company has not, in the 12 months preceding the date hereof, received notice from any Trading Market on which the Common Stock is or has been listed or quoted to the effect that the Company is not in compliance with the listing or maintenance requirements of such Trading Market. The Company is, and has no reason to believe that it will not in the foreseeable future continue to be, in compliance with all such listing and maintenance requirements. The Common Stock is currently eligible for electronic transfer through the Depository Trust Company or another established clearing corporation and the Company is current in payment of the fees to the Depository Trust Company (or such other established clearing corporation) in connection with such electronic transfer.

(x) Application of Takeover Protections. The Company and the Board of Directors have taken all necessary action, if any, in order to render inapplicable any control share acquisition, business combination, poison pill (including any distribution under a rights agreement) or other similar anti-takeover provision under the Company's certificate of incorporation (or similar charter documents) or the laws of its state of incorporation that is or could become applicable to the Purchasers as a result of the Purchasers and the Company fulfilling their obligations or exercising their rights under the Transaction Documents, including without limitation as a result of the Company's issuance of the Securities and the Purchasers' ownership of the Securities.

(y) Disclosure. Except with respect to the material terms and conditions of the transactions contemplated by the Transaction Documents, the Company confirms that neither it nor any other Person acting on its behalf has provided any of the Purchasers or their agents or counsel with any information that it believes constitutes or might constitute material, non-public information. The Company understands and confirms that the Purchasers will rely on the foregoing representation in effecting transactions in securities of the Company. All of the disclosure furnished by or on behalf of the Company to the Purchasers regarding the Company and its Subsidiaries, their respective businesses and the transactions contemplated hereby, including the Disclosure Schedules to this Agreement, is true and correct and does not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading. The Company acknowledges and agrees that no Purchaser makes or has made any representations or warranties with respect to the transactions contemplated hereby other than those specifically set forth in Section 3.2 hereof.

(z) No Integrated Offering. Assuming the accuracy of the Purchasers' representations and warranties set forth in Section 3.2, neither the Company, nor any of its Affiliates, nor any Person acting on its or their behalf has, directly or indirectly, made any offers or sales of any security or solicited any offers to buy any security, under circumstances that would cause this offering of the Securities to be integrated with prior offerings by the Company for purposes of (i) the Securities Act which would require the registration of any such securities under the Securities Act, or (ii) any applicable shareholder approval provisions of any Trading Market on which any of the securities of the Company are listed or designated.

(aa) Indebtedness, Schedule 3.1(aa) sets forth as of the date hereof all outstanding secured and unsecured Indebtedness of the Company or any Subsidiary, or for which the Company or any Subsidiary has commitments. For the purposes of this Agreement, "Indebtedness" means (x) any liabilities for borrowed money or amounts owed in excess of \$10,000 (other than trade accounts payable incurred in the ordinary course of business), (y) all guaranties, endorsements and other contingent obligations in respect of indebtedness of others, whether or not the same are or should be reflected in the Company's consolidated balance sheet (or the notes thereto), except guaranties by endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business; and (z) the present value of any lease payments in excess of \$10,000 due under leases required to be capitalized in accordance with GAAP.

(bb) Solvency. Based on the consolidated financial condition of the Company and Subsidiaries as of the Closing Date, and the Company's good faith estimate of the fair market value of its assets, after giving effect to the receipt by the Company of the proceeds from the sale of the Securities hereunder: (i) the fair saleable value of the Company's assets exceeds the amount that will be required to be paid on or in respect of the Company's existing debts and other liabilities (including known contingent liabilities) as they mature, (ii) the Company's assets do not constitute unreasonably small capital to carry on its business as now conducted and as proposed to be conducted including its capital needs taking into account the particular capital requirements of the business conducted by the Company, consolidated and projected capital requirements and capital availability thereof, and (iii) the current cash flow of the Company, together with the proceeds the Company would receive, were it to liquidate all of its assets, after taking into account all anticipated uses of the cash, would be sufficient to pay all amounts on or in respect of its liabilities when such amounts are required to be paid. The Company does not intend to incur debts beyond its ability to pay such debts as they mature (taking into account the timing and amounts of cash to be payable on or in respect of its debt). The Company has no knowledge of any facts or circumstances which lead it to believe that it will file for reorganization or liquidation under the bankruptcy or reorganization laws of any jurisdiction within one year from the Closing Date. Schedule 3.1(bb) sets forth as of the date hereof all outstanding secured and unsecured Indebtedness of the Company or any Subsidiary, or for which the Company or any Subsidiary has commitments. For the purposes of this Agreement, "Indebtedness" means (x) any liabilities for borrowed money or amounts owed in excess of \$50,000 in the aggregate (including trade accounts payable and other liabilities incurred in the ordinary course of business), (y) all guaranties, endorsements and other contingent obligations in respect of indebtedness of others, whether or not the same are or should be reflected in the Company's consolidated balance sheet (or the notes thereto), except guaranties by endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business; and (z) the present value of any lease payments in excess of \$50,000 due under leases required to be capitalized in accordance with GAAP. Neither the Company nor any Subsidiary is in default with respect to any Indebtedness.

(cc) Tax Status. Except as set forth on Schedule 3.1(cc) and for matters that would not, individually or in the aggregate, have or reasonably be expected to result in a Material Adverse Effect, the Company and its Subsidiaries each (i) has made or filed all United States federal, state and local income and all foreign income and franchise tax returns, reports and declarations required by any jurisdiction to which it is subject, (ii) has paid all taxes and other governmental assessments and charges that are material in amount, shown or determined to be due on such returns, reports and declarations and (iii) has set aside on its books provision reasonably adequate for the payment of all material taxes for periods subsequent to the periods to which such returns, reports or declarations apply. There are no unpaid taxes in any material amount claimed to be due by the taxing authority of any jurisdiction, and the officers of the Company or of any Subsidiary know of no basis for any such claim.

(dd) No General Solicitation. Neither the Company nor any person acting on behalf of the Company has offered or sold any of the Securities by any form of general solicitation or general advertising. The Company has offered the Securities for sale only to the Purchasers and certain other “accredited investors” within the meaning of Rule 501 under the Securities Act.

(ee) Foreign Corrupt Practices. Neither the Company nor any Subsidiary, nor to the knowledge of the Company or any Subsidiary, any agent or other person acting on behalf of the Company or any Subsidiary, has: (i) directly or indirectly, used any funds for unlawful contributions, gifts, entertainment or other unlawful expenses related to foreign or domestic political activity, (ii) made any unlawful payment to foreign or domestic government officials or employees or to any foreign or domestic political parties or campaigns from corporate funds, (iii) failed to disclose fully any contribution made by the Company or any Subsidiary (or made by any person acting on its behalf of which the Company is aware) which is in violation of law or (iv) violated in any material respect any provision of FCPA.

(ff) Accountants. The Company’s accounting firm is set forth on Schedule 3.1(ff) of the Disclosure Schedules. To the knowledge and belief of the Company, such accounting firm: (i) is a registered public accounting firm as required by the Exchange Act and (ii) shall express its opinion with respect to the financial statements to be included in the Company’s Annual Report for the fiscal year ending December 31, 2018.

(gg) Seniority. As of the Closing Date, except as set forth on Schedule 3.1(gg), no Indebtedness or other claim against the Company is senior to the Debentures in right of payment, whether with respect to interest or upon liquidation or dissolution, or otherwise, other than indebtedness secured by purchase money security interests (which is senior only as to underlying assets covered thereby) and capital lease obligations (which is senior only as to the property covered thereby).

(hh) No Disagreements with Accountants and Lawyers. There are no disagreements of any kind presently existing, or reasonably anticipated by the Company to arise, between the Company and the accountants and lawyers formerly or presently employed by the Company.

(ii) Acknowledgment Regarding Purchasers’ Purchase of Securities. The Company acknowledges and agrees that each of the Purchasers is acting solely in the capacity of an arm’s length purchaser with respect to the Transaction Documents and the transactions contemplated thereby. The Company further acknowledges that no Purchaser is acting as a financial advisor or fiduciary of the Company (or in any similar capacity) with respect to the Transaction Documents and the transactions contemplated thereby and any advice given by any Purchaser or any of their respective representatives or agents in connection with the Transaction Documents and the transactions contemplated thereby is merely incidental to the Purchasers’ purchase of the Securities. The Company further represents to each Purchaser that the Company’s decision to enter into this Agreement and the other Transaction Documents has been based solely on the independent evaluation of the transactions contemplated hereby by the Company and its representatives.

(jj) Acknowledgment Regarding Purchaser’s Trading Activity. Anything in this Agreement or elsewhere herein to the contrary notwithstanding (except for Sections 3.2(f) and 4.15 hereof), it is understood and acknowledged by the Company that: (i) none of the Purchasers has been asked by the Company to agree, nor has any Purchaser agreed, to desist from purchasing or selling, long and/or short, securities of the Company, or “derivative” securities based on securities issued by the Company or to hold the Securities for any specified term, (ii) past or future open market or other transactions by any Purchaser, specifically including, without limitation, Short Sales or “derivative” transactions, before or after the closing of this or future private placement transactions, may negatively impact the market price of the Company’s publicly-traded securities, (iii) any Purchaser, and counter-parties in “derivative” transactions to which any such Purchaser is a party, directly or indirectly, may presently have a “short” position in the Common Stock and (iv) each Purchaser shall not be deemed to have any affiliation with or control over any arm’s length counter-party in any “derivative” transaction. The Company further understands and acknowledges that (y) one or more Purchasers may engage in hedging activities at various times during the period that the Securities are outstanding, including, without limitation, during the periods that the value of the Underlying Shares deliverable with respect to Securities are being determined, and (z) such hedging activities (if any) could reduce the value of the existing stockholders' equity interests in the Company at and after the time that the hedging activities are being conducted. The Company acknowledges that such aforementioned hedging activities do not constitute a breach of any of the Transaction Documents.

(kk) Regulation M Compliance. The Company has not, and to its knowledge no one acting on its behalf has, (i) taken, directly or indirectly, any action designed to cause or to result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of any of the Securities, (ii) sold, bid for, purchased, or paid any compensation for soliciting purchases of, any of the Securities, or (iii) paid or agreed to pay to any Person any compensation for soliciting another to purchase any other securities of the Company, other than, in the case of clauses (ii) and (iii), compensation paid to the Company's placement agent in connection with the placement of the Securities.

(ll) FDA. As to each product subject to the jurisdiction of the U.S. Food and Drug Administration ("FDA") under the Federal Food, Drug and Cosmetic Act, as amended, and the regulations thereunder ("FDCA") that is manufactured, packaged, labeled, tested, distributed, sold, and/or marketed by the Company or any of its Subsidiaries (each such product, a "Pharmaceutical Product"), such Pharmaceutical Product is being manufactured, packaged, labeled, tested, distributed, sold and/or marketed by the Company in compliance with all applicable requirements under FDCA and similar laws, rules and regulations relating to registration, investigational use, premarket clearance, licensure, or application approval, good manufacturing practices, good laboratory practices, good clinical practices, product listing, quotas, labeling, advertising, record keeping and filing of reports, except where the failure to be in compliance would not have a Material Adverse Effect. There is no pending, completed or, to the Company's knowledge, threatened, action (including any lawsuit, arbitration, or legal or administrative or regulatory proceeding, charge, complaint, or investigation) against the Company or any of its Subsidiaries, and none of the Company or any of its Subsidiaries has received any notice, warning letter or other communication from the FDA or any other governmental entity, which (i) contests the premarket clearance, licensure, registration, or approval of, the uses of, the distribution of, the manufacturing or packaging of, the testing of, the sale of, or the labeling and promotion of any Pharmaceutical Product, (ii) withdraws its approval of, requests the recall, suspension, or seizure of, or withdraws or orders the withdrawal of advertising or sales promotional materials relating to, any Pharmaceutical Product, (iii) imposes a clinical hold on any clinical investigation by the Company or any of its Subsidiaries, (iv) enjoins production at any facility of the Company or any of its Subsidiaries, (v) enters or proposes to enter into a consent decree of permanent injunction with the Company or any of its Subsidiaries, or (vi) otherwise alleges any violation of any laws, rules or regulations by the Company or any of its Subsidiaries, and which, either individually or in the aggregate, would have a Material Adverse Effect. The properties, business and operations of the Company have been and are being conducted in all material respects in accordance with all applicable laws, rules and regulations of the FDA. The Company has not been informed by the FDA that the FDA will prohibit the marketing, sale, license or use in the United States of any product proposed to be developed, produced or marketed by the Company nor has the FDA expressed any concern as to approving or clearing for marketing any product being developed or proposed to be developed by the Company.

(mm) Stock Option Plans. Each stock option granted by the Company under the Company's stock option plan was granted (i) in accordance with the terms of the Company's stock option plan and (ii) with an exercise price at least equal to the fair market value of the Common Stock on the date such stock option would be considered granted under GAAP and applicable law. No stock option granted under the Company's stock option plan has been backdated. The Company has not knowingly granted, and there is no and has been no Company policy or practice to knowingly grant, stock options prior to, or otherwise knowingly coordinate the grant of stock options with, the release or other public announcement of material information regarding the Company or its Subsidiaries or their financial results or prospects.

(nn) Office of Foreign Assets Control. Neither the Company nor any Subsidiary nor, to the Company's knowledge, any director, officer, agent, employee or affiliate of the Company or any Subsidiary is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department ("OFAC").

(oo) U.S. Real Property Holding Corporation. The Company is not and has never been a U.S. real property holding corporation within the meaning of Section 897 of the Internal Revenue Code of 1986, as amended, and the Company shall so certify upon Purchaser's request.

(pp) Bank Holding Company Act. Neither the Company nor any of its Subsidiaries or Affiliates is subject to the Bank Holding Company Act of 1956, as amended (the "BHCA") and to regulation by the Board of Governors of the Federal Reserve System (the "Federal Reserve"). Neither the Company nor any of its Subsidiaries or Affiliates owns or controls, directly or indirectly, five percent (5%) or more of the outstanding shares of any class of voting securities or twenty-five percent or more of the total equity of a bank or any entity that is subject to the BHCA and to regulation by the Federal Reserve. Neither the Company nor any of its Subsidiaries or Affiliates exercises a controlling influence over the management or policies of a bank or any entity that is subject to the BHCA and to regulation by the Federal Reserve.

(qq) Money Laundering. The operations of the Company and its Subsidiaries are and have been conducted at all times in compliance with applicable financial record-keeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, applicable money laundering statutes and applicable rules and regulations thereunder (collectively, the "Money Laundering Laws"), and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any Subsidiary with respect to the Money Laundering Laws is pending or, to the knowledge of the Company or any Subsidiary, threatened.

(rr) Other Covered Persons. The Company is not aware of any person (other than any Issuer Covered Person) that has been or will be paid (directly or indirectly) remuneration for solicitation of purchasers in connection with the sale of any Regulation D Securities.

(ss) Notice of Disqualification Events. The Company will notify the Purchasers in writing, prior to the Closing Date of (i) any Disqualification Event relating to any Issuer Covered Person and (ii) any event that would, with the passage of time, become a Disqualification Event relating to any Issuer Covered Person.

(tt) Survival. The foregoing representations and warranties shall survive the Closing.

3.2 Representations and Warranties of the Purchasers. Each Purchaser, for itself and for no other Purchaser, hereby represents and warrants as of the date hereof and as of the Closing Date to the Company as follows (unless as of a specific date therein):

(a) Organization; Authority. Such Purchaser is either an individual or an entity duly incorporated or formed, validly existing and in good standing under the laws of the jurisdiction of its incorporation or formation with full right, corporate, partnership, limited liability company or similar power and authority to enter into and to consummate the transactions contemplated by the Transaction Documents and otherwise to carry out its obligations hereunder and thereunder. The execution and delivery of the Transaction Documents and performance by such Purchaser of the transactions contemplated by the Transaction Documents have been duly authorized by all necessary corporate, partnership, limited liability company or similar action, as applicable, on the part of such Purchaser. Each Transaction Document to which it is a party has been duly executed by such Purchaser, and when delivered by such Purchaser in accordance with the terms hereof, will constitute the valid and legally binding obligation of such Purchaser, enforceable against it in accordance with its terms, except: (i) as limited by general equitable principles and applicable bankruptcy, insolvency, reorganization, moratorium and other laws of general application affecting enforcement of creditors' rights generally, (ii) as limited by laws relating to the availability of specific performance, injunctive relief or other equitable remedies and (iii) insofar as indemnification and contribution provisions may be limited by Applicable Law.

(b) Understandings or Arrangements. Such Purchaser understands that the Securities are “restricted securities” and have not been registered under the Securities Act or any applicable state securities law and is acquiring the Securities as principal for its own account and not with a view to or for distributing or reselling such Securities or any part thereof in violation of the Securities Act or any applicable state securities law, has no present intention of distributing any of such Securities in violation of the Securities Act or any applicable state securities law and has no direct or indirect arrangement or understandings with any other persons to distribute or regarding the distribution of such Securities in violation of the Securities Act or any applicable state securities law (this representation and warranty not limiting such Purchaser’s right to sell the Securities pursuant to any registration statement or otherwise in compliance with applicable federal and state securities laws). Such Purchaser is acquiring the Securities hereunder in the ordinary course of its business.

(c) Purchaser Status. At the time such Purchaser was offered the Securities, it was, and as of the date hereof it is, and on each date on which it converts any Notes it will be either: (i) an accredited investor (“Accredited Investor”) as defined in Rule 501(a)(1), (a)(2), (a)(3), (a)(7) or (a)(8) under the Securities Act or (ii) a “qualified institutional buyer” as defined in Rule 144A(a) under the Securities Act. Such Purchaser is not required to be registered as a broker-dealer under Section 15 of the Exchange Act. Such Purchaser has the authority and is duly and legally qualified to purchase and own the Securities. Such Purchaser is able to bear the risk of such investment for an indefinite period and to afford a complete loss thereof. Such Purchaser has provided the information in the Accredited Investor Questionnaire attached hereto as Exhibit B (the “Investor Questionnaire”). The information set forth on the signature pages hereto and the Investor Questionnaire regarding such Purchaser is true and complete in all respects. Except as disclosed in the Investor Questionnaire, such Purchaser has had no position, office or other material relationship within the past three years with the Company or Persons (as defined below) known to such Purchaser to be affiliates of the Company, and is not a member of the Financial Industry Regulatory Authority or an “associated person” (as such term is defined under the FINRA Membership and Registration Rules Section 1011).

(d) Experience of Such Purchaser. Such Purchaser, either alone or together with its representatives, has such knowledge, sophistication and experience in business and financial matters so as to be capable of evaluating the merits and risks of the prospective investment in the Securities, and has so evaluated the merits and risks of such investment. Such Purchaser is able to bear the economic risk of an investment in the Securities and, at the present time, is able to afford a complete loss of such investment.

(e) Information on Company. Such Purchaser has been furnished with or has had access to the SEC Reports and Disclosure Schedules. Purchasers are not deemed to have any knowledge of any information not included in the SEC Reports and Disclosure Schedules unless such information is delivered in the manner described in the next sentence. In addition, such Purchaser may have received in writing from the Company such other information concerning its operations, financial condition and other matters as such Purchaser has requested, identified thereon as OTHER WRITTEN INFORMATION (such other information is collectively, the “*Other Written Information*”), and considered all factors such Purchaser deems material in deciding on the advisability of investing in the Securities. Such Purchaser was afforded (i) the opportunity to ask such questions as such Purchaser deemed necessary of, and to receive answers from, representatives of the Company concerning the merits and risks of acquiring the Securities; (ii) the right of access to information about the Company and its financial condition, results of operations, business, properties, management and prospects sufficient to enable such Purchaser to evaluate the Securities; and (iii) the opportunity to obtain such additional information that the Company possesses or can acquire without unreasonable effort or expense that is necessary to make an informed investment decision with respect to acquiring the Securities.

(f) Compliance with Securities Act; Reliance on Exemptions. Such Purchaser understands and agrees that the Securities have not been registered under the Securities Act or any applicable state securities laws, by reason of their issuance in a transaction that does not require registration under the Securities Act, and that such Securities must be held indefinitely unless a subsequent disposition is registered under the Securities Act or any applicable state securities laws or is exempt from such registration. Such Purchaser understands and agrees that the Securities are being offered and sold to such Purchaser in reliance on specific exemptions from the registration requirements of United States federal and state securities laws and regulations and that the Company is relying in part upon the truth and accuracy of, and such Purchaser's compliance with, the representations, warranties, agreements, acknowledgments and understandings of such Purchaser set forth herein in order to determine the availability of such exemptions and the eligibility of such Purchaser to acquire the Securities.

(g) Communication of Offer. Such Purchaser is not purchasing the Securities as a result of any "general solicitation" or "general advertising," as such terms are defined in Regulation D, which includes, but is not limited to, any advertisement, article, notice or other communication regarding the Securities published in any newspaper, magazine or similar media or on the internet or broadcast over television, radio or the internet or presented at any seminar or any other general solicitation or general advertisement.

(h) No Governmental Review. Such Purchaser understands that no United States federal or state agency or any other governmental or state agency has passed on or made recommendations or endorsement of the Securities or the suitability of the investment in the Securities nor have such authorities passed upon or endorsed the merits of the Offering.

(i) No Conflicts. The execution, delivery and performance of this Agreement and performance under the other Transaction Documents and the consummation by such Purchaser of the transactions contemplated hereby and thereby or relating hereto or thereto do not and will not (i) result in a violation of such Purchaser's charter documents, bylaws or other organizational documents, if applicable, (ii) conflict with nor constitute a default (or an event which with notice or lapse of time or both would become a default) under any agreement to which such Purchaser is a party, nor (iii) result in a violation of any law, rule, or regulation, or any order, judgment or decree of any court or governmental agency applicable to such Purchaser or its properties (except for such conflicts, defaults and violations as would not, individually or in the aggregate, have a material adverse effect on such Purchaser). Such Purchaser is not required to obtain any consent, authorization or order of, or make any filing or registration with, any court or governmental agency in order for it to execute, deliver or perform any of its obligations under this Agreement or perform under the other Transaction Documents nor to purchase the Securities in accordance with the terms hereof, provided that for purposes of the representation made in this sentence, such Purchaser is assuming and relying upon the accuracy of the relevant representations and agreements of the Company herein.

(j) Certain Transactions and Confidentiality. Other than consummating the transactions contemplated hereunder, such Purchaser has not directly or indirectly, nor has any Person acting on behalf of or pursuant to any understanding with such Purchaser, executed any purchases or sales, including Short Sales, of the securities of the Company during the period commencing as of the time that such Purchaser first received a written term sheet from the Company or any other Person representing the Company setting forth the material terms of the transactions contemplated hereby and ending immediately prior to the execution hereof.

(k) Survival. The foregoing representations and warranties shall survive the Closing.

The Company acknowledges and agrees that the representations contained in Section 3.2 shall not modify, amend or affect such Purchaser's right to rely on the Company's representations and warranties contained in this Agreement or any representations and warranties contained in any other Transaction Document or any other document or instrument executed and/or delivered in connection with this Agreement or the consummation of the transaction contemplated hereby.

**ARTICLE IV.
OTHER AGREEMENTS OF THE PARTIES**

4.1 (a) Transfer Restrictions. The Securities may only be disposed of in compliance with state and federal securities laws. In connection with any transfer of Securities other than pursuant to an effective registration statement or Rule 144, to the Company or to an Affiliate of a Purchaser or in connection with a pledge as contemplated in Section 4.1(c), the Company may require the transferor thereof to provide to the Company, at the Company's expense, an opinion of counsel selected by the transferor and reasonably acceptable to the Company, the form and substance of which opinion shall be reasonably satisfactory to the Company, to the effect that such transfer does not require registration of such transferred Securities under the Securities Act. As a condition of such transfer, any such transferee shall agree in writing to be bound by the terms of this Agreement and shall have the rights and obligations of a Purchaser under this Agreement and the other Transaction Documents.

(b) Legend. The Purchasers agree to the imprinting, so long as is required by this Section 4.1, of a legend on any of the Securities in the following form:

[NEITHER] THIS SECURITY [NOR THE SECURITIES INTO WHICH THIS SECURITY IS [EXERCISABLE] [CONVERTIBLE]] HAS [NOT] BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS AS EVIDENCED BY A LEGAL OPINION OF COUNSEL TO THE TRANSFEROR TO SUCH EFFECT, THE SUBSTANCE OF WHICH SHALL BE REASONABLY ACCEPTABLE TO THE COMPANY. THIS SECURITY [AND THE SECURITIES ISSUABLE UPON [EXERCISE] [CONVERSION] OF THIS SECURITY] MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT WITH A REGISTERED BROKER-DEALER OR OTHER LOAN WITH A FINANCIAL INSTITUTION THAT IS AN ACCREDITED INVESTOR AS DEFINED IN RULE 501(a) UNDER THE SECURITIES ACT OR OTHER LOAN SECURED BY SUCH SECURITIES.

(c) Pledge. The Company acknowledges and agrees that a Purchaser may from time to time pledge pursuant to a bona fide margin agreement with a registered broker-dealer or grant a security interest in some or all of the Securities to a financial institution that is an Accredited Investor and who agrees to be bound by the provisions of this Agreement and, if required under the terms of such arrangement, such Purchaser may transfer pledge or secure Securities to the pledgees or secured parties. Such a pledge or transfer would not be subject to approval of the Company and no legal opinion of legal counsel of the pledgee, secured party or pledgor shall be required in connection therewith. Further, no notice shall be required of such pledge. At the appropriate Purchaser's expense, the Company will execute and deliver such reasonable documentation as a pledgee or secured party of Securities may reasonably request in connection with a pledge or transfer of the Securities, including, if the Securities are subject to registration pursuant to Section 4.26 hereof, the preparation and filing of any required prospectus supplement under Rule 424(b)(3) under the Securities Act or other applicable provision of the Securities Act to appropriately amend the list of selling stockholders thereunder.

(d) Legend Removal. Certificates evidencing the Underlying Shares shall not contain any legend (“Unlegended Shares”) (including the legend set forth in Section 4.1(b) hereof): (i) while a registration statement covering the resale of such security is effective under the Securities Act, (ii) following any sale of such Underlying Shares pursuant to Rule 144, (iii) if such Underlying Shares are eligible for sale under Rule 144 (in the case of a non-Affiliate of the Company), without the requirement for the Company to be in compliance with the current public information required under Rule 144 as to such Underlying Shares and without volume or manner-of-sale restrictions or (iv) if such legend is not required under applicable requirements of the Securities Act (including judicial interpretations and pronouncements issued by the staff of the Commission). The Company shall cause its counsel, at the expense of the Company, to issue a legal opinion to the Transfer Agent promptly after the Effective Date if required by the Transfer Agent to effect the removal of the legend hereunder. If all or any Notes are converted at a time when there is an effective registration statement to cover the resale of the Underlying Shares, or if such Underlying Shares may be sold under Rule 144 or if such legend is not otherwise required under applicable requirements of the Securities Act (including judicial interpretations and pronouncements issued by the staff of the Commission) then such Underlying Shares shall be issued free of all legends. The Company agrees that following such time as such legend is no longer required under this Section 4.1(c), it will, no later than two (2) Trading Days following the delivery by a Purchaser to the Company or the Transfer Agent of a certificate representing Underlying Shares, as applicable, issued with a restrictive legend (such second (2nd) Trading Day, the “Legend Removal Date”), deliver or cause to be delivered to such Purchaser a certificate representing such shares that is free from all restrictive and other legends. The Company may not make any notation on its records or give instructions to the Transfer Agent that enlarge the restrictions on transfer set forth in this Section 4. Certificates for Underlying Shares subject to legend removal hereunder shall be transmitted by the Transfer Agent to the Purchaser by crediting the account of the Purchaser’s prime broker with the Depository Trust Company System as directed by such Purchaser.

(e) Legend Removal Default. In addition to such Purchaser’s other available remedies, provided the conditions for legend removal set forth in Section 4.1(d) exist, the Company shall pay to a Purchaser, in cash, as partial liquidated damages and not as a penalty, for each \$1,000 of Underlying Shares (based on the higher of the actual purchase price or VWAP of the Common Stock on the date such Securities are submitted to the Transfer Agent) delivered for removal of the restrictive legend and subject to Section 4.1(d), \$10 per Trading Day for each Trading Day after the Legend Removal Date (increasing to \$20 per Trading Day after the fifth Trading Day) until such certificate is delivered without a legend. Nothing herein shall limit such Purchaser’s right to pursue actual damages for the Company’s failure to deliver certificates representing any Securities as required by the Transaction Documents, and such Purchaser shall have the right to pursue all remedies available to it at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief.

(f) DWAC. In lieu of delivering physical certificates representing the Unlegended Shares, upon request of a Purchaser, so long as the certificates therefor do not bear a legend and the Purchaser is not obligated to return such certificate for the placement of a legend thereon, the Company shall cause its transfer agent to electronically transmit the Unlegended Shares by crediting the account of Purchaser’s prime broker with the Depository Trust Company through its Deposit Withdrawal At Custodian system, provided that the Company’s Common Stock is DTC eligible and the Company’s transfer agent participates in the Deposit Withdrawal at Custodian system. Such delivery must be made on or before the Legend Removal Date.

(g) Injunction. In the event a Purchaser shall request delivery of Unlegended Shares as described in this Section 4.1 and the Company is required to deliver such Unlegended Shares, the Company may not refuse to deliver Unlegended Shares based on any claim that such Purchaser or anyone associated or affiliated with such Purchaser has not complied with Purchaser’s obligations under the Transaction Documents, or for any other reason, unless, an injunction or temporary restraining order from a court, on notice, restraining and or enjoining delivery of such Unlegended Shares shall have been sought and obtained by the Company and the Company has posted a surety bond for the benefit of such Purchaser in the amount of the greater of (i) 120% of the amount of the aggregate purchase price of the Underlying Shares to be subject to the injunction or temporary restraining order, or (ii) the VWAP of the Common Stock on the Trading Day before the issue date of the injunction multiplied by the number of Unlegended Shares to be subject to the injunction, which bond shall remain in effect until the completion of arbitration/litigation of the dispute and the proceeds of which shall be payable to such Purchaser to the extent Purchaser obtains judgment in Purchaser’s favor.

(h) Buy-In. In addition to any other rights available to Purchaser, if the Company fails to deliver to a Purchaser Unlegended Shares as required pursuant to this Agreement and after the Legend Removal Date the Purchaser, or a broker on the Purchaser's behalf, purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by such Purchaser of the shares of Common Stock which the Purchaser was entitled to receive in unlegended form from the Company (a "Buy-In"), then the Company shall promptly pay in cash to the Purchaser (in addition to any remedies available to or elected by the Purchaser) the amount, if any, by which (A) the Purchaser's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (B) the aggregate purchase price of the shares of Common Stock delivered to the Company for reissuance as Unlegended Shares together with interest thereon at a rate of 15% per annum accruing until such amount and any accrued interest thereon is paid in full (which amount shall be paid as liquidated damages and not as a penalty). For example, if a Purchaser purchases shares of Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to \$10,000 of purchase price of Underlying Shares delivered to the Company for reissuance as Unlegended Shares, the Company shall be required to pay the Purchaser \$1,000, plus interest, if any. The Purchaser shall provide the Company written notice indicating the amounts payable to the Purchaser in respect of the Buy-In.

4.2 Acknowledgment of Dilution. The Company acknowledges that the issuance of the Securities may result in dilution of the outstanding shares of Common Stock, which dilution may be substantial under certain market conditions. The Company further acknowledges that its obligations under the Transaction Documents, including, without limitation, its obligation to issue the Underlying Shares pursuant to the Transaction Documents, are unconditional and absolute and not subject to any right of set off, counterclaim, delay or reduction, regardless of the effect of any such dilution or any claim the Company may have against any Purchaser and regardless of the dilutive effect that such issuance may have on the ownership of the other stockholders of the Company.

4.3 Furnishing of Information; Public Information.

(a) Until no Purchaser owns Securities, the Company covenants to file all periodic reports with the Commission pursuant to the Exchange Act and maintain the registration of the Common Stock under Section 12(b) or 12(g) of the Exchange Act after such time as the Company initially becomes subject to such requirements and to timely file (or obtain extensions in respect thereof and file within the applicable grace period) all reports required to be filed by the Company after the date hereof pursuant to the Exchange Act and timely file all reports that would be required to be filed by an issuer subject to Section 12(b) or 12(g) of the Exchange Act even if the Company is not then subject to the reporting requirements of the Exchange Act.

(b) At any time commencing on the Closing Date, and ending at such time that all of the Securities may be sold by non-Affiliates of the Company without the requirement for the Company to be in compliance with Rule 144(c)(1) and otherwise without restriction or limitation pursuant to Rule 144, if the Company shall fail for any reason to satisfy the current public information requirement under Rule 144(c) (a "Public Information Failure") then, in addition to such Purchaser's other available remedies, the Company shall pay to a Purchaser, in cash, as partial liquidated damages and not as a penalty, by reason of any such delay in or impairment of its ability to sell the Securities, an amount in cash equal to 2.0% of the aggregate principal amount of Notes outstanding and accrued interest thereon, and aggregate Conversion Price of Underlying Shares (with respect to the Notes) held by such Purchaser on the day of a Public Information Failure and on every thirtieth (30th) day (pro-rated for periods totaling less than thirty days) thereafter until the earlier of (a) the date such Public Information Failure is cured and (b) such time that such public information is no longer required for the Purchasers to transfer the Underlying Shares pursuant to Rule 144. The payments to which a Purchaser shall be entitled pursuant to this Section 4.3(b) are referred to herein as "Public Information Failure Payments." Public Information Failure Payments shall be paid on the earlier of (i) the last day of the calendar month during which such Public Information Failure Payments are incurred and (ii) the third (3rd) Business Day after the event or failure giving rise to the Public Information Failure Payments is cured. In the event the Company fails to make Public Information Failure Payments in a timely manner, such Public Information Failure Payments shall bear interest at the rate of 1.5% per month (prorated for partial months) until paid in full. Nothing herein shall limit such Purchaser's right to pursue actual damages for the Public Information Failure, and such Purchaser shall have the right to pursue all remedies available to it at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief.

4.4 Integration. The Company shall not sell, offer for sale or solicit offers to buy or otherwise negotiate in respect of any security (as defined in Section 2 of the Securities Act) that would be integrated with the offer or sale of the Securities in a manner that would require the registration under the Securities Act of the sale of the Securities or that would be integrated with the offer or sale of the Securities for purposes of the rules and regulations of any Trading Market such that it would require shareholder approval prior to the closing of such other transaction or to effectuate such other transaction unless shareholder approval is obtained before the earlier of the closing of such subsequent transaction or effectuation of such other transaction.

4.5 Conversion Procedures. The form of Notice of Conversion included in the Notes set forth the totality of the procedures required of the Purchasers in order to convert the Notes. No additional legal opinion, other information or instructions shall be required of the Purchasers to convert their Notes. The Company shall honor conversions of the Notes and shall deliver Underlying Shares in accordance with the terms, conditions and time periods set forth in the Transaction Documents.

4.6 Securities Laws Disclosure; Publicity. The Company shall, by 9:30 a.m. (New York City time) on the first Trading Day following each Closing Date, file a Current Report on Form 8-K including the Transaction Documents as exhibits thereto with the Commission within the time required by the Exchange Act (“Form 8-K”). A form of the Form 8-K is annexed hereto as Exhibit D. Such Exhibit D will be identical to the Form 8-K which will be filed with the Commission except for the omission of signatures thereto by the Company and auditors providing the financial statements. From and after the filing of the Form 8-K, the Company represents to the Purchaser that it shall have publicly disclosed all material, non-public information delivered to the Purchaser by the Company or any of its Subsidiaries, or any of their respective officers, directors, employees or agents in connection with the transactions contemplated by the Transaction Documents. The Company and Purchaser shall consult with each other in issuing any press releases with respect to the transactions contemplated hereby, and neither the Company nor Purchaser shall issue any press release nor otherwise make any such public statement without the prior consent of the Company, with respect to any press release of Purchaser, or without the prior consent of Purchaser, with respect to any press release of the Company, which consent shall not unreasonably be withheld or delayed, except if such disclosure is required by law, in which case the disclosing party shall promptly provide the other party with prior notice of such public statement or communication. Notwithstanding the foregoing, the Company shall not publicly disclose the name of Purchaser, or include the name of Purchaser in any filing with the Commission or any regulatory agency or Trading Market unless the name of Purchaser is already included in the body of the Transaction Documents, without the prior written consent of Purchaser, except: (a) as required by federal securities law in connection with the filing of final Transaction Documents with the Commission and (b) to the extent such disclosure is required by law or Trading Market regulations, in which case the Company shall provide the Purchaser with prior notice of such disclosure permitted under this clause (b). The Company may file a Form 10-Q in lieu of the Form 8-K provided such filing contains the content required to be included in the Form 8-K and the Form 10-Q is filed not later than the Trading Day after the Closing Date.

4.7 Shareholder Rights Plan. No claim will be made or enforced by the Company or, with the consent of the Company, any other Person, that any Purchaser is an “Acquiring Person” under any control share acquisition, business combination, poison pill (including any distribution under a rights agreement) or similar anti-takeover plan or arrangement in effect or hereafter adopted by the Company, or that any Purchaser could be deemed to trigger the provisions of any such plan or arrangement, by virtue of receiving Securities under the Transaction Documents or under any other agreement between the Company and the Purchasers.

4.8 Non-Public Information. Except with respect to the material terms and conditions of the transactions contemplated by the Transaction Documents and as required hereunder, the Company covenants and agrees that neither it, nor any other Person acting on its behalf, will provide any Purchaser or its agents or counsel with any information that the Company believes constitutes material non-public information, unless prior thereto such Purchaser shall have entered into a written agreement with the Company regarding the confidentiality and use of such information. The Company understands and confirms that each Purchaser shall be relying on the foregoing covenant in effecting transactions in securities of the Company.

4.9 Use of Proceeds. The Company shall use the net proceeds from the sale of the Securities hereunder substantially for the purposes set forth on Schedule 4.9 hereto and shall not use such proceeds: (a) for the satisfaction of any portion of the Company's debt except as disclosed on Schedule 4.9 (other than payment of trade payables in the ordinary course of the Company's business and consistent with prior practices), (b) for the redemption of any Common Stock or Common Stock Equivalents, (c) for the settlement of any outstanding litigation or (d) in violation of FCPA or OFAC regulations.

4.10 Indemnification of Purchasers. Subject to the provisions of this Section 4.10, the Company will indemnify and hold each Purchaser and its directors, officers, shareholders, members, partners, employees and agents (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title), each Person who controls such Purchaser (within the meaning of Section 15 of the Securities Act and Section 20 of the Exchange Act), and the directors, officers, shareholders, agents, members, partners or employees (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title) of such controlling persons (each, a "Purchaser Party") harmless from any and all losses, liabilities, obligations, claims, contingencies, damages, costs and expenses, including all judgments, amounts paid in settlements, court costs and reasonable attorneys' fees and costs of investigation that any such Purchaser Party may suffer or incur as a result of or relating to (a) any breach of any of the representations, warranties, covenants or agreements made by the Company in this Agreement or in the other Transaction Documents or (b) any action instituted against Purchaser Parties in any capacity, or any of them or their respective Affiliates, by any stockholder of the Company who is not an Affiliate of such Purchaser Party, with respect to any of the transactions contemplated by the Transaction Documents (unless such action is based upon a breach of such Purchaser Party's representations, warranties or covenants under the Transaction Documents or any agreements or understandings such Purchaser Party may have with any such stockholder or any violations by such Purchaser Party of state or federal securities laws or any conduct by such Purchaser Party which constitutes fraud, gross negligence, willful misconduct or malfeasance). If any action shall be brought against any Purchaser Party in respect of which indemnity may be sought pursuant to this Agreement, such Purchaser Party shall promptly notify the Company in writing, and the Company shall have the right to assume the defense thereof with counsel of its own choosing reasonably acceptable to the Purchaser Party. Any Purchaser Party shall have the right to employ separate counsel in any such action and participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Purchaser Party except to the extent that (i) the employment thereof has been specifically authorized by the Company in writing, (ii) the Company has failed after a reasonable period of time to assume such defense and to employ counsel or (iii) in such action there is, in the reasonable opinion of counsel, a material conflict on any material issue between the position of the Company and the position of such Purchaser Party, in which case the Company shall be responsible for the reasonable fees and expenses of no more than one such separate counsel. The Company will not be liable to any Purchaser Party under this Agreement (y) for any settlement by a Purchaser Party effected without the Company's prior written consent, which shall not be unreasonably withheld or delayed; or (z) to the extent, but only to the extent that a loss, claim, damage or liability is attributable to any Purchaser Party's breach of its material representations, warranties or covenants under the Transaction Documents. The indemnification required by this Section 4.10 shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as and when bills are received or are incurred. The indemnity agreements contained herein shall be in addition to any cause of action or similar right of any Purchaser Party against the Company or others and any liabilities the Company may be subject to pursuant to law.

4.11 Reservation and Listing of Securities.

(a) As of the date hereof, the Company, ignoring any conversion or exercise limitations, has reserved for each Purchaser and the Company shall continue to reserve and keep available at all times, the “Required Minimum”, free of pre-emptive rights. If, on any date, the number of authorized but unissued (and otherwise unreserved) shares of Common Stock is less than the Required Minimum on such date (an “Authorized Share Failure”), then the Board of Directors shall use commercially reasonable efforts to amend the Company’s articles of incorporation to increase the number of authorized but unissued shares of Common Stock to at least the Required Minimum plus such other amount as may be required for the Company’s other purposes, and reserve the Required Minimum on behalf of the Purchaser, as soon as possible and in any event not later than the 60th day after such date. Notwithstanding the foregoing, the occurrence of an Authorized Share Failure is an Event of Default.

(b) The Company shall, if applicable: (i) in the time and manner required by the principal Trading Market, prepare and file with such Trading Market an additional shares listing application covering a number of shares of Common Stock at least equal to the Required Minimum on the date of such application, (ii) take all steps necessary to cause such shares of Common Stock to be approved for listing or quotation on such Trading Market as soon as possible thereafter, (iii) provide to the Purchasers evidence of such listing or quotation and (iv) maintain the listing or quotation of such Common Stock on any date at least equal to the Required Minimum on such date on such Trading Market or another Trading Market. The Company will then take all action necessary to continue the listing or quotation and trading of its Common Stock on a Trading Market until the later of (i) at least six (6) years after the Closing Date, and (ii) for so long as the Notes are outstanding, and will comply in all respects with the Company’s reporting, filing and other obligations under the bylaws or rules of the Trading Market. In the event the aforescribed listing is not continuously maintained for six (6) years after the Closing Date and for so long as Notes are outstanding (a “Listing Default”), then in addition to any other rights the Purchasers may have hereunder or under applicable law, on the first day of a Listing Default and on each monthly anniversary of each such Listing Default date (if the applicable Listing Default shall not have been cured by such date) until the applicable Listing Default is cured, the Company shall pay to each Purchaser an amount in cash, as partial liquidated damages and not as a penalty, equal to 2% of the aggregate Subscription Amount of Notes, and Conversion Price of the Conversion Shares held by such Purchaser on the day of a Listing Default and on every thirtieth day (pro-rated for periods less than thirty days) thereafter until the date such Listing Default is cured. If the Company fails to pay any liquidated damages pursuant to this Section in a timely manner, the Company will pay interest thereon at a rate of 1.5% per month (pro-rated for partial months) to the Purchaser.

4.12 Form D; Blue Sky Filings. The Company agrees to timely file a Form D with respect to the Securities as required under Regulation D and to provide a copy thereof, promptly upon request of any Purchaser. The Company shall take such action as the Company shall reasonably determine is necessary in order to obtain an exemption for, or to qualify the Securities for, sale to the Purchasers at a Closing under Applicable Law, including “Blue Sky” laws of the states of the United States, and shall provide evidence of such actions promptly upon request of any Purchaser.

4.13 Subsequent Equity Sales. From the date hereof until the End Date, the Company and each Subsidiary will not, without the consent of a Majority in Interest, enter into any Equity Line of Credit or similar agreement, issue or agree to issue floating or Variable Priced Equity Linked Instruments nor issue or agree to issue any of the foregoing or equity with price reset rights (subject to adjustment for stock splits, distributions, dividends, recapitalizations and the like) (collectively, a “Variable Rate Transaction”). For purposes hereof, “Equity Line of Credit” shall include any transaction involving a written agreement between the Company and an investor or underwriter whereby the Company has the right to “put” its securities to the investor or underwriter over an agreed period of time and at an agreed price or price formula, and “Variable Priced Equity Linked Instruments” shall include: (A) any debt or equity securities which are convertible into, exercisable or exchangeable for, or carry the right to receive additional shares of Common Stock or Common Stock Equivalents or any of the foregoing at a price that can be reduced either (1) at any conversion, exercise or exchange rate or other price that is based upon and/or varies with the trading prices of or quotations for Common Stock at any time after the initial issuance of such debt or equity security, or (2) with a fixed conversion, exercise or exchange price that is subject to being reset at some future date at any time after the initial issuance of such debt or equity security due to a change in the market price of the Company’s Common Stock since date of initial issuance, or upon the issuance of any debt, equity or Common Stock Equivalent, and (B) any amortizing convertible security which amortizes prior to its maturity date, where the Company is required or has the option to (or any investor in such transaction has the option to require the Company to) make such amortization payments in shares of Common Stock which are valued at a price that is based upon and/or varies with the trading prices of or quotations for Common Stock at any time after the initial issuance of such debt or equity security (whether or not such payments in stock are subject to certain equity conditions). For purposes of determining the total consideration for a convertible instrument (including a right to purchase equity of the Company) issued, subject to an original issue or similar discount or which principal amount is directly or indirectly increased after issuance, the consideration will be deemed to be the actual net cash amount received by the Company in consideration of the original issuance of such convertible instrument. Until the End Date, the Company will not, without the consent of a Majority in Interest, issue any Common Stock or Common Stock Equivalents nor issue or amend the terms of any securities or Common Stock Equivalents or of any agreement outstanding or in effect as of the date of this Agreement pursuant to which same were or may be acquired without the consent of a Majority in Interest, if the result of such issuance or amendment would be at an effective price per share of Common Stock less than the Conversion Price in effect at the time of such issuance or amendment; all subject to adjustment as described in Section 5.23 hereof. The restrictions and limitations in this Section 4.13 are in addition to and shall apply whether or not a Purchaser exercises its rights pursuant to Section 4.16 and Section 4.22.

4.14 Equal Treatment of Purchasers. No consideration (including any modification of any Transaction Document) shall be offered or paid to any Person to amend or consent to a waiver or modification of any provision of any of this Agreement unless the same consideration is also offered on a ratable basis to all of the parties to this Agreement. For clarification purposes, this provision constitutes a separate right granted to each Purchaser by the Company and negotiated separately by each Purchaser, and is intended for the Company to treat the Purchasers as a class and shall not in any way be construed as the Purchasers acting in concert or as a group with respect to the purchase, disposition or voting of Securities or otherwise.

4.15 Capital Changes. Until the one (1) year anniversary of the Closing Date, the Company shall not undertake a reverse or forward stock split or reclassification of the Common Stock without five (5) days prior written notice to the Purchasers. In no event will the Company increase the par value of the Common Stock to an amount greater than the Conversion Price, then in effect.

4.16 Participation in Future Financing.

(a) Until the End Date, upon any proposed issuance by the Company or any of its Subsidiaries of Common Stock, Common Stock Equivalents, Indebtedness or a combination thereof, other than (i) a rights offering to all holders of Common Stock which does not include extending such rights offering to holders of Notes, or (ii) an Exempt Issuance (each a “Subsequent Financing”), the Purchasers shall have the right to participate in up to an amount of the Subsequent Financing equal to 100% of the Subsequent Financing (the “Participation Maximum”) pro rata to each other in proportion to their Subscription Amounts on the same terms, conditions and price provided for in the Subsequent Financing, unless the Subsequent Financing is an underwritten public offering, in which case the Company shall notify each Purchaser of such public offering when it is lawful for the Company to do so, but no Purchaser shall be entitled to purchase any particular amount of such public offering without the approval of the lead underwriter of such underwritten public offering.

(b) At least ten (10) Trading Days prior to the closing of the Subsequent Financing, the Company shall deliver to each Purchaser a written notice of its intention to effect a Subsequent Financing (“Pre-Notice”), which Pre-Notice shall ask such Purchaser if it wants to review the details of such financing (such additional notice, a “Subsequent Financing Notice”). Upon the request of a Purchaser, and only upon a request by such Purchaser, for a Subsequent Financing Notice, the Company shall promptly, but no later than one (1) Trading Day after such request, deliver a Subsequent Financing Notice to such Purchaser. The requesting Purchaser shall be deemed to have acknowledged that the Subsequent Financing Notice may contain material non-public information. The Subsequent Financing Notice shall describe in reasonable detail the proposed terms of such Subsequent Financing, the amount of proceeds intended to be raised thereunder and the Person or Persons through or with whom such Subsequent Financing is proposed to be effected and shall include a term sheet or similar document relating thereto as an attachment.

(c) Any Purchaser desiring to participate in such Subsequent Financing must provide written notice to the Company by not later than 5:30 p.m. (New York City time) on the tenth (10th) Trading Day after all of the Purchasers have received the Pre-Notice that the Purchaser is willing to participate in the Subsequent Financing, the amount of such Purchaser’s participation, and representing and warranting that such Purchaser has such funds ready, willing, and available for investment on the terms set forth in the Subsequent Financing Notice. If the Company receives no such notice from a Purchaser as of such tenth (10th) Trading Day, such Purchaser shall be deemed to have notified the Company that it does not elect to participate.

(d) If by 5:30 p.m. (New York City time) on the fifteenth (15th) Trading Day after all of the Purchasers have received the Pre-Notice, notifications by the Purchasers of their willingness to participate in the Subsequent Financing (or to cause their designees to participate) is, in the aggregate, less than the total amount of the Participation Maximum of the Subsequent Financing, then the Company may affect the remaining portion of such Subsequent Financing on the terms and with the Persons set forth in the Subsequent Financing Notice and the Purchasers shall simultaneously affect their portion of such Subsequent Financing as set forth in their notifications to the Company consistent with the terms set forth in the Subsequent Financing Notice.

(e) If by 5:30 p.m. (New York City time) on the fifth (5th) Trading Day after all of the Purchasers have received the Pre-Notice, the Company receives responses to a Subsequent Financing Notice from Purchasers seeking to purchase more than the aggregate amount of the Participation Maximum, each such Purchaser shall have the right to purchase its Pro Rata Portion (as defined below) of the Participation Maximum. “Pro Rata Portion” means the ratio of (x) the principal amount of Notes purchased hereunder by a Purchaser participating under this Section 4.16 and (y) the sum of the aggregate principal amounts of Notes purchased hereunder by all Purchasers participating under this Section 4.16.

(f) The Company must provide the Purchasers with a second Subsequent Financing Notice, and the Purchasers will again have the right of participation set forth above in this Section 4.16, if the Subsequent Financing subject to the initial Subsequent Financing Notice is not consummated for any reason on the terms set forth in such Subsequent Financing Notice within sixty (60) Trading Days after the date of the initial Subsequent Financing Notice.

(g) The Company and each Purchaser agree that if any Purchaser elects to participate in the Subsequent Financing, the transaction documents related to the Subsequent Financing shall not include any term or provision whereby such Purchaser shall be required to agree to any restrictions on trading as to any of the Securities purchased hereunder (for avoidance of doubt, the securities purchased in the Subsequent Financing shall not be considered securities purchased hereunder) or be required to consent to any amendment to or termination of, or grant any waiver, release or the like under or in connection with, this Agreement, without the prior written consent of such Purchaser.

(h) Notwithstanding anything to the contrary in this Section 4.16 and unless otherwise agreed to by such Purchaser, the Company shall either confirm in writing to such Purchaser that the transaction with respect to the Subsequent Financing has been abandoned or shall publicly disclose its intention to issue the securities in the Subsequent Financing, in either case in such a manner such that such Purchaser will not be in possession of any material, non-public information, by the seventeenth (17th) Trading Day following delivery of the Subsequent Financing Notice. If by such seventeenth (17th) Trading Day, no public disclosure regarding a transaction with respect to the Subsequent Financing has been made, and no notice regarding the abandonment of such transaction has been received by such Purchaser, such transaction shall be deemed to have been abandoned and such Purchaser shall not be deemed to be in possession of any material, non-public information with respect to the Company or any of its Subsidiaries.

4.17 Purchaser's Exercise Limitations. The Company shall not effect exercise of the rights granted in Sections 4.16 and 4.22 of this Agreement, and a Purchaser shall not have the right to exercise any portion of such rights granted in Sections 4.16 and 4.22 only to the extent that after giving effect to such exercise, the Purchaser, would beneficially own in excess of the Beneficial Ownership Limitation (as defined in the Note), applied in the manner set forth in the Note. In such event the right by Purchaser to benefit from such rights or receive shares in excess of the Beneficial Ownership Limitation shall be held in abeyance until such times as such excess shares shall not exceed the Beneficial Ownership Limitation, provided the Purchaser complies with the Purchaser's other obligations in connection with the exercise by Purchaser of its rights pursuant to Sections 4.16 and 4.22, and with respect to Section 4.16, provided that the Company receives the purchase price for any purchased securities in compliance with the terms of such Subsequent Financing.

4.18 Maintenance of Property/Insurance. The Company shall and shall cause each Subsidiary to keep all of its property, which is necessary or useful to the conduct of its business, in good working order and condition, ordinary wear and tear excepted and insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as are prudent and customary for the businesses of the Company and Subsidiary.

4.19 Preservation of Corporate Existence. The Company shall preserve and maintain its corporate existence, rights, privileges and franchises in the jurisdiction of its incorporation, and qualify and remain qualified, as a foreign entity in each jurisdiction in which such qualification is necessary in view of its business or operations and where the failure to qualify or remain qualified might reasonably have a Material Adverse Effect upon the financial condition, business or operations of the Company taken as a whole.

4.20 DTC Program. At all times that Notes are outstanding after the listing required by Section 4.11(b) is completed, the Company shall employ as the transfer agent for its Common Stock and Underlying Shares a participant in the Depository Trust Company Automated Securities Transfer Program and cause the Common Stock and Underlying Shares to be transferable pursuant to such program.

4.21 Reimbursement. If any Purchaser becomes involved in any capacity in any Proceeding by or against any Person who is a stockholder of the Company (except as a result of sales, pledges, margin sales and similar transactions by such Purchaser to or with any current stockholder), solely as a result of such Purchaser's acquisition of the Securities under this Agreement, the Company will reimburse such Purchaser for its reasonable legal and other expenses (including the cost of any investigation preparation and travel in connection therewith) incurred in connection therewith, as such expenses are incurred. The reimbursement obligations of the Company under this paragraph shall be in addition to any liability which the Company may otherwise have, shall extend upon the same terms and conditions to any Affiliates of the Purchasers who are actually named in such action, proceeding or investigation, and partners, directors, agents, employees and controlling persons (if any), as the case may be, of the Purchasers and any such Affiliate, and shall be binding upon and inure to the benefit of any successors, assigns, heirs and personal representatives of the Company, the Purchasers and any such Affiliate and any such Person. The Company also agrees that neither the Purchasers nor any such Affiliates, partners, directors, agents, employees or controlling persons shall have any liability to the Company or any Person asserting claims on behalf of or in right of the Company solely as a result of acquiring the Securities under this Agreement.

4.22 Most Favored Nation Provision. From the date hereof and for so long as a Purchaser holds any Securities, in the event that the Company issues or sells any Common Stock or Common Stock Equivalents, if a Purchaser then holding outstanding Securities reasonably believes that any of the terms and conditions appurtenant to such issuance or sale are more favorable to such investors than are the terms and conditions granted to the Purchasers hereunder, upon notice to the Company by such Purchaser within five (5) Trading Days after disclosure of such issuance or sale, the Company shall amend the terms of this transaction as to such Purchaser only so as to give such Purchaser the benefit of such more favorable terms or conditions. This Section 4.22 shall not apply with respect to an Exempt Issuance. The Company shall provide each Purchaser with notice of any such issuance or sale not later than ten (10) Trading Days before such issuance or sale.

4.23 Indebtedness. For so long as any Note is outstanding, the Company will not incur any Indebtedness other than Permitted Indebtedness, without the consent of the Majority in Interest.

4.24 Notice of Disqualification Events. The Company will notify the Purchasers in writing, prior to the Closing Date of (i) any Disqualification Event relating to any Issuer Covered Person and (ii) any event that would, with the passage of time, become a Disqualification Event relating to any Issuer Covered Person not otherwise disclosed herein or in the SEC Reports.

4.25 Duration of Undertakings. Unless otherwise stated in this Article IV, all of the Company's undertakings, obligations and responsibilities set forth in Article IV of this Agreement shall remain in effect for so long as any Securities remain outstanding.

4.26 Registration Rights. On or before the 14th calendar day following the Initial Closing, the Company shall file a registration statement on Form S-3 (or other appropriate form if the Company is not then S-3 eligible) (the "Resale S-3") providing for the resale by the Purchasers of the Underlying Shares determinable as of the date such registration statement is first filed (or such lesser number of Underlying Shares as permitted by the SEC) pursuant to the terms of the Registration Rights Agreement.

**ARTICLE V.
MISCELLANEOUS**

5.1 Termination. This Agreement may be terminated by any Purchaser, as to such Purchaser's obligations hereunder only and without any effect whatsoever on the obligations between the Company and the other Purchasers, by written notice to the other parties, if the final Closing has not been consummated on or before February 15, 2019; provided, however, that such termination will not affect the right of any party to sue for any breach by any other party (or parties).

5.2 Fees and Expenses. At the Closing, the Company has agreed to pay G&M for the legal fees in connection with G&M's representation of Alpha Capital Anstalt (and no other Purchasers except in connection with the Escrow Agreement) in the amount of \$27,500. Except as expressly set forth in the Transaction Documents and on Schedule 3.1(s), each party shall pay the fees and expenses of its advisers, counsel, accountants and other experts, if any, and all other expenses incurred by such party incident to the negotiation, preparation, execution, delivery and performance of this Agreement. The Company shall reimburse Purchasers for all expenses incurred in connection with UCC, lien, judgment, tax and similar searches conducted in connection with the Offering. The Company shall pay all Transfer Agent fees (including, without limitation, any fees required for same-day processing of any instruction letter delivered by the Company and any conversion or exercise notice delivered by a Purchaser), stamp taxes and other taxes and duties levied in connection with the delivery of any Securities to the Purchasers. All of the Purchasers acknowledge that they have been advised to seek the advice of their own attorneys.

5.3 Entire Agreement. The Transaction Documents, together with the exhibits and schedules thereto, contain the entire understanding of the parties with respect to the subject matter hereof and thereof and supersede all prior agreements and understandings, oral or written, with respect to such matters, which the parties acknowledge have been merged into such documents, exhibits and schedules.

5.4 Notices. All notices, demands, requests, consents, approvals, and other communications required or permitted hereunder shall be in writing and, unless otherwise specified herein, shall be (i) personally served, (ii) deposited in the mail, registered or certified, return receipt requested, postage prepaid, (iii) delivered by reputable air courier service with charges prepaid, or (iv) transmitted by hand delivery, telegram, or facsimile, addressed as set forth below or to such other address as such party shall have specified most recently by written notice. Any notice or other communication required or permitted to be given hereunder shall be deemed effective (a) upon hand delivery or delivery by facsimile, with accurate confirmation generated by the transmitting facsimile machine, at the address or number designated below (if delivered on a business day during normal business hours where such notice is to be received), or the first business day following such delivery (if delivered other than on a business day during normal business hours where such notice is to be received) or (b) on the second business day following the date of mailing by express courier service, fully prepaid, addressed to such address, or upon actual receipt of such mailing, whichever shall first occur. The addresses for such communications shall be: (i) if to the Company, to: GT Biopharma, Inc., 310 N. Westlake Blvd, Suite 206, Westlake Village, CA 91362, Attn: Chief Executive Officer, with a copy to (which shall not constitute notice): Gary R. Henrie, Esq., P.O. Box 107, Nauvoo, IL 62354, email: grhlaw@hotmail.com, and (ii) if to the Purchasers, to: the addresses and fax numbers indicated on the signature pages hereto, with an additional copy by fax only to (which shall not constitute notice): Grushko & Mittman, P.C., 515 Rockaway Avenue, Valley Stream, New York 11581, fax: (212) 697-3575.

5 . 5 Amendments; Waivers. No provision of this Agreement or any other Transaction Document may be waived, modified, supplemented or amended except in a written instrument signed, in the case of an amendment, by the Company and the Purchasers holding at least a majority in interest of the affected Securities then outstanding (the “Majority in Interest”), or, in the case of a waiver, by the party against whom enforcement of any such waived provision is sought. Whenever the term “consent of the Purchasers” or a similar term is employed herein or any other Transaction Document, it shall mean the consent of a Majority in Interest. No waiver of any default with respect to any provision, condition or requirement of this Agreement shall be deemed to be a continuing waiver in the future or a waiver of any subsequent default or a waiver of any other provision, condition or requirement hereof, nor shall any delay or omission of any party to exercise any right hereunder in any manner impair the exercise of any such right.

5 . 6 Headings. The headings herein are for convenience only, do not constitute a part of this Agreement and shall not be deemed to limit or affect any of the provisions hereof.

5 . 7 Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties and their successors and permitted assigns. The Company may not assign this Agreement or any rights or obligations hereunder without the prior written consent of each Purchaser (other than by merger). Following a Closing, any Purchaser may assign any or all of its rights under this Agreement to any Person to whom such Purchaser assigns or transfers any Securities, provided that such transferee agrees in writing to be bound, with respect to the transferred Securities, by the provisions of the Transaction Documents that apply to the “Purchasers.”

5 . 8 No Third-Party Beneficiaries. This Agreement is intended for the benefit of the parties hereto and their respective successors and permitted assigns and is not for the benefit of, nor may any provision hereof be enforced by, any other Person, except as otherwise set forth in Section 4.10.

5 . 9 Governing Law. All questions concerning the construction, validity, enforcement and interpretation of the Transaction Documents shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Agreement and any other Transaction Documents (whether brought against a party hereto or its respective affiliates, directors, officers, shareholders, partners, members, employees or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, Borough of Manhattan for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any action, suit or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is improper or is an inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law. If either party shall commence an action or proceeding to enforce any provisions of the Transaction Documents, then, in addition to the obligations of the Company under Section 4.10, the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for its reasonable attorneys’ fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

5 . 1 1 Execution. This Agreement may be executed in two or more counterparts, all of which when taken together shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to each other party, it being understood that the parties need not sign the same counterpart. In the event that any signature is delivered by facsimile transmission or by e-mail delivery of a “.pdf” format data file, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile or “.pdf” signature page were an original thereof.

5 . 1 2 Severability. If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction to be invalid, illegal, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions set forth herein shall remain in full force and effect and shall in no way be affected, impaired or invalidated, and the parties hereto shall use their commercially reasonable efforts to find and employ an alternative means to achieve the same or substantially the same result as that contemplated by such term, provision, covenant or restriction. It is hereby stipulated and declared to be the intention of the parties that they would have executed the remaining terms, provisions, covenants and restrictions without including any of such that may be hereafter declared invalid, illegal, void or unenforceable.

5 . 1 3 Rescission and Withdrawal Right. Notwithstanding anything to the contrary contained in (and without limiting any similar provisions of) any of the other Transaction Documents, whenever any Purchaser exercises a right, election, demand or option under a Transaction Document and the Company does not timely perform its related obligations within the periods therein provided, then such Purchaser may, at any time prior to the Company’s performance of such obligations, rescind or withdraw, in its sole discretion from time to time upon written notice to the Company, any relevant notice, demand or election in whole or in part without prejudice to its future actions and rights; provided, however, that in the case of a rescission of a conversion of a Note, the applicable Purchaser shall be required to return any shares of Common Stock subject to any such rescinded conversion.

5 . 1 4 Replacement of Securities. If any certificate or instrument evidencing any Securities is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation thereof (in the case of mutilation), or in lieu of and substitution therefor, a new certificate or instrument, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft or destruction. The applicant for a new certificate or instrument under such circumstances shall also pay any reasonable third-party costs (including customary indemnity) associated with the issuance of such replacement Securities.

5 . 1 5 Remedies. In addition to being entitled to exercise all rights provided herein or granted by law, including recovery of damages, each of the Purchasers and the Company will be entitled to specific performance under the Transaction Documents. The parties agree that monetary damages may not be adequate compensation for any loss incurred by reason of any breach of obligations contained in the Transaction Documents and hereby agree to waive and not to assert in any action for specific performance of any such obligation the defense that a remedy at law would be adequate.

5 . 1 6 Payment Set Aside. To the extent that the Company makes a payment or payments to any Purchaser pursuant to any Transaction Document or a Purchaser enforces or exercises its rights thereunder, and such payment or payments or the proceeds of such enforcement or exercise or any part thereof are subsequently invalidated, declared to be fraudulent or preferential, set aside, recovered from, disgorged by or are required to be refunded, repaid or otherwise restored to the Company, a trustee, receiver or any other Person under any law (including, without limitation, any bankruptcy law, state or federal law, common law or equitable cause of action), then to the extent of any such restoration the obligation or part thereof originally intended to be satisfied shall be revived and continued in full force and effect as if such payment had not been made or such enforcement or setoff had not occurred.

5.17 Usury. To the extent it may lawfully do so, the Company hereby agrees not to insist upon or plead or in any manner whatsoever claim, and will resist any and all efforts to be compelled to take the benefit or advantage of, usury laws wherever enacted, now or at any time hereafter in force, in connection with any claim, action or proceeding that may be brought by any Purchaser in order to enforce any right or remedy under any Transaction Document. Notwithstanding any provision to the contrary contained in any Transaction Document, it is expressly agreed and provided that the total liability of the Company under the Transaction Documents for payments in the nature of interest shall not exceed the maximum lawful rate authorized under Applicable Law (the "Maximum Rate"), and, without limiting the foregoing, in no event shall any rate of interest or default interest, or both of them, when aggregated with any other sums in the nature of interest that the Company may be obligated to pay under the Transaction Documents exceed such Maximum Rate. It is agreed that if the maximum contract rate of interest allowed by law and applicable to the Transaction Documents is increased or decreased by statute or any official governmental action subsequent to the date hereof, the new maximum contract rate of interest allowed by law will be the Maximum Rate applicable to the Transaction Documents from the Closing Date thereof forward, unless such application is precluded by Applicable Law. If under any circumstances whatsoever, interest in excess of the Maximum Rate is paid by the Company to any Purchaser with respect to indebtedness evidenced by the Transaction Documents, such excess shall be applied by such Purchaser to the unpaid principal balance of any such indebtedness or be refunded to the Company, the manner of handling such excess to be at such Purchaser's election.

5.18 Independent Nature of Purchasers' Obligations and Rights. The obligations of each Purchaser under any Transaction Document are several and not joint with the obligations of any other Purchaser, and no Purchaser shall be responsible in any way for the performance or non-performance of the obligations of any other Purchaser under any Transaction Document. Nothing contained herein or in any other Transaction Document, and no action taken by any Purchaser pursuant hereto or thereto, shall be deemed to constitute the Purchasers as a partnership, an association, a joint venture or any other kind of entity, or create a presumption that the Purchasers are in any way acting in concert or as a group with respect to such obligations or the transactions contemplated by the Transaction Documents. Each Purchaser shall be entitled to independently protect and enforce its rights, including, without limitation, the rights arising out of this Agreement or out of the other Transaction Documents, and it shall not be necessary for any other Purchaser to be joined as an additional party in any proceeding for such purpose. Each Purchaser has been represented by its own separate legal counsel in its review and negotiation of the Transaction Documents. For reasons of administrative convenience only, each Purchaser and its respective counsel have chosen to communicate with the Company through G&M. The Company has elected to provide all Purchasers with the same terms and Transaction Documents for the convenience of the Company and not because it was required or requested to do so by any of the Purchasers. It is expressly understood and agreed that each provision contained in this Agreement and in each other Transaction Document is between the Company and a Purchaser, solely, and not between the Company and the Purchasers collectively and not between and among the Purchasers.

5.19 Liquidated Damages. The Company's obligations to pay any partial liquidated damages or other amounts owing under the Transaction Documents is a continuing obligation of the Company and shall not terminate until all unpaid partial liquidated damages and other amounts have been paid notwithstanding the fact that the instrument or security pursuant to which such partial liquidated damages or other amounts are due and payable shall have been canceled.

5.20 Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Business Day or Trading Day, as the case may be, then such action may be taken or such right may be exercised on the next succeeding Business Day or Trading Day, as the case may be.

5.21 Construction. The parties agree that each of them and/or their respective counsel have reviewed and had an opportunity to revise the Transaction Documents and, therefore, the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of the Transaction Documents or any amendments thereto. In addition, each and every reference to share prices and shares of Common Stock in any Transaction Document shall be subject to adjustment for reverse and forward stock splits, stock dividends, stock combinations and other similar transactions of the Common Stock that occur after the date of this Agreement.

5 . 2 2 **WAIVER OF JURY TRIAL. IN ANY ACTION, SUIT, OR PROCEEDING IN ANY JURISDICTION BROUGHT BY ANY PARTY AGAINST ANY OTHER PARTY, THE PARTIES EACH KNOWINGLY AND INTENTIONALLY, TO THE GREATEST EXTENT PERMITTED BY APPLICABLE LAW, HEREBY ABSOLUTELY, UNCONDITIONALLY, IRREVOCABLY AND EXPRESSLY WAIVES FOREVER TRIAL BY JURY.**

5 . 2 3 Equitable Adjustment. Trading volume amounts, price/volume amounts, the amount of shares of Common Stock identified in this Agreement, Conversion Price, Underlying Shares and similar figures in the Transaction Documents shall be equitably adjusted (but without duplication) to offset the effect of stock splits, similar events and as otherwise described in this Agreement and Note.

(Signature Pages Follow)

IN WITNESS WHEREOF, the parties hereto have caused this Securities Purchase Agreement to be duly executed by their respective authorized signatories as of the date first indicated above.

GT BIOPHARMA, INC.

Address for Notice:

310 N. Westlake Blvd, Suite 206
Westlake Village, CA 91362

By: _____
Name: Raymond W. Urbanski
Title: Chief Executive Officer

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK
SIGNATURE PAGE FOR PURCHASER FOLLOWS]

[PURCHASER SIGNATURE PAGE TO GT BIOPHARMA, INC.
SECURITIES PURCHASE AGREEMENT]

IN WITNESS WHEREOF, the undersigned have caused this Securities Purchase Agreement to be duly executed by their respective authorized signatories as of the date first indicated above.

Name of Purchaser: _____

Signature of Authorized Signatory of Purchaser: _____

Name of Authorized Signatory: _____

Title of Authorized Signatory: _____

Email Address of Authorized Signatory: _____

Facsimile Number of Authorized Signatory: _____

State of Residence of Purchaser: _____

Address for Notice to Purchaser:

Address for Delivery of Securities to Purchaser (if not same as address for notice):

Cash Subscription Amount: US\$ _____

Total Note principal amount: _____

EIN Number, if applicable, will be provided under separate cover

Date: _____

[SIGNATURE PAGES CONTINUE]

SECURITY AGREEMENT

This SECURITY AGREEMENT, dated as of February 4, 2019 (this "Agreement"), is among GT Biopharma, Inc., a Delaware corporation (the "Company"), certain Subsidiaries of the Company which shall become a party to this Agreement by execution and delivery of the form annexed hereto as Annex A and the Subsidiary Guaranty annexed thereto (each such Subsidiary, a "Guarantor" and together with the Company, the "Debtors") Alpha Capital Anstalt, as collateral agent (the "Collateral Agent") for the holders of the Company's 10% senior Convertible Debentures issued on August 2, 2018, September 7, 2018 and September 24, 2018 as disclosed on Schedule 1 annexed hereto in the original principal amount of \$9,058,962 and the Secured Convertible Notes issued at or about February 4, 2019 in the original aggregate principal amount of \$1,352,224, and such other of the Company's Secured Convertible Notes which may be issued in the future pursuant to a Securities Purchase Agreement among the Company and the purchasers party thereto first executed on February 4, 2019 (collectively, the "Notes") (collectively, the "Secured Parties").

WITNESSETH:

WHEREAS, pursuant to the Securities Purchase Agreement (as defined in the Notes), the Secured Parties have severally agreed to extend loans to the Company evidenced and to be evidenced by the Notes;

WHEREAS, pursuant to a certain Subsidiary Guaranty ("Guaranty") to be dated as of the date of the Additional Debtor Joinder, forms of which are annexed hereto as Annex A, each Guarantor agrees to guarantee and act as surety for payment of such Notes, and other obligations of the Company;

WHEREAS, in order to induce the Secured Parties to extend the loans evidenced by the Notes, the Company has agreed to execute and deliver to the Collateral Agent this Agreement and to grant Collateral Agent, for the ratable benefit of the Secured Parties, a security interest in certain property of the Company to secure the prompt payment, performance and discharge in full of all of the Company's obligations under the Notes and Transaction Documents.

NOW, THEREFORE, in consideration of the agreements herein contained and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto hereby agree as follows:

1. **Certain Definitions.** As used in this Agreement, the following terms shall have the meanings set forth in this Section 1. Terms used but not otherwise defined in this Agreement that are defined in Article 8 or 9 of the UCC (such as "account," "chattel paper," "commercial tort claim," "deposit account," "document," "equipment," "fixtures," "general intangibles," "goods," "instruments," "inventory," "investment property," "letter-of-credit rights," "proceeds" and "supporting obligations") shall have the respective meanings given such terms in Article 8 or 9 of the UCC, as applicable. Upper case terms shall have the meanings attributed to them in the Securities Purchase Agreement.

(a) "Collateral" means the collateral in which the Collateral Agent is granted a security interest by this Agreement and which shall include the following personal property of the Company, whether presently owned or existing or hereafter acquired or coming into existence, wherever situated, and all additions and accessions thereto and all substitutions and replacements thereof, and all proceeds, products and accounts thereof, including, without limitation, all proceeds from the disposition, sale or transfer of the Collateral and of insurance covering the same and of any tort claims in connection therewith, and all dividends, interest, cash, notes, securities, equity interest or other property at any time and from time to time acquired, receivable or otherwise distributed in respect of, or in exchange for, any or all of the Pledged Securities (as defined below):

(i) All goods, including, without limitation, (A) all machinery, equipment, computers, motor vehicles, trucks, tanks, boats, ships, appliances, furniture, special and general tools, fixtures, test and quality control devices and other equipment of every kind and nature and wherever situated, together with all documents of title and documents representing the same, all additions and accessions thereto, replacements therefor, all parts therefor, and all substitutes for any of the foregoing and all other items used and useful in connection with any Debtor's businesses and all improvements thereto; and (B) all inventory;

(ii) All contract rights and other general intangibles, including, without limitation, Intellectual Property, all partnership interests, membership interests, stock or other securities, rights under any of the Organizational Documents (as defined herein), agreements related to the Pledged Securities (as defined herein), licenses, distribution and other agreements, computer software (whether "off-the-shelf," licensed from any third party or developed by any Debtor), computer software development rights, leases, franchises, customer lists, quality control procedures, grants and rights, goodwill, trademarks, service marks, trade styles, trade names, patents, patent applications, copyrights, income tax refunds;

(iii) All accounts, together with all instruments, all documents of title representing any of the foregoing, all rights in any merchandising, goods, raw materials, timber cut or to be cut, oil, gas, hydrocarbons, and minerals extracted or to be extracted, equipment, motor vehicles and trucks which any of the same may represent, and all right, title, security and guaranties with respect to each account, including any right of stoppage in transit;

(iv) All documents, letter-of-credit rights, instruments and chattel paper;

(v) All commercial tort claims;

(vi) All deposit accounts and all cash (whether or not deposited in such deposit accounts);

(vii) All investment property;

(viii) All supporting obligations;

(ix) All files, records, books of account, business papers, and computer programs; and

(x) the products and proceeds of all of the foregoing Collateral set forth in clauses (i)-(ix) above.

Without limiting the generality of the foregoing, the “Collateral” shall include all investment property and general intangibles respecting ownership and/or other equity interests in Guarantor, including, without limitation, the shares of capital stock and the other equity interests, including member interests in limited liability companies listed on Schedule H hereto, if any, (as the same may be modified from time to time pursuant to the terms hereof), and any other shares of capital stock and/or other equity interests of any other direct or indirect Subsidiary of any Debtor obtained in the future, and, in each case, all certificates representing such shares and/or equity interests and, in each case, all rights, options, warrants, stock, other securities and/or equity interests that may hereafter be received, receivable or distributed in respect of, or exchanged for, any of the foregoing and all rights arising under or in connection with the Pledged Securities, including, but not limited to, all dividends, interest and cash; provided that Company’s equity interests in Oxis Isle of Man Limited shall not be included in the Collateral; provided that “Collateral” hereunder shall not include: (1) any lease, license, contract, property rights or agreement to which any Debtor is a party (or to any of its rights or interests thereunder) if the grant of such security interest would constitute or result in the abandonment, invalidation or unenforceability of any right, title or interest of any Debtor therein provided that the Collateral shall include, and the security interest granted by each Debtor shall attach to, immediately at such time as the contractual or legal prohibition shall no longer be applicable and to the extent severable, any portion of such lease, license, contract, property rights or agreement not subject to the prohibitions specified previously in this sentence, (2) any intent-to-use United States trademark application for which an amendment to allege use or statement of use has not been filed under 15 U.S.C. § 1051(c) or (d), respectively, or, if filed, has not been deemed in conformance with 15 U.S.C. § 1051 (a) or (c), in each case, only to the extent the grant of security interest in such intent-to-use trademark is in violation of 15 U.S.C. § 1060 and only unless and until a “Statement of Use” or “Amendment to Allege Use” is filed, has been deemed in conformance with 15 U.S.C. § 1051 (a) and (c) or examined and accepted, respectively, by the United States Patent and Trademark Office, (3) motor vehicles subject to certificates of title, provided that perfection of security interests in such motor vehicles shall be limited to the filing of UCC financing statements), (4) commercial tort claims seeking damages not exceeding \$100,000 in the aggregate for all such commercial tort claims excluded pursuant to this clause (4), (5) assets in respect of which pledges and security interests are prohibited by applicable U.S. law, rule or regulation or agreements with any U.S. governmental authority, (6) Excluded Accounts, (7) letter-of-credit rights (other than to the extent a lien on such assets or such rights can be perfected by filing a UCC-1) not exceeding \$100,000 in the aggregate for all such commercial tort claims excluded pursuant to this clause (7) and (8) such assets as to which the Collateral Agent and the applicable Debtor shall agree that the costs of obtaining or perfecting a security interest therein are excessive in relation to the benefit to the Secured Parties of the security to be afforded thereby (each of the foregoing, the “Excluded Collateral”).

Notwithstanding the foregoing, nothing herein shall be deemed to constitute an assignment of any asset which, in the event of an assignment, becomes void by operation of applicable law or the assignment of which is otherwise prohibited by applicable law (in each case to the extent that such applicable law is not overridden by Sections 9-406, 9-407 and/or 9-408 of the UCC or other similar applicable law); provided, however, that to the extent permitted by applicable law, this Agreement shall create a valid security interest in such asset and, to the extent permitted by applicable law, this Agreement shall create a valid security interest in the proceeds of such asset.

(b) “Excluded Accounts” means accounts specifically and exclusively used for payroll, payroll taxes and other employee wage and benefit payments to or for the benefit of any Debtor’s employees.

(c) “Intellectual Property” means the collective reference to all rights, priorities and privileges relating to intellectual property, whether arising under United States, multinational or foreign laws or otherwise, including, without limitation, (i) all copyrights arising under the laws of the United States, any other country or any political subdivision thereof, whether registered or unregistered and whether published or unpublished, all registrations and recordings thereof, and all applications in connection therewith, including, without limitation, all registrations, recordings and applications in the United States Copyright Office, (ii) all patents of the United States, any other country or any political subdivision thereof, all reissues and extensions thereof, and all applications for letters patent of the United States or any other country and all divisions, continuations and continuations-in-part thereof, (iii) all trademarks, trade names, corporate names, company names, business names, fictitious business names, trade dress, service marks, logos, domain names and other source or business identifiers, and all goodwill associated therewith, now existing or hereafter adopted or acquired, all registrations and recordings thereof, and all applications in connection therewith, whether in the United States Patent and Trademark Office or in any similar office or agency of the United States, any State thereof or any other country or any political subdivision thereof, or otherwise, and all common law rights related thereto, (iv) all trade secrets arising under the laws of the United States, any other country or any political subdivision thereof, (v) all rights to obtain any reissues, renewals or extensions of the foregoing, (vi) all licenses for any of the foregoing, (vii) any items included in the definition of Intellectual Property Rights as defined in the Securities Purchase Agreement and not set forth above, and (viii) all causes of action for infringement of the foregoing.

(d) “Majority in Interest” means, at any time of determination, the holders of more than fifty percent (50%) (based on then-outstanding principal amounts and accrued interest of Notes at the time of such determination) of the Notes.

(e) “Necessary Endorsement” means undated stock powers endorsed in blank and other proper instruments of assignment duly executed and such other instruments or documents as the Collateral Agent (as that term is defined below) may reasonably request.

(f) “Obligations” means all of the liabilities and obligations (primary, secondary, direct, contingent, sole, joint or several) due or to become due, or that are now or may be hereafter contracted or acquired, or owing to, of any Debtor to the Secured Parties, including, without limitation, all obligations under this Agreement, the Notes, the Guaranty and obligations under any other Transaction Document, instrument, agreement or other document executed and/or delivered in connection herewith or therewith in each case, whether now or hereafter existing, voluntary or involuntary, direct or indirect, absolute or contingent, liquidated or unliquidated, whether or not jointly owed with others, and whether or not from time to time decreased or extinguished and later increased, created or incurred, and all or any portion of such obligations or liabilities that are paid, to the extent all or any part of such payment is avoided or recovered directly or indirectly from any of the Secured Parties as a preference, fraudulent transfer or otherwise as such obligations may be amended, supplemented, converted, extended or modified from time to time. Without limiting the generality of the foregoing, the term “Obligations” shall include, without limitation: (i) principal of, and interest on the Notes and the loans extended pursuant thereto; (ii) any and all other fees, indemnities, costs, obligations and liabilities of the Debtors from time to time under or in connection with this Agreement, the Notes and any other Transaction Documents, instruments, agreements or other documents executed and/or delivered in connection herewith or therewith; and (iii) all amounts (including but not limited to post-petition interest) in respect of the foregoing that would be payable but for the fact that the obligations to pay such amounts are unenforceable or not allowable due to the existence of a bankruptcy, reorganization or similar proceeding involving any Debtor.

(g) “Organizational Documents” means with respect to any Debtor, the documents by which such Debtor was organized (such as a certificate of incorporation, certificate of limited partnership or articles of organization, and including, without limitation, any certificates of designation for preferred stock or other forms of preferred equity) and which relate to the internal governance of such Debtor (such as bylaws, a partnership agreement or an operating, limited liability or members agreement).

(h) “Pledged Securities” shall have the meaning ascribed to such term in Section 4(i).

(i) “UCC” means the Uniform Commercial Code of the State of Delaware and or any other applicable law of any state or states which has jurisdiction with respect to all, or any portion of, the Collateral or this Agreement, from time to time. It is the intent of the parties that defined terms in the UCC should be construed in their broadest sense so that the term “Collateral” will be construed in its broadest sense. Accordingly, if there are, from time to time, changes to defined terms in the UCC that broaden the definitions, they are incorporated herein and if existing definitions in the UCC are broader than the amended definitions, the existing ones shall be controlling.

2. Grant of Security Interest in Collateral. As an inducement for the Secured Parties to extend the loans as evidenced by the Notes and to secure the complete and timely payment, performance and discharge in full, as the case may be, of all of the Obligations, each Debtor hereby unconditionally and irrevocably pledges, grants and hypothecates to the Secured Parties a security interest in and to, a lien upon and a right of set-off against all of their respective right, title and interest of whatsoever kind and nature in and to, the Collateral (a “Security Interest” and, collectively, the “Security Interests”).

3. Delivery of Certain Collateral. At any time at the reasonable request of the Collateral Agent, each Debtor shall deliver or cause to be delivered to the Collateral Agent, any and all certificates and other instruments or documents representing any of the Collateral, in each case, together with all Necessary Endorsements.

4. Representations, Warranties, Covenants and Agreements of the Debtors. Except as set forth under the corresponding section of the disclosure schedules delivered to the Secured Parties and Collateral Agent concurrently herewith (the “Disclosure Schedules”), which Disclosure Schedules shall be deemed a part hereof. As of the date hereof, each Debtor represents and warrants to the Secured Parties as follows and, until the repayment in full of the Obligations, covenants and agrees with, the Secured Parties as follows:

(a) Each Debtor has the requisite corporate, partnership, limited liability company or other power and authority to enter into this Agreement and otherwise to carry out its obligations hereunder. The execution, delivery and performance by each Debtor of this Agreement and the filings contemplated herein have been duly authorized by all necessary action on the part of such Debtor and no further action is required by such Debtor. This Agreement, when executed and delivered, will constitute the legal, valid and binding obligation of each Debtor, enforceable against each Debtor in accordance with its terms except as such enforceability may be limited by applicable bankruptcy, insolvency, reorganization and similar laws of general application relating to or affecting the rights and remedies of creditors and by general principles of equity.

(b) The Debtors have no place of business or offices where their respective books of account and records are kept (other than temporarily at the offices of its attorneys or accountants) or places where Collateral is stored or located, except as set forth on Schedule A attached hereto. Except as specifically set forth on Schedule A, each Debtor is the record owner of the real property where such Collateral is located, and there exist no mortgages or other liens on any such real property or on the Collateral except for Permitted Liens (as defined in the Securities Purchase Agreement), all of which are identified on Schedule B hereto. Except as disclosed on Schedule A and except for Collateral to be held by the Collateral Agent, none of such Collateral is in the possession of any consignee, bailee, warehouseman, agent or processor.

(c) Except for Permitted Liens and except as set forth on Schedule B attached hereto, the Debtors are the sole owners of the Collateral (except for non-exclusive licenses granted by any Debtor in the ordinary course of business), free and clear of any liens, security interests, encumbrances, rights or claims, and are fully authorized to grant the Security Interests. Except for Permitted Liens and other items which are all as set forth on Schedule B attached hereto, there is not on file in any governmental or regulatory authority, agency or recording office an effective financing statement, security agreement, license or transfer or any notice of any of the foregoing (other than those that will be filed in favor of the Secured Parties pursuant to this Agreement) covering or affecting any of the Collateral.

(d) No written claim has been received that any Collateral or any Debtor's use of any Collateral violates the rights of any third party. There has been no adverse decision to any Debtor's claim of ownership rights in or exclusive rights to use the Collateral in any jurisdiction or to any Debtor's right to keep and maintain such Collateral in full force and effect, and there is no proceeding involving said rights pending or, to the best knowledge of any Debtor, threatened before any court, judicial body, administrative or regulatory agency, arbitrator or other governmental authority.

(e) Each Debtor shall at all times maintain its books of account and records relating to the Collateral at its principal place of business and its Collateral at the locations set forth on Schedule A attached hereto and may not relocate such books of account and records or tangible Collateral except in the ordinary course of sales unless it delivers to the Secured Parties at least 15 days prior to such relocation (i) written notice of such relocation and the new location thereof (which must be within the United States) and (ii) evidence that appropriate financing statements under the UCC and other necessary documents have been filed and recorded and other steps have been taken to perfect the Security Interests to create in favor of the Secured Parties a valid, perfected and continuing perfected first priority lien in the Collateral, except as otherwise permitted hereby.

(f) This Agreement creates in favor of the Secured Parties a valid security interest in the Collateral, subject only to Permitted Liens securing the payment and performance of the Obligations. Upon making the filings described in the immediately following paragraph, all security interests created hereunder in any Collateral that may be perfected by filing Uniform Commercial Code financing statements shall have been duly perfected. Except for the filing of the Uniform Commercial Code financing statements referred to in the immediately following paragraph, the recordation of the Intellectual Property Security Agreement (as defined below) with respect to copyrights and copyright applications in the United States Copyright Office referred to in paragraph (m), the execution and delivery of deposit account control agreements satisfying the requirements of Section 9-104(a)(2) of the UCC with respect to each deposit account of the Debtors, and the delivery of the certificates and other instruments provided in Section 3, no action is necessary to create, perfect or protect the security interests created hereunder. Without limiting the generality of the foregoing, except for the filing of said financing statements, the recordation of said Intellectual Property Security Agreement, and the execution and delivery of said deposit account control agreements, no consent of any third parties and no authorization, approval or other action by, and no notice to or filing with, any governmental authority or regulatory body is required for (i) the execution, delivery and performance of this Agreement, (ii) the creation or perfection of the Security Interests created hereunder in the Collateral or (iii) the enforcement of the rights of the Collateral Agent and the Secured Parties hereunder.

(g) Each Debtor hereby authorizes the Collateral Agent to file one or more financing statements under the UCC, with respect to the Security Interests, with the proper filing and recording agencies in any jurisdiction deemed proper by it and authorizes Collateral Agent to take any other action in Collateral Agent's absolute discretion to effectuate, memorialize and protect Secured Parties' interest and rights under this Agreement.

(h) The execution, delivery and performance of this Agreement by the Debtors does not (i) violate any of the provisions of any Organizational Documents of any Debtor or, to the knowledge of any Debtor, any judgment, decree, order or award of any court, governmental body or arbitrator or any applicable law, rule or regulation applicable to any Debtor or (ii) to the knowledge of each Debtor, conflict with, or constitute a default (or an event that with notice or lapse of time or both would become a default) under, or give to others any rights of termination, amendment, acceleration or cancellation (with or without notice, lapse of time or both) of, any agreement, credit facility, debt or other instrument (evidencing any Debtor's debt or otherwise) or other understanding to which such Debtor is a party or by which any property or asset of any Debtor is bound or affected. If any, all required consents (including, without limitation, from stockholders or creditors of any Debtor) necessary for any Debtor to enter into and perform its obligations hereunder have been obtained.

(i) The capital stock, other equity interests listed on Schedule H hereto (the "Pledged Securities") represent all of the capital stock of the Subsidiaries, if any, and represent all capital stock and other equity interests owned, directly or indirectly, by the Company (other than the Oxis Isle of Man Limited). All of the Pledged Securities, if applicable, are validly issued, fully paid and nonassessable, and the Company is the legal and beneficial owner of the Pledged Securities, free and clear of any lien, security interest or other encumbrance except for the security interests created by this Agreement and other Permitted Liens.

(j) The ownership and other equity interests in partnerships and limited liability companies (if any) included in the Collateral (the "Pledged Interests") by their express terms do not provide that they are securities governed by Article 8 of the UCC and are not held in a securities account or by any financial intermediary.

(k) Except for Permitted Liens, each Debtor shall at all times maintain the liens and Security Interests provided for hereunder as valid and perfected first priority liens and security interests in the Collateral in favor of the Secured Parties until this Agreement and the Security Interest hereunder shall be terminated pursuant to Section 14 hereof. Each Debtor hereby agrees to defend the same against the claims of any and all persons and entities. Each Debtor shall safeguard and protect all Collateral for the account of the Secured Parties. Upon request of the Collateral Agent, each Debtor will sign and deliver to the Collateral Agent on behalf of the Secured Parties at any time or from time to time one or more financing statements pursuant to the UCC in form reasonably satisfactory to the Collateral Agent and will pay the cost of filing the same in all public offices wherever filing is, or is deemed by the Collateral Agent to be, necessary or desirable to effect the rights and obligations provided for herein. Without limiting the generality of the foregoing, each Debtor shall pay all fees, taxes and other amounts necessary to maintain the Collateral and the Security Interest hereunder, and each Debtor shall obtain and furnish to the Collateral Agent from time to time, upon demand, such releases and/or subordinations of claims and liens (other than Permitted Liens) that may be required to maintain the priority of the Security Interest hereunder.

(l) Other than with respect to Permitted Liens, no Debtor will transfer, pledge, hypothecate, encumber, license, sell or otherwise dispose of any of the Collateral (except for non-exclusive licenses granted by a Debtor in its ordinary course of business, sales of inventory by a Debtor in its ordinary course of business and disposition of obsolete equipment) without the prior written consent of the Collateral Agent. The foregoing notwithstanding, Debtor may replace noncash components of the Collateral with a cash or Cash Equivalent deposit made at an institution subject to a cash account control agreement acceptable to the Secured Parties, provided the amount of cash deposited subject to such agreement is not less than the highest amount of the Obligations that may be outstanding pursuant to the Transaction Documents. Cash Equivalent shall mean U.S. government Treasury bills, bank certificates of deposit, bankers' acceptances, corporate commercial paper and other money market instruments.

(m) Each Debtor shall keep and preserve its equipment, inventory and other tangible Collateral in good condition, repair and order and shall not operate or locate any such Collateral (or cause to be operated or located) in any area excluded from insurance coverage.

(n) Each Debtor shall maintain with financially sound and reputable insurers, insurance with respect to the Collateral, including Collateral hereafter acquired, against loss or damage of the kinds and in the amounts customarily insured against by entities of established reputation having similar properties similarly situated and in such amounts as are customarily carried under similar circumstances by other such entities and otherwise as is prudent for entities engaged in similar businesses but in any event sufficient to cover the full replacement cost thereof. Each Debtor shall cause each insurance policy issued in connection herewith to provide, and the insurer issuing such policy to certify to the Collateral Agent, that (a) the Collateral Agent will be named as lender loss payee and additional insured under each such insurance policy; and (b) if such insurance is proposed to be cancelled or materially changed for any reason whatsoever, such insurer or the Company will promptly notify the Collateral Agent. In addition, the Collateral Agent will have the right (but no obligation) at its election to remedy any default in the payment of premiums within thirty (30) days of notice from the Company or the insurer of any such default. If no Event of Default (as defined in the Notes) exists and if the proceeds arising out of any claim or series of related claims do not exceed \$50,000, loss payments in each instance will be applied by the applicable Debtor to the repair and/or replacement of property with respect to which the loss was incurred to the extent reasonably feasible, and any loss payments or the balance thereof remaining, to the extent not so applied, shall be payable to the applicable Debtor; provided, however, that payments received by any Debtor after an Event of Default occurs and is continuing or in excess of \$50,000 for any occurrence or series of related occurrences shall be paid to the Collateral Agent on behalf of the Secured Parties and, if received by such Debtor, shall be held in trust for the Secured Parties and immediately paid over to the Collateral Agent unless otherwise directed in writing by the Collateral Agent. Copies of such policies or the related certificates, in each case, naming the Collateral Agent as lender loss payee and additional insured shall be delivered to the Collateral Agent at least annually and at the time any new policy of insurance is issued.

(o) Each Debtor shall, within ten (10) days of obtaining knowledge thereof, advise Collateral Agent promptly, in sufficient detail, of any material adverse change in the Collateral, and of the occurrence of any event which would have a material adverse effect on the value of the Collateral or on the Secured Parties' security interest.

(p) Each Debtor shall promptly execute and deliver to the Collateral Agent such further deeds, mortgages, assignments, security agreements, financing statements or other instruments, documents, certificates and assurances and take such further action as the Collateral Agent may from time to time request and may in its sole discretion deem necessary to perfect, protect or enforce the Secured Parties' security interest in the Collateral including, without limitation, one or more deposit account control agreements, and if applicable, the execution and delivery of a separate security agreement with respect to each Debtor's Intellectual Property ("Intellectual Property Security Agreement") in which the Secured Parties have been granted a security interest hereunder, all substantially in forms reasonably acceptable to the Collateral Agent, which Intellectual Property Security Agreement, and other such documents and agreements other than as stated therein, shall be subject to all of the terms and conditions hereof.

(q) Each Debtor shall permit the Collateral Agent and its representatives and agents to inspect the Collateral during normal business hours and upon reasonable prior notice, and to make copies of records pertaining to the Collateral as may be reasonably requested by the Collateral Agent from time to time; provided that so long as no Event of Default shall have occurred and be continuing, such inspections shall be limited to no more than one (1) time per fiscal year.

(r) Each Debtor shall take commercially reasonable steps necessary to diligently pursue and seek to preserve, enforce and collect any rights, claims, causes of action and accounts receivable in respect of the Collateral.

(s) Each Debtor shall promptly notify the Secured Parties in sufficient detail upon becoming aware of any attachment, garnishment, execution or other legal process levied against any Collateral and of any other information received by such Debtor that may materially affect the value of the Collateral, the Security Interest or the rights and remedies of the Secured Parties hereunder.

(t) All information heretofore, herein or hereafter supplied to the Secured Parties by or on behalf of any Debtor with respect to the Collateral is accurate and complete in all material respects as of the date furnished and in light of the circumstances under which such statements were made.

(u) Each Debtor shall at all times preserve and keep in full force and effect its existence and good standing and any rights and franchises material to its business.

(v) No Debtor will change its name, type of organization, jurisdiction of organization, organizational identification number (if it has one), legal or corporate structure, or add any new fictitious name unless it provides at least 15 days prior written notice to the Collateral Agent of such change and, at the time of such written notification, such Debtor provides any financing statements or fixture filings necessary to perfect and continue the perfection of the Security Interests granted and evidenced by this Agreement.

(w) Except in the ordinary course of business, no Debtor may consign any of its inventory or sell any of its inventory on bill and hold, sale or return, sale on approval, or other conditional terms of sale without the consent of the Collateral Agent which shall not be unreasonably withheld.

(x) No Debtor may relocate its chief executive office to a new location without providing 30 days prior written notification thereof to the Secured Parties and provided that at the time of such written notification, such Debtor provides any financing statements necessary to perfect and continue the perfection of the Security Interests granted and evidenced by this Agreement.

(y) Each Debtor was organized and remains organized solely under the laws of the state set forth next to such Debtor's name in Schedule D attached hereto, which Schedule D sets forth each Debtor's organizational identification number or, if any Debtor does not have one, states that one does not exist.

(z)

(i) The actual name of each Debtor is the name set forth in Schedule D attached hereto;

(ii) no Debtor has any trade names except as set forth on Schedule E attached hereto;

(iii) no Debtor has used any name other than that stated in the preamble hereto or as set forth on Schedule E for the preceding five years; and

(iv) no entity has merged into any Debtor or been acquired by any Debtor within the past five years except as set forth on Schedule E.

(aa) At any time that any Collateral consists of instruments, certificated securities or other items that require or permit possession by a secured party to perfect the security interest created hereby, the applicable Debtor shall deliver such Collateral to the Collateral Agent.

(bb) During the continuance of an Event of Default, each Debtor, in its capacity as issuer, hereby agrees to comply with any and all orders and instructions of Collateral Agent regarding the Pledged Securities consistent with the terms of this Agreement without the further consent of any Debtor as contemplated by Section 8-106 (or any successor section) of the UCC. Further, each Debtor agrees, solely with respect to the Pledged Securities, that it shall not enter into a similar agreement (or one that would confer “control” within the meaning of Article 8 of the UCC) with any other person or entity.

(cc) each Debtor shall cause all tangible chattel paper constituting Collateral to be delivered to the Collateral Agent or, if such delivery is not possible, then to cause such tangible chattel paper to contain a legend noting that it is subject to the security interest created by this Agreement. To the extent that any Collateral consists of electronic chattel paper, the applicable Debtor shall cause the underlying chattel paper to be “marked” within the meaning of Section 9-105 of the UCC (or successor section thereto).

(dd) If there is any investment property or deposit account included as Collateral that can be perfected by “control” through an account control agreement, the applicable Debtor shall at the request of the Collateral Agent cause such an account control agreement, in form and substance in each case reasonably satisfactory to the Collateral Agent, to be entered into and delivered to the Collateral Agent for the benefit of the Secured Parties.

(ee) To the extent that any Collateral consists of letter-of-credit rights, the applicable Debtor shall cause the issuer of each underlying letter of credit to consent to an assignment of the proceeds thereof to the Secured Parties.

(ff) To the extent that any Collateral is in the possession of any third party, the applicable Debtor shall join with the Collateral Agent in notifying such third party of the Secured Parties’ security interest in such Collateral and shall use commercially reasonable efforts to obtain an acknowledgement and agreement from such third party with respect to the Collateral, in form and substance reasonably satisfactory to the Collateral Agent.

(gg) If any Debtor shall at any time hold or acquire a commercial tort claim, such Debtor shall promptly notify the Secured Parties in a writing signed by such Debtor of the particulars thereof and grant to the Secured Parties in such writing a security interest therein and in the proceeds thereof, all upon the terms of this Agreement, with such writing to be in form and substance satisfactory to the Collateral Agent.

(hh) Each Debtor shall promptly provide written notice to the Collateral Agent of any and all accounts which arise out of contracts with any governmental authority and, to the extent necessary to perfect or continue the perfected status of the Security Interests in such accounts and proceeds thereof, shall execute and deliver to the Collateral Agent an assignment of claims for such accounts and cooperate with the Collateral Agent in taking any other steps required, in its judgment, under the Federal Assignment of Claims Act or any similar federal, state or local statute or rule to perfect or continue the perfected status of the Security Interests in such accounts and proceeds thereof.

(ii) The Company shall cause each subsidiary of the Company (other than Oxis Isle of Man Limited) to promptly become a party hereto (an “Additional Debtor”), by executing and delivering an Additional Debtor Joinder substantially in the form of Annex A attached hereto and comply with the provisions hereof applicable to the Debtors. Concurrent therewith, the Additional Debtor shall deliver replacement schedules for, or supplements to all other Disclosure Schedules to (or referred to in) this Agreement, as applicable, which replacement schedules shall supersede, or supplements shall modify, the Schedules then in effect. The Additional Debtor shall also deliver such opinions of counsel, authorizing resolutions, good standing certificates, incumbency certificates, organizational documents, financing statements and other information and documentation as the Collateral Agent may reasonably request. Upon delivery of the foregoing to the Collateral Agent, the Additional Debtor shall be and become a party to this Agreement with the same rights and obligations as the Debtors, for all purposes hereof as fully and to the same extent as if it were an original signatory hereto and shall be deemed to have made the representations, warranties and covenants set forth herein as of the date of execution and delivery of such Additional Debtor Joinder (other than representations and warranties that specifically refer to an earlier date), and all references herein to the “Debtors” shall be deemed to include each Additional Debtor.

(jj) Each Debtor shall vote the Pledged Securities to comply with the covenants and agreements set forth herein and in the Notes.

(kk) Each Debtor shall register the pledge of the applicable Pledged Securities on the books of such Debtor. Each Debtor shall notify each issuer of Pledged Securities to register the pledge of the applicable Pledged Securities in the name of the Collateral Agent on the books of such issuer. Further, except with respect to certificated securities delivered to the Collateral Agent, the applicable Debtor shall deliver to Collateral Agent an acknowledgement of pledge (which, where appropriate, shall comply with the requirements of the relevant UCC with respect to perfection by registration) signed by the issuer of the applicable Pledged Securities, which acknowledgement shall confirm that: (a) it has registered the pledge on its books and records; and (b) at any time directed by Collateral Agent during the continuation of an Event of Default, such issuer will transfer the record ownership of such Pledged Securities into the name of any designee of the Collateral Agent, will take such steps as may be necessary to effect the transfer, and will comply with all other instructions of the Collateral Agent regarding such Pledged Securities without the further consent of the applicable Debtor.

(ll) In the event that, upon an occurrence of an Event of Default, Collateral Agent shall sell all or any of the Pledged Securities to another party or parties (herein called the “Transferee”) or shall purchase or retain all or any of the Pledged Securities, each Debtor shall, to the extent applicable: (i) deliver to Collateral Agent or the Transferee, as the case may be, the articles of incorporation, bylaws, minute books, stock certificate books, corporate seals, deeds, leases, indentures, agreements, evidences of indebtedness, books of account, financial records and all other Organizational Documents and records of the Debtors and their direct and indirect subsidiaries; (ii) use its commercially reasonable efforts to obtain resignations of the persons then serving as officers and directors of the Debtors and their direct and indirect subsidiaries, if so requested; and (iii) use its commercially reasonable efforts to obtain any approvals that are required by any governmental or regulatory body in order to permit the sale of the Pledged Securities to the Transferee or the purchase or retention of the Pledged Securities by Collateral Agent and allow the Transferee or Collateral Agent to continue the business of the Debtors and their direct and indirect subsidiaries.

(mm) Without limiting the generality of the other obligations of the Debtors hereunder, each Debtor shall (i) cause to be registered at the United States Copyright Office all of its material copyrights, (ii) cause the security interest contemplated hereby with respect to all Intellectual Property registered at the United States Copyright Office or United States Patent and Trademark Office to be duly recorded at the applicable office, and (iii) give the Collateral Agent notice whenever it acquires (whether absolutely or by license) or creates any additional material Intellectual Property.

(nn) Each Debtor will from time to time, at the joint and several expense of the Debtors, promptly execute and deliver all such further instruments and documents, and take all such further action as may be reasonably necessary or desirable, or as the Collateral Agent may reasonably request, in order to perfect and protect any security interest granted or purported to be granted hereby or to enable the Collateral Agent to exercise and enforce Collateral Agent’s rights and remedies hereunder and with respect to any Collateral or to otherwise carry out the purposes of this Agreement.

(oo) Schedule F attached hereto lists all of the patents, patent applications, trademarks, trademark applications, registered copyrights, and domain names owned by the any of the Debtors as of the date hereof. Schedule F lists all material licenses in favor of Debtor for the use of any patents, trademarks, copyrights and domain names as of the date hereof. All material patents and trademarks of the Debtors have been duly recorded at the United States Patent and Trademark Office and all material copyrights of the Debtors have been duly recorded at the United States Copyright Office.

(pp) Except as set forth on Schedule G attached hereto, none of the account debtors or other persons or entities obligated on any of the Collateral is a governmental authority covered by the Federal Assignment of Claims Act or any similar federal, state or local statute or rule in respect of such Collateral.

5. Effect of Pledge on Certain Rights. If any of the Collateral subject to this Agreement consists of nonvoting equity or ownership interests (regardless of class, designation, preference or rights) that may be converted into voting equity or ownership interests upon the occurrence of certain events (including, without limitation, upon the transfer of all or any of the other stock or assets of the issuer), it is agreed that the pledge of such equity or ownership interests pursuant to this Agreement or the enforcement of any of Collateral Agent's rights hereunder shall not be deemed to be the type of event which would trigger such conversion rights notwithstanding any provisions in the Organizational Documents or agreements to which any Debtor is subject or to which any Debtor is party.

6. Defaults. The following events shall be "Events of Default":

(a) The occurrence of an Event of Default (as defined in the Notes) under the Notes;

(b) Any representation or warranty of any Debtor in this Agreement shall prove to have been incorrect in any material respect when made;

(c) The failure by any Debtor to observe or perform any of its obligations hereunder for five (5) calendar days after delivery to such Debtor of written notice of such failure by or on behalf of a Secured Party or ten (10) calendar days after Debtor otherwise becomes aware of such non-observance or non-performance; or

(d) If any material provision of this Agreement shall at any time for any reason be declared to be null and void, or the validity or enforceability thereof shall be contested by any Debtor, or a proceeding shall be commenced by any Debtor, or by any governmental authority having jurisdiction over any Debtor, seeking to establish the invalidity or unenforceability thereof, or any Debtor shall deny that any Debtor has any liability or obligation purported to be created under this Agreement.

7. Duty to Hold In Trust.

(a) During the continuance of an Event of Default, each Debtor shall, upon receipt of any revenue, income, dividend, interest or other sums subject to the Security Interests, whether payable pursuant to the Notes or otherwise, or of any check, draft, note, trade acceptance or other instrument evidencing an obligation to pay any such sum, hold the same in trust for the Secured Parties and shall forthwith endorse and transfer any such sums or instruments, or both, to the Collateral Agent for distribution to the Secured Parties, pro-rata in proportion to their respective then-currently outstanding principal amount of Notes for application to the satisfaction of the Obligations (and if any Note is not outstanding, pro-rata in proportion to the initial purchases of the remaining Notes).

(b) If any Debtor shall become entitled to receive or shall receive any securities or other property (including, without limitation, shares of Pledged Securities or instruments representing Pledged Securities acquired after the date hereof, or any options, warrants, rights or other similar property or certificates representing a dividend, or any distribution in connection with any recapitalization, reclassification or increase or reduction of capital, or issued in connection with any reorganization of such Debtor or any of its direct or indirect subsidiaries) in respect of the Pledged Securities (whether as an addition to, in substitution of, or in exchange for, such Pledged Securities or otherwise), such Debtor agrees to (i) hold the same in trust on behalf of and for the benefit of the Secured Parties; and (ii) to deliver any and all certificates or instruments evidencing the same to Collateral Agent on or before the close of business on the fifth Business Day following the receipt thereof by such Debtor, in the exact form received together with the Necessary Endorsements, to be held by Collateral Agent subject to the terms of this Agreement as Collateral.

8. Rights and Remedies Upon Default.

(a) After the occurrence and during the continuance of any Event of Default, the Collateral Agent shall have the right to exercise all of the remedies conferred hereunder and under the Notes, and the Collateral Agent shall have all the rights and remedies of a secured party under the UCC. Without limitation, the Collateral Agent, for the benefit of the Secured Parties, shall have the following rights and powers:

(i) The Collateral Agent shall have the right to take possession of the Collateral and, for that purpose, enter, with the aid and assistance of any person, any premises where the Collateral, or any part thereof, is or may be placed and remove the same, so long as the same can be accomplished without breach of the peace and otherwise in compliance with applicable law, and each Debtor shall assemble the Collateral and make it available to the Collateral Agent at places which the Collateral Agent shall reasonably select, whether at such Debtor's premises or elsewhere, and make available to the Collateral Agent, without rent, all of such Debtor's respective premises and facilities for the purpose of the Collateral Agent taking possession of, removing or putting the Collateral in saleable or disposable form.

(ii) Upon notice to the Debtors by Collateral Agent, all rights of each Debtor to exercise the voting and other consensual rights which it would otherwise be entitled to exercise and all rights of each Debtor to receive the dividends and interest which it would otherwise be authorized to receive and retain, shall cease. Upon such notice, Collateral Agent shall have the right to receive, for the benefit of the Secured Parties, any interest, cash dividends or other payments on the Collateral and, at the option of Collateral Agent, to exercise in such Collateral Agent's discretion all voting rights pertaining thereto. Without limiting the generality of the foregoing, Collateral Agent shall have the right (but not the obligation) to exercise all rights with respect to the Collateral as if it were the sole and absolute owner thereof, including, without limitation, to vote and/or to exchange, at its sole discretion, any or all of the Collateral in connection with a merger, reorganization, consolidation, recapitalization or other readjustment concerning or involving the Collateral or any Debtor or any of its direct or indirect subsidiaries.

(iii) The Collateral Agent shall have the right to seek an Order from a court appointing a Trustee to operate the business of each Debtor using the Collateral and shall have the right to assign, sell, lease or otherwise dispose of and deliver all or any part of the Collateral, at public or private sale or otherwise, either with or without special conditions or stipulations, for cash or on credit or for future delivery, in such parcel or parcels and at such time or times and at such place or places, and upon such terms and conditions as are commercially reasonable. Upon each such sale, lease, assignment or other transfer or disposition of Collateral, the Collateral Agent, for the benefit of the Secured Parties, may, unless prohibited by applicable law which cannot be waived, purchase all or any part of the Collateral being sold, free from and discharged of all trusts, claims, right of redemption and equities of any Debtor, which are hereby waived and released.

(iv) The Collateral Agent shall have the right (but not the obligation) to notify any account debtors and any obligors under instruments or accounts to make payments directly to the Collateral Agent, on behalf of the Secured Parties, and to enforce the Debtors' rights against such account debtors and obligors.

(v) The Collateral Agent, for the benefit of the Secured Parties, may (but is not obligated to) direct any financial intermediary or any other person or entity holding any investment property to transfer the same to the Collateral Agent, on behalf of the Secured Parties, or its designee.

(vi) The Collateral Agent may (but is not obligated to) transfer any or all Intellectual Property registered in the name of any Debtor at the United States Patent and Trademark Office and/or Copyright Office into the name of the Collateral Agent or any purchaser of any Collateral.

(b) The Collateral Agent shall comply with any applicable law in connection with a disposition of Collateral and such compliance will not be considered adversely to affect the commercial reasonableness of any sale of the Collateral. The Collateral Agent may sell the Collateral without giving any warranties and may specifically disclaim such warranties. If the Collateral Agent sells any of the Collateral on credit, the Debtors will only be credited with payments actually made by the purchaser. In addition, each Debtor waives any and all rights that it may have to a judicial hearing in advance of the enforcement of any of the Collateral Agent's rights and remedies hereunder, including, without limitation, its right following an Event of Default to take immediate possession of the Collateral and to exercise its rights and remedies with respect thereto.

(c) If any notice to Debtor of the sale or other disposition of Collateral is required by then applicable law, five (5) business days prior written notice (which Debtor agree is reasonable notice within the meaning of Section 9.612(a) of the Uniform Commercial Code) shall be given to Debtor of the time and place of any sale of Collateral. The rights granted in this Section are in addition to any and all rights available to Collateral Agent under the Uniform Commercial Code.

(d) For the purpose of enabling the Collateral Agent to further exercise rights and remedies under this Section 8 or elsewhere provided by agreement or applicable law, each Debtor hereby grants to the Collateral Agent, for the benefit of the Collateral Agent and the Secured Parties, an irrevocable, nonexclusive license (exercisable without payment of royalty or other compensation to such Debtor) to use, license or sublicense during the continuance of an Event of Default, any Intellectual Property now owned or hereafter acquired by such Debtor, and wherever the same may be located, and including in such license access to all media in which any of the licensed items may be recorded or stored and to all computer software and programs used for the compilation or printout thereof.

9. Applications of Proceeds. The proceeds of any such sale, lease or other disposition of the Collateral hereunder or from payments made on account of any insurance policy insuring any portion of the Collateral shall be applied first, to the expenses of retaking, holding, storing, processing and preparing for sale, selling, and the like (including, without limitation, any taxes, fees and other costs incurred in connection therewith) of the Collateral, if any, to the reasonable attorneys' fees and expenses incurred by the Collateral Agent in enforcing the Secured Parties' rights hereunder and in connection with collecting, storing and disposing of the Collateral, and then to satisfaction of the Obligations pro rata among the Secured Parties (based on then-outstanding principal amounts of Notes at the time of any such determination), and then to the payment of any other amounts required by applicable law, after which the Secured Parties shall pay to the applicable Debtor any surplus proceeds. If, upon the sale, license or other disposition of the Collateral, the proceeds thereof are insufficient to pay all amounts to which the Secured Parties are legally entitled, the Debtors will be liable for the deficiency, together with interest thereon, at the rate of 18% per annum or the lesser amount permitted by applicable law (the "Default Rate"), and the reasonable fees of any attorneys employed by the Secured Parties to collect such deficiency. To the extent permitted by applicable law, each Debtor waives all claims, damages and demands against the Secured Parties arising out of the repossession, removal, retention or sale of the Collateral, unless due solely to the gross negligence or willful misconduct of the Secured Parties as determined by a final judgment (not subject to further appeal) of a court of competent jurisdiction.

10. Securities Law Provision. Each Debtor recognizes that Collateral Agent may be limited in its ability to effect a sale to the public of all or part of the Pledged Securities by reason of certain prohibitions in the Securities Act of 1933, as amended, or other federal or state securities laws (collectively, the “Securities Laws”), and may reasonably be obliged to resort to one or more sales to a restricted group of purchasers who may be required to agree to acquire the Pledged Securities for their own account, for investment and not with a view to the distribution or resale thereof. Each Debtor agrees that sales so made may be at prices and on terms less favorable than if the Pledged Securities were sold to the public, and that Collateral Agent has no obligation to delay the sale of any Pledged Securities for the period of time necessary to register the Pledged Securities for sale to the public under the Securities Laws. Each Debtor shall cooperate with Collateral Agent in its attempt to satisfy any requirements under the Securities Laws (including, without limitation, registration thereunder if requested by Collateral Agent) applicable to the sale of the Pledged Securities by Collateral Agent.

11. Costs and Expenses. Each Debtor agrees to pay all reasonable out-of-pocket fees, costs and expenses incurred in connection with any filing required hereunder, including without limitation, any financing statements pursuant to the UCC, continuation statements, partial releases and/or termination statements related thereto or any expenses of any searches reasonably required by the Collateral Agent. The Debtors shall also pay all other claims and charges which in the reasonable opinion of the Collateral Agent is reasonably likely to prejudice, imperil or otherwise affect the Collateral or the Security Interests therein. The Debtors will also, upon demand, pay to the Collateral Agent the amount of any and all reasonable expenses, including the reasonable fees and expenses of its counsel and of any experts and agents, which the Collateral Agent, for the benefit of the Secured Parties, may incur in connection with (i) the enforcement of this Agreement, (ii) the custody or preservation of, or the sale of, collection from, or other realization upon, any of the Collateral, or (iii) the exercise or enforcement of any of the rights of the Secured Parties under the Notes. Until so paid, any fees payable hereunder shall be added to the principal amount of the Notes and shall bear interest at the Default Rate.

12. Responsibility for Collateral. The Debtors assume all liabilities and responsibility in connection with all Collateral, and the Obligations shall in no way be affected or diminished by reason of the loss, destruction, damage or theft of any of the Collateral or its unavailability for any reason. Without limiting the generality of the foregoing, (a) neither the Collateral Agent nor any Secured Party (i) has any duty (either before or after an Event of Default) to collect any amounts in respect of the Collateral or to preserve any rights relating to the Collateral, or (ii) has any obligation to clean-up or otherwise prepare the Collateral for sale, and (b) each Debtor shall remain obligated and liable under each contract or agreement included in the Collateral to be observed or performed by such Debtor thereunder. Neither the Collateral Agent nor any Secured Party shall have any obligation or liability under any such contract or agreement by reason of or arising out of this Agreement or the receipt by the Collateral Agent or any Secured Party of any payment relating to any of the Collateral, nor shall the Collateral Agent or any Secured Party be obligated in any manner to perform any of the obligations of any Debtor under or pursuant to any such contract or agreement, to make inquiry as to the nature or sufficiency of any payment received by the Collateral Agent or any Secured Party in respect of the Collateral or as to the sufficiency of any performance by any party under any such contract or agreement, to present or file any claim, to take any action to enforce any performance or to collect the payment of any amounts which may have been assigned to the Collateral Agent or to which the Collateral Agent or any Secured Party may be entitled at any time or times.

13. Security Interests Absolute. All rights of the Secured Parties and all obligations of the Debtors hereunder, shall be absolute and unconditional, irrespective of: (a) any lack of validity or enforceability of this Agreement, the Notes or any agreement entered into in connection with the foregoing, or any portion hereof or thereof; (b) any change in the time, manner or place of payment or performance of, or in any other term of, all or any of the Obligations, or any other amendment or waiver of or any consent to any departure from the Notes or any other agreement entered into in connection with the foregoing; (c) any exchange, release or non-perfection of any of the Collateral, or any release or amendment or waiver of or consent to departure from any other collateral for, or any guarantee, or any other security, for all or any of the Obligations; (d) any action by the Secured Parties to obtain, adjust, settle and cancel in its sole discretion any insurance claims or matters made or arising in connection with the Collateral; or (e) any other circumstance which might otherwise constitute any legal or equitable defense available to a Debtor, or a discharge of all or any part of the Security Interests granted hereby. Until the Obligations shall have been paid and performed in full, the rights of the Secured Parties shall continue even if the Obligations are barred for any reason, including, without limitation, the running of the statute of limitations or bankruptcy. Each Debtor expressly waives presentment, protest, notice of protest, demand, notice of nonpayment and demand for performance. In the event that at any time any transfer of any Collateral or any payment received by the Secured Parties hereunder shall be deemed by final order of a court of competent jurisdiction to have been a voidable preference or fraudulent conveyance under the bankruptcy or insolvency laws of the United States, or shall be deemed to be otherwise due to any party other than the Secured Parties, then, in any such event, each Debtor's obligations hereunder shall survive cancellation of this Agreement, and shall not be discharged or satisfied by any prior payment thereof and/or cancellation of this Agreement, but shall remain a valid and binding obligation enforceable in accordance with the terms and provisions hereof. Each Debtor waives all right to require the Secured Parties to proceed against any other person or entity or to apply any Collateral which the Secured Parties may hold at any time, or to marshal assets, or to pursue any other remedy. Each Debtor waives any defense arising by reason of the application of the statute of limitations to any Obligations secured hereby.

14. Term of Agreement. This Agreement and the Security Interest shall terminate on the date on which all payments under the Notes have been indefeasibly paid in full and all other Obligations have been paid or discharged; provided, however, that all indemnities of the Debtors contained in this Agreement (including, without limitation, Annex B hereto) shall survive and remain operative and in full force and effect regardless of the termination of this Agreement.

15. Power of Attorney; Further Assurances.

(a) Each Debtor authorizes the Collateral Agent, and does hereby make, constitute and appoint the Collateral Agent and its officers, agents, successors or permitted assigns with full power of substitution, as such Debtor's true and lawful attorney-in-fact, with power, in the name of the Collateral Agent or such Debtor, after the occurrence and during the continuance of an Event of Default, (i) to endorse any note, checks, drafts, money orders or other instruments of payment (including, without limitation, payments payable under or in respect of any policy of insurance) in respect of the Collateral that may come into possession of the Collateral Agent; (ii) to sign and endorse any financing statement pursuant to the UCC or any invoice, freight or express bill, bill of lading, storage or warehouse receipts, drafts against debtors, assignments, verifications and notices in connection with accounts, and other documents relating to the Collateral; (iii) to pay or discharge taxes, liens, security interests or other encumbrances at any time levied or placed on or threatened against the Collateral; (iv) to demand, collect, receipt for, compromise, settle and sue for monies due in respect of the Collateral; (v) to transfer any Intellectual Property or provide licenses respecting any Intellectual Property; and (vi) generally, at the option of the Collateral Agent, and at the expense of the Debtors, at any time, or from time to time, to execute and deliver any and all documents and instruments and to do all acts and things which the Collateral Agent deems necessary to protect, preserve and realize upon the Collateral and the Security Interests granted therein in order to effect the intent of this Agreement and the Notes all as fully and effectually as the Debtors might or could do; and each Debtor hereby ratifies all that said attorney shall lawfully do or cause to be done by virtue hereof. This power of attorney is coupled with an interest and shall be irrevocable for the term of this Agreement and thereafter as long as any of the Obligations shall be outstanding. The designation set forth herein shall be deemed to amend and supersede any inconsistent provision in the Organizational Documents or other documents or agreements to which any Debtor is subject or to which any Debtor is a party. Without limiting the generality of the foregoing, after the occurrence and during the continuance of an Event of Default, each Secured Party is specifically authorized to execute and file any applications for or instruments of transfer and assignment of any patents, trademarks, copyrights or other Intellectual Property with the United States Patent and Trademark Office and the United States Copyright Office.

(b) On a continuing basis, each Debtor will make, execute, acknowledge, deliver, file and record, as the case may be, with the proper filing and recording agencies in any jurisdiction, including, without limitation, the jurisdictions indicated on Schedule C attached hereto, all such instruments, and take all such action as may reasonably be deemed necessary or advisable, or as reasonably requested by the Collateral Agent, to perfect the Security Interest granted hereunder and otherwise to carry out the intent and purposes of this Agreement, or for assuring and confirming to the Collateral Agent the grant or perfection of a perfected security interest in all the Collateral under the UCC.

(c) Each Debtor hereby irrevocably appoints the Collateral Agent as such Debtor's attorney-in-fact, with full authority in the place and instead of such Debtor and in the name of such Debtor, from time to time in the Collateral Agent's discretion, to take any action permitted under this Agreement and to execute any instrument which the Collateral Agent may reasonably deem necessary or advisable to accomplish the purposes of this Agreement, including the filing, in its sole discretion, of one or more financing or continuation statements and amendments thereto, relative to any of the Collateral without the signature of such Debtor where permitted by law, which financing statements may (but need not) describe the Collateral as "all assets" or "all personal property" or words of like import, and ratifies all such actions taken by the Collateral Agent. This power of attorney is coupled with an interest and shall be irrevocable for the term of this Agreement and thereafter as long as any of the Obligations shall be outstanding.

16. Notices. All notices, demands, requests, consents, approvals, and other communications required or permitted hereunder shall be in writing and, unless otherwise specified herein, shall be (a) personally served, (b) deposited in the mail, registered or certified, return receipt requested, postage prepaid, (c) delivered by a reputable overnight courier service with charges prepaid, or (d) transmitted by hand delivery, telegram, or facsimile, addressed as set forth below or to such other address as such party shall have specified most recently by written notice. Any notice or other communication required or permitted to be given hereunder shall be deemed effective (i) upon hand delivery or delivery by facsimile, with accurate confirmation generated by the transmitting facsimile machine, at the address or number designated below (if delivered on a Business Day during normal business hours), or the first Business Day following such delivery (if delivered other than on a Business Day during normal business hours), (ii) on the first Business Day following the date deposited with an overnight courier service with charges prepaid, or (iii) on the fifth Business Day following the date of mailing pursuant to subpart (b) above, or upon actual receipt of such mailing, whichever shall first occur. The addresses for such communications shall be:

To Debtor, to:

GT Biopharma, Inc.
310 N. Westlake Blvd, Suite 206
Westlake Village, CA 91362

With a copy only to
(which shall not constitute notice):

Gary R. Henrie, Esq.
P.O. Box 107
Nauvoo, IL 62354
Email: grhlaw@hotmail.com

To the Collateral Agent:

Alpha Capital Anstalt
c/o Grushko & Mittman, P.C.
515 Rockaway Avenue
Valley Stream, NY 11581
Fax: (212) 697-3575

17. **Other Security.** To the extent that the Obligations are now or hereafter secured by property other than the Collateral or by the guarantee, endorsement or property of any other person, firm, corporation or other entity, then the Collateral Agent shall have the right, in its sole discretion, to pursue, relinquish, subordinate, modify or take any other action with respect thereto, without in any way modifying or affecting any of the Secured Parties' rights and remedies hereunder.

18. **Appointment of Collateral Agent.** The Secured Parties hereby appoint Alpha Capital Anstalt to act as their agent ("Collateral Agent") for purposes of exercising any and all rights and remedies of the Secured Parties hereunder. Such appointment shall continue until revoked in writing by a Majority in Interest, at which time a Majority in Interest shall appoint a new Collateral Agent. The Collateral Agent shall have the rights, responsibilities and immunities set forth in Annex B hereto.

19. **Miscellaneous.**

(a) No course of dealing between the Debtors and the Collateral Agent, nor any failure to exercise, nor any delay in exercising, on the part of the Collateral Agent, any right, power or privilege hereunder or under the Notes shall operate as a waiver thereof; nor shall any single or partial exercise of any right, power or privilege hereunder or thereunder preclude any other or further exercise thereof or the exercise of any other right, power or privilege.

(b) All of the rights and remedies of the Collateral Agent with respect to the Collateral, whether established hereby or by the Notes or by any other agreements, instruments or documents or by law shall be cumulative and may be exercised singly or concurrently.

(c) This Agreement, together with the exhibits and schedules hereto, contain the entire understanding of the parties with respect to the subject matter hereof and supersede all prior agreements and understandings, oral or written, with respect to such matters, which the parties acknowledge have been merged into this Agreement and the exhibits and schedules hereto. No provision of this Agreement may be waived, modified, supplemented or amended except in a written instrument signed, in the case of an amendment, by the Debtors and Collateral Agent or, in the case of a waiver, by the party against whom enforcement of any such waived provision is sought.

(d) If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction to be invalid, illegal, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions set forth herein shall remain in full force and effect and shall in no way be affected, impaired or invalidated, and the parties hereto shall use their commercially reasonable efforts to find and employ an alternative means to achieve the same or substantially the same result as that contemplated by such term, provision, covenant or restriction. It is hereby stipulated and declared to be the intention of the parties that they would have executed the remaining terms, provisions, covenants and restrictions without including any of such that may be hereafter declared invalid, illegal, void or unenforceable.

(e) No waiver of any default with respect to any provision, condition or requirement of this Agreement shall be deemed to be a continuing waiver in the future or a waiver of any subsequent default or a waiver of any other provision, condition or requirement hereof, nor shall any delay or omission of any party to exercise any right hereunder in any manner impair the exercise of any such right.

(f) This Agreement shall be binding upon and inure to the benefit of the parties and their successors and permitted assigns. The Debtors may not assign this Agreement or any rights or obligations hereunder without the prior written consent of a Majority in Interest (other than by merger). Any Secured Party may assign any or all of its rights under this Agreement to any Person to whom such Secured Party assigns or transfers any Obligations, provided such transferee agrees in writing to be bound, with respect to the transferred Obligations, by the provisions of this Agreement that apply to the “Secured Parties.”

(g) Each party shall take such further action and execute and deliver such further documents as may be necessary or appropriate in order to carry out the provisions and purposes of this Agreement.

(h) Except as otherwise stated herein, all questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each Debtor agrees that all proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Agreement and the Notes (whether brought against a party hereto or its respective affiliates, directors, officers, shareholders, partners, members, employees or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York, Borough of Manhattan. Each Debtor hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, Borough of Manhattan for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such proceeding is improper. Each party hereto hereby irrevocably waives personal service of process and consents to process being served in any such proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. **Each party hereto hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.** If any party shall commence a proceeding to enforce any provisions of this Agreement, then the prevailing party in such proceeding shall be reimbursed by the other party for its reasonable attorney’s fees and other costs and expenses incurred with the investigation, preparation and prosecution of such proceeding.

(i) This Agreement may be executed in any number of counterparts, each of which when so executed shall be deemed to be an original and, all of which taken together shall constitute one and the same Agreement. In the event that any signature is delivered by facsimile or other electronic transmission, such signature shall create a valid binding obligation of the party executing (or on whose behalf such signature is executed) the same with the same force and effect as if such signature were the original thereof.

(j) All Debtors shall jointly and severally be liable for the obligations of each Debtor to the Secured Parties hereunder.

(k) Debtor shall indemnify, reimburse and hold harmless the Collateral Agent and the Secured Parties and their respective partners, members, shareholders, officers, directors, employees and agents (and any other persons with other titles that have similar functions) (collectively, “Indemnitees”) from and against any and all losses, claims, liabilities, damages, penalties, suits, costs and expenses, of any kind or nature, (including fees relating to the cost of investigating and defending any of the foregoing) imposed on, incurred by or asserted against such Indemnitee in any way related to or arising from or alleged to arise from this Agreement or the Collateral, except any such losses, claims, liabilities, damages, penalties, suits, costs and expenses which result from the gross negligence or willful misconduct of the Indemnitee as determined by a final, nonappealable decision of a court of competent jurisdiction. This indemnification provision is in addition to, and not in limitation of, any other indemnification provision in the Notes, the Securities Purchase Agreement (as such term is defined in the Notes) or any other agreement, instrument or other document executed or delivered in connection herewith or therewith.

(l) Nothing in this Agreement shall be construed to subject Collateral Agent or any Secured Party to liability as a partner in any Debtor or any if its direct or indirect subsidiaries that is a partnership or as a member in any Debtor or any of its direct or indirect subsidiaries that is a limited liability company, nor shall Collateral Agent or any Secured Party be deemed to have assumed any obligations under any partnership agreement or limited liability company agreement, as applicable, of any such Debtor or any if its direct or indirect subsidiaries or otherwise, unless and until any such Secured Party exercises its right to be substituted for such Debtor as a partner or member, as applicable, pursuant hereto.

(m) To the extent that the grant of the security interest in the Collateral and the enforcement of the terms hereof require the consent, approval or action of any partner or member, as applicable, of any Debtor or any direct or indirect subsidiary of any Debtor or compliance with any provisions of any of the Organizational Documents, the Debtors hereby grant such consent and approval and waive any such noncompliance with the terms of said documents.

IN WITNESS WHEREOF, the parties hereto have caused this Security Agreement to be duly executed on the day and year first above written.

GT BIOPHARMA, INC.

By: _____
Name: Raymond W. Urbanski
Title: Chief Executive Officer

COLLATERAL AGENT

ALPHA CAPITAL ANSTALT

OMNIBUS SECURED PARTY SIGNATURE PAGE TO

GT BIOPHARMA, INC.

SECURITY AGREEMENT

The undersigned, in its capacity as a Secured Party, hereby executes and delivers the Security Agreement to which this signature page is attached and agrees to be bound by the Security Agreement on the date set forth on the first page of the Security Agreement. This counterpart signature page, together with all counterparts of the Security Agreement and signature pages of the other parties named therein, shall constitute one and the same instrument in accordance with the terms of the Security Agreement.

[Print Name of Investor]

[Signature]

Name: _____

Title: _____

Address _____

Email: _____

Taxpayer ID# (if applicable): _____

ANNEX A to SECURITY AGREEMENT

FORM OF ADDITIONAL DEBTOR JOINDER

Security Agreement dated as of February ___, 2019 made by
GT Biopharma, Inc.
and certain of its Subsidiaries party thereto from time to time, as Debtors
to and in favor of
the Secured Parties identified therein (the "Security Agreement")

Reference is made to the Security Agreement as defined above; capitalized terms used herein and not otherwise defined herein shall have the meanings given to such terms in, or by reference in, the Security Agreement.

The undersigned hereby agrees that upon delivery of this Additional Debtor Joinder to the Secured Parties referred to above, the undersigned shall (a) be an Additional Debtor under the Security Agreement, (b) have all the rights and obligations of the Debtors under the Security Agreement as fully and to the same extent as if the undersigned was an original signatory thereto and (c) be deemed to have made the representations and warranties set forth therein as of the date of execution and delivery of this Additional Debtor Joinder (except to the extent such representation or warranty specifically refers to an earlier date). WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, THE UNDERSIGNED SPECIFICALLY GRANTS TO THE SECURED PARTIES A SECURITY INTEREST IN THE COLLATERAL AS MORE FULLY SET FORTH IN THE SECURITY AGREEMENT AND ACKNOWLEDGES AND AGREES TO THE WAIVER OF JURY TRIAL PROVISIONS SET FORTH THEREIN.

Attached hereto are supplemental and/or replacement Schedules to the Security Agreement, as applicable.

Attached hereto is an original Subsidiary Guaranty executed by the undersigned and delivered herewith.

An executed copy of this Additional Debtor Joinder shall be delivered to the Secured Parties, and the Secured Parties may rely on the matters set forth herein on or after the date hereof. This Additional Debtor Joinder shall not be modified, amended or terminated without the prior written consent of the Secured Parties.

IN WITNESS WHEREOF, the undersigned has caused this Joinder to be executed in the name and on behalf of the undersigned.

[]

By:

Name: Raymond W. Urbanski
Title: Chief Executive Officer

Address: 310 N. Westlake Blvd, Suite 206, Westlake Village, CA 91362

Dated:

SUBSIDIARY GUARANTY

1. Identification.

This Guaranty (the “Guaranty”), dated as of _____, 2019 is entered into by [REDACTED], a [REDACTED] corporation (“Guarantor”), for the benefit of the Collateral Agent identified below and the parties identified on Schedule A hereto (each a “Lender” and collectively, the “Lenders”).

2. Recitals.

2.1 Guarantor is a direct or indirect subsidiary of GT Biopharma, Inc., a Delaware corporation (“Parent”). The Lenders have made and/or are making loans to Parent (the “Loans”). Guarantor will obtain substantial benefit from the proceeds of the Loans.

2.2 The Loans are and will be evidenced by certain 10% senior Convertible Debentures issued by Parent on August 2, 2018, September 7, 2018 and September 24, 2018 as set forth on Schedule 1 to the Security Agreement and certain Secured Convertible Notes (collectively, the 10% senior Convertible Debentures and the senior Convertible Notes are referred to as “Note” or the “Notes”) issued by Parent on, about or after the date of this Guaranty pursuant to those certain Securities Purchase Agreements dated August 2, 2018, September 7, 2018 and September 24, 2018 and at or about the date hereof, respectively (“Securities Purchase Agreements”). The Notes issued on the Closing Date are further described on Schedule A hereto and were and or will be executed by Parent as “Borrower” for the benefit of each Lender as the “Holder” thereof.

2.3 In consideration of the Loans made and to be made by Lenders to Parent and for other good and valuable consideration, and as security for the performance by Parent of its obligations under the Notes and as security for the repayment of the Loans and all other sums due from Debtor to Lenders arising under the Notes (collectively, the “Obligations”), Guarantor, for good and valuable consideration, receipt of which is acknowledged, has agreed to enter into this Guaranty.

2.4 The Lenders have appointed Alpha Capital Anstalt as Collateral Agent pursuant to that certain Security Agreement dated at or about the date of this Agreement (“Security Agreement”), among the Lenders and Collateral Agent.

2.5 Upper case terms employed but not defined herein shall have the meanings ascribed to them in the Transaction Documents (as defined in the Securities Purchase Agreement).

3. Guaranty.

3.1 Guaranty. Guarantor hereby unconditionally and irrevocably guarantees, jointly and severally with any other guarantor of the Obligations, the punctual payment, performance and observance when due, whether at stated maturity, by acceleration or otherwise, of all of the Obligations now or hereafter existing, whether for principal, interest (including, without limitation, all interest that accrues after the commencement of any insolvency, bankruptcy or reorganization of Parent, whether or not constituting an allowed claim in such proceeding), fees, commissions, expense reimbursements, liquidated damages, indemnifications or otherwise arising under the Notes, Security Agreement, or any other Transaction Document (as defined in the Securities Purchase Agreement) (such obligations, to the extent not paid by Parent being the “Guaranteed Obligations” and included in the definition of Obligations), and agrees to pay any and all reasonable costs, fees and expenses (including reasonable counsel fees and expenses) incurred by Collateral Agent and the Lenders in enforcing any rights under the Guaranty set forth herein. Without limiting the generality of the foregoing, Guarantor’s liability shall extend to all amounts that constitute part of the Guaranteed Obligations and would be owed by Parent to Collateral Agent and the Lenders, but for the fact that they are unenforceable or not allowable due to the existence of an insolvency, bankruptcy or reorganization involving Parent.

3.2 Guaranty Absolute. Guarantor guarantees that the Guaranteed Obligations will be paid strictly in accordance with the terms of the Notes, regardless of any law, regulation or order now or hereafter in effect in any jurisdiction affecting any of such terms or the rights of Collateral Agent or the Lenders with respect thereto. The obligations of Guarantor under this Guaranty are independent of the Guaranteed Obligations, and a separate action or actions may be brought and prosecuted against Guarantor to enforce such obligations, irrespective of whether any action is brought against Parent or any other guarantor or whether Parent or any other guarantor is joined in any such action or actions. The liability of Guarantor under this Guaranty constitutes a primary obligation, and not a contract of surety, and to the extent permitted by law, shall be irrevocable, absolute and unconditional irrespective of, and Guarantor hereby irrevocably waives any defenses it may now or hereafter have in any way relating to, any or all of the following:

- (a) any lack of validity of the Notes or any agreement or instrument relating thereto;
- (b) any change in the time, manner or place of payment of, or in any other term of, all or any of the Guaranteed Obligations, or any other amendment or waiver of or any consent to departure from the Notes, including, without limitation, any increase in the Guaranteed Obligations resulting from the extension of additional credit to Parent or otherwise;
- (c) any taking, exchange, release, subordination or non-perfection of any Collateral, or any taking, release or amendment or waiver of or consent to departure from any other guaranty, for all or any of the Guaranteed Obligations;
- (d) any change, restructuring or termination of the corporate, limited liability company or partnership structure or existence of Parent; or
- (e) any other circumstance (including, without limitation, any statute of limitations) or any existence of or reliance on any representation by Collateral Agent or the Lenders that might otherwise constitute a defense available to, or a discharge of, Parent or any other guarantor or surety.

This Guaranty shall continue to be effective or be reinstated, as the case may be, if at any time any payment of any of the Guaranteed Obligations is rescinded or must otherwise be returned by Collateral Agent, the Lenders or any other entity upon the insolvency, bankruptcy or reorganization of the Parent or otherwise (and whether as a result of any demand, settlement, litigation or otherwise), all as though such payment had not been made.

3.3 Waiver. Guarantor hereby waives promptness, diligence, notice of acceptance and any other notice with respect to any of the Guaranteed Obligations and this Guaranty and any requirement that Collateral Agent or the Lenders exhaust any right or take any action against any Borrower or any other person or entity or any Collateral. Guarantor acknowledges that it will receive direct and indirect benefits from the financing arrangements contemplated herein and that the waiver set forth in this Section 3.3 is knowingly made in contemplation of such benefits. Guarantor hereby waives any right to revoke this Guaranty, and acknowledges that this Guaranty is continuing in nature and applies to all Guaranteed Obligations, whether existing now or in the future.

3.4 Continuing Guaranty; Assignments. This Guaranty is a continuing guaranty and shall (a) remain in full force and effect until the later of the indefeasible cash or other payment in full of the Guaranteed Obligations, (b) be binding upon Guarantor, its successors and assigns, and (c) inure to the benefit of and be enforceable by the Lenders and their successors, pledgees, transferees and assigns. Without limiting the generality of the foregoing clause (c), any Lender may pledge, assign or otherwise transfer all or any portion of its rights and obligations under this Guaranty (including, without limitation, all or any portion of its Notes owing to it) to any other Person, and such other Person shall thereupon become vested with all the benefits in respect thereof granted such Collateral Agent or Lender herein or otherwise.

3.5 Subrogation. Guarantor will not exercise any rights that it may now or hereafter acquire against the Collateral Agent or any Lender or other guarantor (if any) that arise from the existence, payment, performance or enforcement of such Guarantor's obligations under this Guaranty, including, without limitation, any right of subrogation, reimbursement, exoneration, contribution or indemnification, whether or not such claim, remedy or right arises in equity or under contract, statute or common law, including, without limitation, the right to take or receive from the Collateral Agent or any Lender or other guarantor (if any), directly or indirectly, in cash or other property or by set-off or in any other manner, payment or security solely on account of such claim, remedy or right, unless and until all of the Guaranteed Obligations and all other amounts payable under this Guaranty shall have been indefeasibly paid in full.

3.6 Maximum Obligations. Notwithstanding any provision herein contained to the contrary, Guarantor's liability with respect to the Obligations shall be limited to an amount not to exceed, as of any date of determination, the amount that could be claimed by Lenders from Guarantor without rendering such claim voidable or avoidable under Section 548 of the Bankruptcy Code or under any applicable state Uniform Fraudulent Transfer Act, Uniform Fraudulent Conveyance Act or similar statute or common law.

4. Miscellaneous.

4.1 Expenses. Guarantor shall pay to the Lenders, on demand, the amount of any and all reasonable expenses, including, without limitation, reasonable attorneys' fees, reasonable legal expenses and reasonable brokers' fees, which the Lenders may incur in connection with exercise or enforcement of any the rights, remedies or powers of the Lenders hereunder or with respect to any or all of the Obligations.

4.2 Waivers, Amendment and Remedies. No course of dealing by the Lenders and no failure by the Lenders to exercise, or delay by the Lender in exercising, any right, remedy or power hereunder shall operate as a waiver thereof, and no single or partial exercise thereof shall preclude any other or further exercise thereof or the exercise of any other right, remedy or power of the Lenders. No amendment, modification or waiver of any provision of this Guaranty and no consent to any departure by Guarantor therefrom, shall, in any event, be effective unless contained in a writing signed by the Guarantor and the Majority in Interest (as such term is defined in the Security Agreement) or Lenders against whom such amendment, modification or waiver is sought, and then such waiver or consent shall be effective only in the specific instance and for the specific purpose for which given. The rights, remedies and powers of the Lenders, not only hereunder, but also under any other Transaction Documents and under applicable law are cumulative, and may be exercised by the Lenders from time to time in such order as the Lenders may elect.

4.3 Notices. All notices, demands, requests, consents, approvals, and other communications required or permitted hereunder shall be in writing and, unless otherwise specified herein, shall be (a) personally served, (b) deposited in the mail, registered or certified, return receipt requested, postage prepaid, (c) delivered by a reputable overnight courier service with charges prepaid, or (d) transmitted by hand delivery, telegram, or facsimile, addressed as set forth below or to such other address as such party shall have specified most recently by written notice. Any notice or other communication required or permitted to be given hereunder shall be deemed effective (i) upon hand delivery or delivery by facsimile, with accurate confirmation generated by the transmitting facsimile machine, at the address or number designated below if delivered on a Business Day during normal business hours, or the first Business Day following such delivery (if delivered other than on a Business Day during normal business hours), (ii) on the first Business Day following the date deposited with an overnight courier service with charges prepaid, or (iii) on the fifth Business Day following the date of mailing pursuant to subpart (b) above, or upon actual receipt of such mailing, whichever shall first occur. The addresses for such communications shall be:

To Guarantor, to:

c/o GT Biopharma, Inc.
310 N. Westlake Blvd, Suite 206
Westlake Village, CA 91362

With a copy only to
(which shall not constitute notice):

Gary R. Henrie, Esq.
P.O. Box 107
Nauvoo, IL 62354
Email: grhlaw@hotmail.com

To the Collateral Agent:

Alpha Capital Anstalt
c/o Grushko & Mittman, P.C.
515 Rockaway Avenue
Valley Stream, NY 11581
Fax: (212) 697-3575

To Lenders:

To the addresses and telecopier numbers set forth on Schedule A

Any party may change its address by written notice in accordance with this paragraph.

4.4 Term; Binding Effect. This Guaranty shall (a) remain in full force and effect until payment and satisfaction in full of all of the Guaranteed Obligations; (b) be binding upon Guarantor and its successors and permitted assigns; and (c) inure to the benefit of the Lenders and their respective successors and assigns. All the rights and benefits granted by Guarantor to the Collateral Agent and Lenders hereunder and other agreements and documents delivered in connection therewith are deemed granted to both the Collateral Agent and Lenders. Upon the payment in full of the Guaranteed Obligations, (i) this Guaranty shall terminate and (ii) the Lenders will, upon Guarantor's request and at Guarantor's expense, execute and deliver to Guarantor such documents as Guarantor shall reasonably request to evidence such termination, all without any representation, warranty or recourse whatsoever.

4.5 Captions. The captions of Paragraphs, Articles and Sections in this Guaranty have been included for convenience of reference only, and shall not define or limit the provisions hereof and have no legal or other significance whatsoever.

4.6 Governing Law; Venue; Severability. This Guaranty shall be governed by and construed in accordance with the laws of the State of New York without regard to principles of conflicts or choice of law. Any legal action or proceeding against Guarantor with respect to this Guaranty may be brought in the courts of the State of New York or of the United States for the Southern District of New York, and, by execution and delivery of this Guaranty, Guarantor hereby irrevocably accepts for itself and in respect of its property, generally and unconditionally, the jurisdiction of the aforesaid courts. Guarantor hereby irrevocably waives any objection which it may now or hereafter have to the laying of venue of any of the aforesaid actions or proceedings arising out of or in connection with this Guaranty brought in the aforesaid courts and hereby further irrevocably waives and agrees not to plead or claim in any such court that any such action or proceeding brought in any such court has been brought in an inconvenient forum. If any provision of this Guaranty, or the application thereof to any person or circumstance, is held invalid, such invalidity shall not affect any other provisions which can be given effect without the invalid provision or application, and to this end the provisions hereof shall be severable and the remaining, valid provisions shall remain of full force and effect. **This Guaranty shall be deemed an unconditional obligation of Guarantor for the payment of money and, without limitation to any other remedies of Lenders, may be enforced against Guarantor by summary proceeding pursuant to New York Civil Procedure Law and Rules Section 3213 or any similar rule or statute in the jurisdiction where enforcement is sought. For purposes of such rule or statute, any other document or agreement to which Lenders and Guarantor are parties or which Guarantor delivered to Lenders, which may be convenient or necessary to determine Lenders' rights hereunder or Guarantor's obligations to Lenders are deemed a part of this Guaranty, whether or not such other document or agreement was delivered together herewith or was executed apart from this Guaranty.** Each party hereto hereby irrevocably waives personal service of process and consents to process being served in any such proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law. Guarantor irrevocably appoints Parent its true and lawful agent for service of process upon whom all processes of law and notices may be served and given in the manner described above; and such service and notice shall be deemed valid personal service and notice upon Guarantor with the same force and validity as if served upon Guarantor.

4 . 7 Satisfaction of Obligations. For all purposes of this Guaranty, the payment in full of the Obligations shall be conclusively deemed to have occurred when the Obligations have been paid pursuant to the terms of the Notes and the Securities Purchase Agreements.

4.8 Counterparts/Execution. This Agreement may be executed in any number of counterparts and by the different signatories hereto on separate counterparts, each of which, when so executed, shall be deemed an original, but all such counterparts shall constitute but one and the same instrument. This Agreement may be executed by facsimile signature and delivered by electronic transmission.

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IN WITNESS WHEREOF, the undersigned have executed and delivered this Guaranty, as of the date first written above.

“GUARANTOR”

[]

By: _____
Raymond W. Urbanski
Its: Chief Executive Officer

**This Guaranty Agreement may be signed by facsimile signature and
delivered by confirmed facsimile transmission.**

ANNEX B to SECURITY AGREEMENT

THE COLLATERAL AGENT

1. **Appointment.** The Secured Parties (all capitalized terms used herein and not otherwise defined shall have the respective meanings provided in the Security Agreement to which this Annex B is attached (the “Agreement”), by their acceptance of the benefits of the Agreement, hereby designate Alpha Capital Anstalt (“Collateral Agent”) as the Collateral Agent to act as specified herein and in the Agreement. Each Secured Party shall be deemed irrevocably to authorize the Collateral Agent to take such action on its behalf under the provisions of the Agreement and any other Transaction Document (as such term is defined in the Notes) and to exercise such powers and to perform such duties hereunder and thereunder as are specifically delegated to or required of the Collateral Agent by the terms hereof and thereof and such other powers as are reasonably incidental thereto. The Collateral Agent may perform any of its duties hereunder by or through its agents or employees.

2. **Nature of Duties.** The Collateral Agent shall have no duties or responsibilities except those expressly set forth in the Agreement. Neither the Collateral Agent nor any of its partners, members, shareholders, officers, directors, employees or agents shall be liable for any action taken or omitted by it as such under the Agreement or hereunder or in connection herewith or therewith, be responsible for the consequence of any oversight or error of judgment or answerable for any loss, unless caused solely by its or their gross negligence or willful misconduct as determined by a final judgment (not subject to further appeal) of a court of competent jurisdiction. The duties of the Collateral Agent shall be mechanical and administrative in nature; the Collateral Agent shall not have by reason of the Agreement or any other Transaction Document a fiduciary relationship in respect of any Debtor or any Secured Party; and nothing in the Agreement or any other Transaction Document, expressed or implied, is intended to or shall be so construed as to impose upon the Collateral Agent any obligations in respect of the Agreement or any other Transaction Document except as expressly set forth herein and therein.

3. **Lack of Reliance on the Collateral Agent.** Independently and without reliance upon the Collateral Agent, each Secured Party, to the extent it deems appropriate, has made and shall continue to make (i) its own independent investigation of the financial condition and affairs of the Company and its subsidiaries in connection with such Secured Party’s investment in the Debtors, the creation and continuance of the Obligations, the transactions contemplated by the Transaction Documents, and the taking or not taking of any action in connection therewith, and (ii) its own appraisal of the creditworthiness of the Company and its subsidiaries, and of the value of the Collateral from time to time, and the Collateral Agent shall have no duty or responsibility, either initially or on a continuing basis, to provide any Secured Party with any credit, market or other information with respect thereto, whether coming into its possession before any Obligations are incurred or at any time or times thereafter. The Collateral Agent shall not be responsible to the Debtors or any Secured Party for any recitals, statements, information, representations or warranties herein or in any document, certificate or other writing delivered in connection herewith, or for the execution, effectiveness, genuineness, validity, enforceability, perfection, collectibility, priority or sufficiency of the Agreement or any other Transaction Document, or for the financial condition of the Debtors or the value of any of the Collateral, or be required to make any inquiry concerning either the performance or observance of any of the terms, provisions or conditions of the Agreement or any other Transaction Document, or the financial condition of the Debtors, or the value of any of the Collateral, or the existence or possible existence of any default or Event of Default under the Agreement, the Notes or any of the other Transaction Documents.

4. Certain Rights of the Collateral Agent. The Collateral Agent shall have the right to take any action with respect to the Collateral, on behalf of all of the Secured Parties. To the extent practical, the Collateral Agent shall request instructions from the Secured Parties with respect to any material act or action (including failure to act) in connection with the Agreement or any other Transaction Document, and shall be entitled to act or refrain from acting in accordance with the instructions of Secured Parties holding a majority in principal amount of Notes (based on then-outstanding principal amounts of Notes at the time of any such determination); if such instructions are not provided despite the Collateral Agent's request therefor, the Collateral Agent shall be entitled to refrain from such act or taking such action, and if such action is taken, shall be entitled to appropriate indemnification from the Secured Parties in respect of actions to be taken by the Collateral Agent; and the Collateral Agent shall not incur liability to any person or entity by reason of so refraining. Without limiting the foregoing, (a) no Secured Party shall have any right of action whatsoever against the Collateral Agent as a result of the Collateral Agent acting or refraining from acting hereunder in accordance with the terms of the Agreement or any other Transaction Document, and the Debtors shall have no right to question or challenge the authority of, or the instructions given to, the Collateral Agent pursuant to the foregoing and (b) the Collateral Agent shall not be required to take any action which the Collateral Agent believes (i) could reasonably be expected to expose it to personal liability or (ii) is contrary to this Agreement, the Transaction Documents or applicable law.

5. Reliance. The Collateral Agent shall be entitled to rely, and shall be fully protected in relying, upon any writing, resolution, notice, statement, certificate, telex, teletype or telecopier message, cablegram, radiogram, order or other document or telephone message signed, sent or made by the proper person or entity, and, with respect to all legal matters pertaining to the Agreement and the other Transaction Documents and its duties thereunder, upon advice of counsel selected by it and upon all other matters pertaining to this Agreement and the other Transaction Documents and its duties thereunder, upon advice of other experts selected by it. Anything to the contrary notwithstanding, the Collateral Agent shall have no obligation whatsoever to any Secured Party to assure that the Collateral exists or is owned by the Debtors or is cared for, protected or insured or that the liens granted pursuant to the Agreement have been properly or sufficiently or lawfully created, perfected, or enforced or are entitled to any particular priority.

6. Indemnification. To the extent that the Collateral Agent is not reimbursed and indemnified by the Debtors, the Secured Parties will jointly and severally reimburse and indemnify the Collateral Agent, in proportion to their initially purchased respective principal amounts of Notes, from and against any and all liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind or nature whatsoever which may be imposed on, incurred by or asserted against the Collateral Agent in performing its duties hereunder or under the Agreement or any other Transaction Document, or in any way relating to or arising out of the Agreement or any other Transaction Document except for those determined by a final judgment (not subject to further appeal) of a court of competent jurisdiction to have resulted solely from the Collateral Agent's own gross negligence or willful misconduct. Prior to taking any action hereunder as Collateral Agent, the Collateral Agent may require each Secured Party to deposit with it sufficient sums as it determines in good faith is necessary to protect the Collateral Agent for costs and expenses associated with taking such action.

7. Resignation by the Collateral Agent.

(a) The Collateral Agent may resign from the performance of all its functions and duties under the Agreement and the other Transaction Documents at any time by giving 5 days' prior written notice (as provided in the Agreement) to the Debtors and the Secured Parties. Such resignation shall take effect upon the appointment of a successor Collateral Agent pursuant to clauses (b) and (c) below.

(b) Upon any such notice of resignation, the Secured Parties, acting by a Majority in Interest, shall appoint a successor Collateral Agent hereunder.

(c) If a successor Collateral Agent shall not have been so appointed within said 5-day period, the Collateral Agent shall then appoint a successor Collateral Agent who shall serve as Collateral Agent until such time, if any, as the Secured Parties appoint a successor Collateral Agent as provided above. If a successor Collateral Agent has not been appointed within such 5-day period, the Collateral Agent may petition any court of competent jurisdiction or may interplead the Debtors and the Secured Parties in a proceeding for the appointment of a successor Collateral Agent, and all fees, including, but not limited to, extraordinary fees associated with the filing of interpleader and expenses associated therewith, shall be payable by the Debtors on demand.

8. Rights with respect to Collateral. Each Secured Party agrees with all other Secured Parties and the Collateral Agent (i) that it shall not, and shall not attempt to, exercise any rights with respect to its security interest in the Collateral, whether pursuant to any other agreement or otherwise (other than pursuant to this Agreement), or take or institute any action against the Collateral Agent or any of the other Secured Parties in respect of the Collateral or its rights hereunder (other than any such action arising from the breach of this Agreement) and (ii) that such Secured Party has no other rights with respect to the Collateral other than as set forth in this Agreement and the other Transaction Documents. Upon the acceptance of any appointment as Collateral Agent hereunder by a successor Collateral Agent, such successor Collateral Agent shall thereupon succeed to and become vested with all the rights, powers, privileges and duties of the retiring Collateral Agent and the retiring Collateral Agent shall be discharged from its duties and obligations under the Agreement. After any retiring Collateral Agent's resignation or removal hereunder as Collateral Agent, the provisions of the Agreement including this Annex B shall inure to its benefit as to any actions taken or omitted to be taken by it while it was Collateral Agent.

REGISTRATION RIGHTS AGREEMENT

REGISTRATION RIGHTS AGREEMENT (this "**Agreement**"), dated as of February 4, 2019, by and among GT Biopharma, Inc., a Delaware corporation, with headquarters located at 310 N. Westlake Blvd, Suite 206, Westlake Village, CA 91362 (the "**Company**"), and the investors listed on the Schedule of Purchasers attached hereto (each, a "**Purchaser**" and collectively, the "**Purchasers**").

WHEREAS:

A. In connection with the Securities Purchase Agreement by and among the parties hereto of even date herewith (the "**Securities Purchase Agreement**"), the Company has agreed, upon the terms and subject to the conditions of the Securities Purchase Agreement, to issue and sell to each Purchaser, a Secured Convertible Note (collectively, the "**Notes**"), which will be convertible into shares of the Company's common stock, par value \$0.001 per share (the "**Common Stock**") (the shares of Common Stock issuable upon conversion of the Notes, collectively, the "**Common Shares**").

B. In accordance with the terms of the Securities Purchase Agreement, the Company has agreed to provide certain registration rights under the Securities Act of 1933, as amended, and the rules and regulations thereunder, or any similar successor statute (collectively, the "**1933 Act**"), and applicable state securities laws.

NOW, THEREFORE, in consideration of the premises and the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company and each of the Purchasers hereby agree as follows:

1. Definitions.

Capitalized terms used herein and not otherwise defined herein shall have the respective meanings set forth in the Securities Purchase Agreement. As used in this Agreement, the following terms shall have the following meanings:

(a) "**Additional Effective Date**" means the date the Additional Registration Statement is declared effective by the SEC.

(b) "**Additional Effectiveness Deadline**" means the date which is the earlier of (x) (i) in the event that the Additional Registration Statement is not subject to a full review by the SEC, thirty (30) calendar days after the earlier of the Additional Filing Date and the Additional Filing Deadline or (ii) in the event that the Additional Registration Statement is subject to a full review by the SEC, fifty (50) calendar days after the earlier of the Additional Filing Date and the Additional Filing Deadline and (y) the fifth (5th) Business Day after the date the Company is notified (orally or in writing, whichever is earlier) by the SEC that such Additional Registration Statement will not be reviewed or will not be subject to further review; provided, however, that if the Additional Effectiveness Deadline falls on a Saturday, Sunday or other day that the SEC is closed for business, the Additional Effectiveness Deadline shall be extended to the next Business Day on which the SEC is open for business.

(c) "**Additional Filing Date**" means the date on which the Additional Registration Statement is filed with the SEC.

(d) **"Additional Filing Deadline"** means if Cutback Shares are required to be included in any Additional Registration Statement, thirty (30) days after the date substantially all of the Registrable Securities registered under the immediately preceding Registration Statement are sold.

(e) **"Additional Registrable Securities"** means, (i) any Cutback Shares not previously included on a Registration Statement and (ii) any capital stock of the Company issued or issuable with respect to the Common Shares, or the Cutback Shares, as applicable, as a result of any stock split, stock dividend, recapitalization, exchange or similar event or otherwise.

(f) **"Additional Registration Statement"** means a registration statement or registration statements of the Company filed under the 1933 Act covering the resale of any Additional Registrable Securities.

(g) **"Additional Required Registration Amount"** means (I) any Cutback Shares not previously included on a Registration Statement, all subject to adjustment as provided in Section 2(f) or (II) such other amount as may be permitted by the staff of the SEC pursuant to Rule 415.

(h) **"Business Day"** means any day other than Saturday, Sunday or any other day on which commercial banks in the City of New York are authorized or required by law to remain closed.

(i) **"Closing Date"** shall have the meaning set forth in the Securities Purchase Agreement.

(j) **"Cutback Shares"** means any of the Initial Required Registration Amount or the Additional Required Registration Amount (without regard to clause (II) in the definition thereof) of Registrable Securities not included in all Registration Statements previously declared effective as contemplated hereunder as a result of a limitation on the maximum number of shares of Common Stock of the Company permitted to be registered by the staff of the SEC pursuant to Rule 415. For the purpose of determining the Cutback Shares, in order to determine any applicable Required Registration Amount, unless an Investor gives written notice to the Company to the contrary with respect to the allocation of its Cutback Shares, the Common Shares shall be excluded on a pro rata basis among the Investors until all of the Common Shares have been excluded.

(k) **"Effective Date"** means the Initial Effective Date and the Additional Effective Date, as applicable.

(l) **"Effectiveness Deadline"** means the Initial Effectiveness Deadline and the Additional Effectiveness Deadline, as applicable.

(m) **"Eligible Market"** means the Principal Market, The New York Stock Exchange, Inc., the NYSE American, The Nasdaq Capital Market, The Nasdaq Global Select Market, The Nasdaq Global Market, the OTC Bulletin Board, the OTCQB or the OTCQX (or any successor to any of the foregoing).

(n) **"Filing Deadline"** means the Initial Filing Deadline and the Additional Filing Deadline, as applicable.

(o) **"Initial Effective Date"** means the date that the Initial Registration Statement has been declared effective by the SEC.

(p) **"Initial Effectiveness Deadline"** means the date which is the earlier of (x) (i) in the event that the Initial Registration Statement is not subject to a full review by the SEC, forty-five (45) calendar days after the Initial Filing Deadline, or (ii) in the event that the Initial Registration Statement is subject to a full review by the SEC, the later of (a) sixty (60) calendar days after the Initial Filing Deadline, and (b) sixty (60) days after the date that the SEC returns to normal operational status from its limited operational status that commenced on December 27, 2018, and (y) the fifth (5th) Business Day after the date the Company is notified (orally or in writing, whichever is earlier) by the SEC that such Initial Registration Statement will not be reviewed or will not be subject to further review; provided, however, that if the Initial Effectiveness Deadline falls on a Saturday, Sunday or other day that the SEC is closed for business, the Initial Effectiveness Deadline shall be extended to the next Business Day on which the SEC is open for business.

(q) **"Initial Filing Date"** means the date on which the Initial Registration Statement is filed with the SEC.

(r) **"Initial Filing Deadline"** means fourteen (14) days after the Initial Closing (as defined in the Securities Purchase Agreement).

(s) **"Initial Registrable Securities"** means (i) the Common Shares issued or issuable upon conversion of the Notes issued pursuant to the terms of the Securities Purchase Agreement, and (ii) any capital stock of the Company issued or issuable with respect to the Common Shares, or the Notes as a result of any stock split, stock dividend, recapitalization, exchange or similar event or otherwise without regard to any limitations on conversion of the Notes.

(t) **"Initial Registration Statement"** means a registration statement or registration statements of the Company filed under the 1933 Act covering the resale of the Initial Registrable Securities.

(u) **"Initial Required Registration Amount"** means (i) the sum of the number of Common Shares, or (ii) such other amount as may be permitted by the staff of the SEC pursuant to Rule 415.

(v) **"Investor"** means a Purchaser or any transferee or assignee thereof to whom a Purchaser assigns its rights under this Agreement and who agrees to become bound by the provisions of this Agreement in accordance with Section 9 and any transferee or assignee thereof to whom a transferee or assignee assigns its rights under this Agreement and who agrees to become bound by the provisions of this Agreement in accordance with Section 9.

(w) **"Person"** means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization and a government or any department or agency thereof.

(x) **"Principal Market"** means The OTCQB.

(y) **"register," "registered," and "registration"** refer to a registration effected by preparing and filing one or more Registration Statements (as defined below) in compliance with the 1933 Act and pursuant to Rule 415, and the declaration or ordering of effectiveness of such Registration Statement(s) by the SEC.

(z) **"Registrable Securities"** means the Initial Registrable Securities and the Additional Registrable Securities.

(aa) **"Registration Statement"** means the Initial Registration Statement and the Additional Registration Statement, as applicable.

(bb) **"Required Holders"** means holders of at least a majority of the Registrable Securities.

(cc) **"Required Registration Amount"** means either the Initial Required Registration Amount or the Additional Required Registration Amount, as applicable.

(dd) **"Rule 415"** means Rule 415 promulgated under the 1933 Act or any successor rule providing for offering securities on a continuous or delayed basis.

(ee) **"SEC"** means the United States Securities and Exchange Commission.

(ff) **"Trading Day"** means any day on which the Common Stock is traded on the Principal Market, or, if the Principal Market is not the principal trading market for the Common Stock, then on the principal securities exchange or securities market on which the Common Stock is then traded; provided that "Trading Day" shall not include any day on which the Common Stock is scheduled to trade on such exchange or market for 3 or more hours or any day that the Common Stock is suspended from trading during the final hour of trading on such exchange or market (or if such exchange or market does not designate in advance the closing time of trading on such exchange or market, then during the hour ending at 4:00:00 p.m., New York time).

2. Registration.

(a) Initial Mandatory Registration. Promptly following the Closing Date, the Company shall prepare, and, as soon as practicable but in no event later than the Initial Filing Deadline, file with the SEC the Initial Registration Statement on Form S-3 covering the resale of all of the Initial Registrable Securities. In the event that Form S-3 is unavailable for such a registration, the Company shall use Form S-1 or such other form as is available for such a registration on another appropriate form reasonably acceptable to the Required Holders, subject to the provisions of Section 2(e). The Initial Registration Statement prepared pursuant hereto shall register for resale at least the number of shares of Common Stock equal to the Initial Required Registration Amount determined as of the date the Initial Registration Statement is initially filed with the SEC, subject to adjustment as provided in Section 2(f). The Initial Registration Statement shall contain (except if otherwise directed by the Required Holders) the "Plan of Distribution" and "Selling Shareholders" sections in substantially the form attached hereto as Exhibit B, with such modifications as may be required by law. The Company shall use its commercially reasonable efforts to have the Initial Registration Statement declared effective by the SEC as soon as practicable, but in no event later than the Initial Effectiveness Deadline. By 9:30 a.m. New York time on the second (2nd) Business Day following the Initial Effective Date, the Company shall file with the SEC in accordance with Rule 424 under the 1933 Act the final prospectus to be used in connection with sales pursuant to such Initial Registration Statement. The Company represents and warrants that it is the Company's understanding that the SEC will not cause there to be Cutback Shares with respect to up to one-third of the Company's public float, calculated under SEC rules.

(b) Additional Mandatory Registrations. The Company shall prepare, and, as soon as practicable but in no event later than the Additional Filing Deadline, file with the SEC an Additional Registration Statement on Form S-3 covering the resale of all of the Additional Registrable Securities not previously registered on an Additional Registration Statement hereunder. To the extent the staff of the SEC does not permit the Additional Required Registration Amount to be registered on an Additional Registration Statement, the Company shall file Additional Registration Statements successively trying to register on each such Additional Registration Statement the maximum number of remaining Additional Registrable Securities until the Additional Required Registration Amount has been registered with the SEC; provided that after two rejections by the SEC of Additional Registration Statements, the Company shall not be required to file Additional Registration Statements more frequently than once per sixty day period commencing subsequent to the second rejection. In the event that Form S-3 is unavailable for such a registration, the Company shall use Form S-1 or such other form as is available for such a registration on another appropriate form reasonably acceptable to the Required Holders, subject to the provisions of Section 2(e). Each Additional Registration Statement prepared pursuant hereto shall register for resale at least that number of shares of Common Stock equal to the Additional Required Registration Amount determined as of the date such Additional Registration Statement is initially filed with the SEC, subject to adjustment as provided in Section 2(f). Each Additional Registration Statement shall contain (except if otherwise directed by the Required Holders) the "Plan of Distribution" and "Selling Shareholders" sections in substantially the form attached hereto as Exhibit B, with such modifications as may be required by law. The Company shall use its commercially reasonable efforts to have each Additional Registration Statement declared effective by the SEC as soon as practicable, but in no event later than the Additional Effectiveness Deadline. By 9:30 a.m. New York time on the second (2nd) Business Day following the Additional Effective Date, the Company shall file with the SEC in accordance with Rule 424 under the 1933 Act the final prospectus to be used in connection with sales pursuant to such Additional Registration Statement.

(c) Allocation of Registrable Securities. The initial number of Registrable Securities included in any Registration Statement and any increase or decrease in the number of Registrable Securities included therein shall be allocated pro rata among the Investors based on the number of Registrable Securities held by each Investor at the time the Registration Statement covering such initial number of Registrable Securities or increase or decrease thereof is declared effective by the SEC. In the event that an Investor sells or otherwise transfers any of such Investor's Registrable Securities, each transferee shall be allocated a pro rata portion of the then remaining number of Registrable Securities included in such Registration Statement for such transferor. Any shares of Common Stock included in a Registration Statement and which remain allocated to any Person which ceases to hold any Registrable Securities covered by such Registration Statement shall be allocated to the remaining Investors, pro rata based on the number of Registrable Securities then held by such Investors which are covered by such Registration Statement. In no event shall the Company include any securities other than Registrable Securities on any Registration Statement without the prior written consent of the Required Holders.

(d) Legal Counsel. Subject to Section 5 hereof, the Required Holders shall have the right to select one legal counsel to review and oversee any registration pursuant to this Section 2 ("**Legal Counsel**"), which shall be Grushko & Mittman, P.C., or such other counsel as thereafter designated by the Required Holders. The Company and Legal Counsel shall reasonably cooperate with each other in performing the Company's obligations under this Agreement.

(e) Ineligibility for Form S-3. In the event that Form S-3 is not available for the registration of the resale of Registrable Securities hereunder, the Company shall (i) register the resale of the Registrable Securities on Form S-1 or another appropriate form reasonably acceptable to the Required Holders and (ii) undertake to register the Registrable Securities on Form S-3 if such form becomes available prior to any required post-effective amendment, provided that the Company shall maintain the effectiveness of the Registration Statement then in effect until such time as any such Registration Statement on Form S-3 filed by the Company covering the Registrable Securities has been declared effective by the SEC.

(f) Sufficient Number of Shares Registered. In the event the number of shares available under a Registration Statement filed pursuant to Section 2(a) or Section 2(b) is insufficient to cover the Required Registration Amount of Registrable Securities required to be covered by such Registration Statement or an Investor's allocated portion of the Registrable Securities pursuant to Section 2(c), the Company shall amend the applicable Registration Statement, or file a new Registration Statement (on the short form available therefor, if applicable), or both, so as to cover at least the Required Registration Amount as of the Trading Day immediately preceding the date of the filing of such amendment or new Registration Statement, in each case, as soon as practicable, but in any event not later than fifteen (15) days after the necessity therefor arises. The Company shall use its commercially reasonable efforts to cause such amendment and/or new Registration Statement to become effective as soon as practicable following the filing thereof. For purposes of the foregoing provision, the number of shares available under a Registration Statement shall be deemed "insufficient to cover all of the Registrable Securities" if at any time the number of shares of Common Stock available for resale under the Registration Statement is less than the Required Registration Amount.

(g) Effect of Failure to File and Obtain and Maintain Effectiveness of Registration Statement. If (i) the Initial Registration Statement when declared effective fails to register the Initial Required Registration Amount of Initial Registrable Securities (a "**Registration Failure**"), (ii) a Registration Statement covering all of the Registrable Securities required to be covered thereby and required to be filed by the Company pursuant to this Agreement is (A) not filed with the SEC on or before the applicable Filing Deadline (a "**Filing Failure**") or (B) not declared effective by the SEC on or before the applicable Effectiveness Deadline, (an "**Effectiveness Failure**") or (iii) on any day after the applicable Effective Date, sales of all of the Registrable Securities required to be included on such Registration Statement cannot be made (other than during an Allowable Grace Period (as defined in Section 3(r))) pursuant to such Registration Statement or otherwise (including, without limitation, because of the suspension of trading or any other limitation imposed by an Eligible Market, a failure to keep such Registration Statement effective, a failure to disclose such information as is necessary for sales to be made pursuant to such Registration Statement, a failure to register a sufficient number of shares of Common Stock or a failure to maintain the listing of the Common Stock) (a "**Maintenance Failure**" and collectively with a Registration Failure, a Filing Failure, and an Effectiveness Failure, the "**Failures**" and each a "**Failure**"), then, as partial relief for the damages to any holder by reason of a Failure (which remedy shall not be exclusive of any other remedies available at law or in equity, including, without limitation, specific performance or the additional obligation of the Company to register any Cutback Shares), the Company shall pay to each holder of Registrable Securities relating to such Registration Statement an amount in cash equal to one percent (1.0%) of the aggregate Subscription Amount (as defined in the Securities Purchase Agreement) of such Investor's Registrable Securities whether or not included in such Registration Statement, on each of the following dates: (i) the day of a Registration Failure, (ii) the day of a Filing Failure; (iii) the day of an Effectiveness Failure; (iv) the initial day of a Maintenance Failure; (v) on the thirtieth day after the date of a Registration Failure and every thirtieth day thereafter (pro rated for periods totaling less than thirty days) until such Registration Failure is cured; (vi) on the thirtieth day after the date of a Filing Failure and every thirtieth day thereafter (pro rated for periods totaling less than thirty days) until such Filing Failure is cured; (vii) on the thirtieth day after the date of an Effectiveness Failure and every thirtieth day thereafter (pro rated for periods totaling less than thirty days) until such Effectiveness Failure is cured; and (viii) on the thirtieth day after the initial date of a Maintenance Failure and every thirtieth day thereafter (pro rated for periods totaling less than thirty days) until such Maintenance Failure is cured; provided however, in the event that there shall be more than one Failure occurring simultaneously, the 1.0% shall apply in the aggregate (e.g., during any single or multiple Failure, 1% shall be due, however 1% shall not be due "per Failure" if the Failures are simultaneous and for so long as such Failures are simultaneous). The payments to which a holder shall be entitled pursuant to this Section 2(g) are referred to herein as "**Registration Delay Payments**." Registration Delay Payments shall be paid on the earlier of (I) the dates set forth above and (II) the third Business Day after the event or failure giving rise to the Registration Delay Payments is cured. In the event the Company fails to make Registration Delay Payments in a timely manner, such Registration Delay Payments shall bear interest at the rate of one percent (1%) per month (prorated for partial months) until paid in full. Notwithstanding anything to the contrary contained herein, Registration Delay Payments shall (i) not, in the aggregate, exceed fifteen percent (15%) of the aggregate Purchase Price, (ii) cease to accrue when all of the Registrable Securities may be sold by non-affiliates of the Company pursuant to Rule 144 without any restrictions or limitations and (iii) cease to accrue upon the termination of the Registration Period (as defined below).

(h) Limitation on Other Registration Statements. The Company shall not file another registration statement under the 1933 Act prior to the earlier of (i) date that the Initial Registration Statement is declared effective by the SEC and (ii) the end of the Registration Period (as defined in Section 3(a); provided that, this Section 2(h) shall not prevent the Company from filing a registration statement on Form S-4 or Form S-8 with the SEC at any time beginning thirty (30) days after the initial filing of the Initial Registration Statement with the SEC.

3. Related Obligations.

At such time as the Company is obligated to file a Registration Statement with the SEC pursuant to Section 2(a), 2(b), 2(e) or 2(f), the Company will use its commercially reasonable efforts to effect the registration of the Registrable Securities in accordance with the intended method of disposition thereof and, pursuant thereto, the Company shall have the following obligations:

(a) The Company shall promptly prepare and file with the SEC a Registration Statement with respect to the Registrable Securities and use its commercially reasonable efforts to cause such Registration Statement relating to the Registrable Securities to become effective as soon as practicable after such filing (but in no event later than the Effectiveness Deadline). The Company shall keep each Registration Statement effective pursuant to Rule 415 at all times until the earlier of (i) the date that is two (2) years and six (6) months after the Closing Date, (ii) the date on which the Investors shall have sold all of the Registrable Securities required to be covered by such Registration Statement or (iii) the date on which all of the Registrable Securities may be sold by non-affiliates of the Company pursuant to Rule 144 without any restrictions or limitations (the "**Registration Period**"). The Company shall ensure that each Registration Statement (including any amendments or supplements thereto and prospectuses contained therein) shall not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein, or necessary to make the statements therein (in the case of prospectuses, in the light of the circumstances in which they were made) not misleading. The term "commercially reasonable efforts" shall mean, among other things, that the Company shall submit to the SEC, within two (2) Business Days after the later of the date that (i) the Company learns that no review of a particular Registration Statement will be made by the staff of the SEC or that the staff has no further comments on a particular Registration Statement, as the case may be, and (ii) the approval of Legal Counsel pursuant to Section 3(c) (which approval is immediately sought), a request for acceleration of effectiveness of such Registration Statement to a time and date not later than two (2) Business Days after the submission of such request. The Company shall respond in writing to comments made by the SEC in respect of a Registration Statement as soon as practicable, but in no event later than fifteen (15) days after the receipt of comments by or notice from the SEC that an amendment is required in order for a Registration Statement to be declared effective.

(b) The Company shall prepare and file with the SEC such amendments (including post-effective amendments) and supplements to a Registration Statement and the prospectus used in connection with such Registration Statement, which prospectus is to be filed pursuant to Rule 424 promulgated under the 1933 Act, as may be necessary to keep such Registration Statement effective at all times during the Registration Period, and, during such period, comply with the provisions of the 1933 Act with respect to the disposition of all Registrable Securities of the Company covered by such Registration Statement until such time as all of such Registrable Securities shall have been disposed of in accordance with the intended methods of disposition by the seller or sellers thereof as set forth in such Registration Statement. In the case of amendments and supplements to a Registration Statement which are required to be filed pursuant to this Agreement (including pursuant to this Section 3(b)) by reason of the Company filing a report on Form 10-K, Form 10-Q, Form 8-K or any analogous report under the Securities Exchange Act of 1934, as amended (the "**1934 Act**"), the Company shall have incorporated such report by reference into such Registration Statement, if applicable, or shall file such amendments or supplements with the SEC on the same day on which the 1934 Act report is filed which created the requirement for the Company to amend or supplement such Registration Statement.

(c) The Company shall (A) permit Legal Counsel to review and comment upon (i) a Registration Statement at least three (3) Business Days prior to its filing with the SEC and (ii) all amendments and supplements to all Registration Statements (except for those filed by reason of the Company filing Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and any similar or successor reports) within a reasonable number of days prior to their filing with the SEC, (B) permit each Investor to review and comment on the "Plan of Distribution" and "Selling Shareholders" sections of the Registration Statement and all amendments and supplements to the Registration Statement to the extent any changes are made to those sections, and (C) not file any Registration Statement or amendment or supplement thereto in a form to which Legal Counsel reasonably objects; provided however, that if the delay in filing the Registration Statement is due to Legal Counsel's or an Investor's unreasonable objections (and unreasonable refusal to allow the Company to file the Registration Statement) then in such event, no Registration Failure (or similar event that triggers a Registration Delay Payment) shall be deemed to have occurred with such delay arising from Legal Counsel's unreasonable objections, or solely with respect to an Investor, arising from such Investor's unreasonable objections. The Company shall not submit a request for acceleration of the effectiveness of a Registration Statement or any amendment or supplement thereto without the prior approval of Legal Counsel, which consent shall not be unreasonably withheld; provided however, that if the delay in filing the effectiveness of the Registration Statement is due to Legal Counsel's unreasonable objections (and unreasonable refusal to allow the Registration Statement to become effective) then in such event, no Effectiveness Failure (or similar event that triggers a Registration Delay Payment) shall be deemed to have occurred. The Company shall furnish to Legal Counsel, without charge, copies of any correspondence from the SEC or the staff of the SEC to the Company or its representatives relating to any Registration Statement. The Company shall reasonably cooperate with Legal Counsel in performing the Company's obligations pursuant to this Section 3.

(d) The Company shall furnish to each Investor whose Registrable Securities are included in any Registration Statement, without charge, (i) promptly after the same is prepared and filed with the SEC, at least one copy of such Registration Statement and any amendment(s) thereto, including financial statements and schedules, all documents incorporated therein by reference, if requested by an Investor, all exhibits and each preliminary prospectus, (ii) upon the effectiveness of any Registration Statement, ten (10) copies of the prospectus included in such Registration Statement and all amendments and supplements thereto (or such other number of copies as such Investor may reasonably request) and (iii) such other documents, including copies of any preliminary or final prospectus, as such Investor may reasonably request from time to time in order to facilitate the disposition of the Registrable Securities owned by such Investor.

(e) The Company shall use its commercially reasonable efforts to (i) register and qualify, unless an exemption from registration and qualification applies, the resale by Investors of the Registrable Securities covered by a Registration Statement under such other securities or "blue sky" laws of all applicable jurisdictions in the United States, (ii) prepare and file in those jurisdictions such amendments (including post-effective amendments) and supplements to such registrations and qualifications as may be necessary to maintain the effectiveness thereof during the Registration Period, (iii) take such other actions as may be necessary to maintain such registrations and qualifications in effect at all times during the Registration Period, and (iv) take all other actions reasonably necessary or advisable to qualify the Registrable Securities for sale in such jurisdictions; provided, however, that the Company shall not be required in connection therewith or as a condition thereto to (x) qualify to do business in any jurisdiction where it would not otherwise be required to qualify but for this Section 3(e), (y) subject itself to general taxation in any such jurisdiction, or (z) file a general consent to service of process in any such jurisdiction. The Company shall promptly notify Legal Counsel of the receipt by the Company of any notification with respect to the suspension of the registration or qualification of any of the Registrable Securities for sale under the securities or "blue sky" laws of any jurisdiction in the United States or its receipt of actual notice of the initiation or threatening of any proceeding for such purpose.

(f) The Company shall notify Legal Counsel in writing of the happening of any event, as promptly as practicable but not later than the first Business Day after becoming aware of such event, (i) as a result of which the prospectus included in a Registration Statement, as then in effect, includes an untrue statement of a material fact or omission to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading (provided that in no event shall such notice contain any material, nonpublic information), or (ii) that results in the lack of effectiveness of any Registration Statement, and, subject to Section 3(r), promptly prepare a supplement or amendment to such Registration Statement to correct such untrue statement or omission, or lack of effectiveness of any Registration Statement. The Company shall also promptly notify Legal Counsel in writing (i) when a prospectus or any prospectus supplement or post-effective amendment has been filed, and when a Registration Statement or any post-effective amendment has become effective (notification of such effectiveness shall be delivered to Legal Counsel by facsimile or email on the same day of such effectiveness and by overnight mail), (ii) of any request by the SEC for amendments or supplements to a Registration Statement or related prospectus or related information, and (iii) of the Company's reasonable determination that a post-effective amendment to a Registration Statement would be appropriate. By 9:30 a.m. New York City time on the second (2nd) day following the date any post-effective amendment has become effective, the Company shall file with the SEC in accordance with Rule 424 under the 1933 Act the final prospectus to be used in connection with sales pursuant to such Registration Statement.

(g) The Company shall use its commercially reasonable efforts to prevent the issuance of any stop order or other suspension of effectiveness of a Registration Statement, or the suspension of the qualification of any of the Registrable Securities for sale in any jurisdiction and, if such an order or suspension is issued, to obtain the withdrawal of such order or suspension at the earliest possible moment and to notify Legal Counsel of the issuance of such order and the resolution thereof or its receipt of actual notice of the initiation or threat of any proceeding for such purpose.

(h) If any Investor is required by the SEC to be described in the Registration Statement as an underwriter or the Company and an Investor agree that it should be identified as an underwriter of Registrable Securities in the Registration Statement and the Registration Statement is so modified, the Company shall furnish to such Investor, on the date of the effectiveness of the Registration Statement and thereafter from time to time on such dates as an Investor may reasonably request (i) a letter, dated such date, from the Company's independent certified public accountants in form and substance as is customarily given by independent certified public accountants to underwriters in an underwritten public offering, addressed to the Investors, and (ii) an opinion, dated as of such date, of counsel representing the Company for purposes of such Registration Statement, in form, scope and substance as is customarily given in an underwritten public offering, addressed to the Investors.

(i) If any Investor is required under applicable securities laws to be described in the Registration Statement as an underwriter or the Company and an Investor agrees that it could reasonably be deemed to be an underwriter of Registrable Securities, the Company shall make available for inspection by (i) such Investor, (ii) Legal Counsel and (iii) one firm of accountants or other agents retained by the Investors (collectively, the "**Inspectors**"), all pertinent financial and other records, and pertinent corporate documents and properties of the Company (collectively, the "**Records**"), as shall be reasonably deemed necessary by each Inspector, and cause the Company's officers, directors and employees to supply all information which any Inspector may reasonably request; provided, however, that each Inspector shall agree to hold in strict confidence and shall not make any disclosure (except to an Investor) or use of any Record or other information which the Company determines in good faith to be confidential, and of which determination the Inspectors are so notified, unless (a) the disclosure of such Records is necessary to avoid or correct a misstatement or omission in any Registration Statement or is otherwise required under the 1933 Act, (b) the release of such Records is ordered pursuant to a final, non-appealable subpoena or order from a court or government body of competent jurisdiction, or (c) the information in such Records has been made generally available to the public other than by disclosure in violation of this Agreement. Each Investor agrees that it shall, upon learning that disclosure of such Records is sought in or by a court or governmental body of competent jurisdiction or through other means, give prompt notice to the Company and allow the Company, at its expense, to undertake appropriate action to prevent disclosure of, or to obtain a protective order for, the Records deemed confidential. Nothing herein (or in any other confidentiality agreement between the Company and any Investor) shall be deemed to limit the Investors' ability to sell Registrable Securities in a manner which is otherwise consistent with applicable laws and regulations.

(j) The Company shall hold in confidence and not make any disclosure of information concerning an Investor provided to the Company unless (i) disclosure of such information is necessary to comply with federal or state securities laws, (ii) the disclosure of such information is necessary to avoid or correct a misstatement or omission in any Registration Statement, (iii) the release of such information is ordered pursuant to a subpoena or other final, non-appealable order from a court or governmental body of competent jurisdiction, or (iv) such information has been made generally available to the public other than by disclosure in violation of this Agreement or any other agreement. The Company agrees that it shall, upon learning that disclosure of such information concerning an Investor is sought in or by a court or governmental body of competent jurisdiction or through other means, give prompt written notice to such Investor and allow such Investor a reasonable period of time, at the Investor's expense, to undertake appropriate action to prevent disclosure of, or to obtain a protective order for, such information.

(k) The Company shall use its commercially reasonable efforts either to (i) cause all of the Registrable Securities covered by a Registration Statement to be listed on each securities exchange on which securities of the same class or series issued by the Company are then listed, if any, if the listing of such Registrable Securities is then permitted under the rules of such exchange or (ii) secure the inclusion for quotation of all of the Registrable Securities on the Principal Market or (iii) if, despite the Company's commercially reasonable efforts, the Company is unsuccessful in satisfying the preceding clauses (i) and (ii), to secure the inclusion for quotation on another Eligible Market for such Registrable Securities and, without limiting the generality of the foregoing, to use its commercially reasonable efforts to arrange for at least two market makers to register with the Financial Industry Regulatory Authority, Inc. ("**FINRA**") as such with respect to such Registrable Securities. The Company shall pay all fees and expenses in connection with satisfying its obligation under this Section 3(k).

(l) The Company shall cooperate with the Investors who hold Registrable Securities being offered and, to the extent applicable, facilitate the timely preparation and delivery of certificates (not bearing any restrictive legend) representing the Registrable Securities to be offered pursuant to a Registration Statement and enable such certificates to be in such denominations or amounts, as the case may be, as the Investors may reasonably request and registered in such names as the Investors may request.

(m) If reasonably requested by an Investor, the Company shall as soon as practicable (i) incorporate in a prospectus supplement or post-effective amendment such information as an Investor reasonably requests to be included therein relating to the sale and distribution of Registrable Securities, including, without limitation, information with respect to the number of Registrable Securities being offered or sold, the purchase price being paid therefor and any other terms of the offering of the Registrable Securities to be sold in such offering; (ii) make all required filings of such prospectus supplement or post-effective amendment after being notified of the matters to be incorporated in such prospectus supplement or post-effective amendment; and (iii) supplement or make amendments to any Registration Statement if reasonably requested by an Investor holding any Registrable Securities.

(n) The Company shall use its commercially reasonable efforts to cause the Registrable Securities covered by a Registration Statement to be registered with or approved by such other governmental agencies or authorities as may be necessary to consummate the disposition of such Registrable Securities.

(o) The Company shall make generally available to its security holders as soon as practical, but not later than ninety (90) days after the close of the period covered thereby, an earnings statement (in form complying with, and in the manner provided by, the provisions of Rule 158 under the 1933 Act) covering a twelve-month period beginning not later than the first day of the Company's fiscal quarter next following the applicable Effective Date of a Registration Statement.

(p) The Company shall otherwise use its commercially reasonable efforts to comply in all material respects with all applicable rules and regulations of the SEC in connection with any registration hereunder.

(q) Within two (2) Business Days after a Registration Statement which covers Registrable Securities is ordered effective by the SEC, the Company shall deliver, and shall cause legal counsel for the Company to deliver, to the transfer agent for such Registrable Securities (with copies to the Investors whose Registrable Securities are included in such Registration Statement) confirmation that such Registration Statement has been declared effective by the SEC in the form attached hereto as Exhibit A.

(r) Notwithstanding anything to the contrary herein, at any time after the Effective Date, the Company may delay the disclosure of material, non-public information concerning the Company the disclosure of which at the time is not, in the good faith opinion of the Board of Directors of the Company and its counsel, in the best interest of the Company and, in the opinion of counsel to the Company, otherwise required (a "**Grace Period**"); provided, that the Company shall promptly (i) notify the Investors in writing of the existence of material, non-public information giving rise to a Grace Period (provided that in each notice the Company will not disclose the content of such material, non-public information to the Investors) and the date on which the Grace Period will begin, and (ii) notify the Investors in writing of the date on which the Grace Period ends; and, provided further, that no Grace Period shall exceed thirty (30) consecutive Trading Days and during any three hundred sixty five (365) day period such Grace Periods shall not exceed an aggregate of sixty (60) Trading Days and the first day of any Grace Period must be at least five (5) Trading Days after the last day of any prior Grace Period (each, an "**Allowable Grace Period**"). For purposes of determining the length of a Grace Period above, the Grace Period shall begin on and include the date the Investors receive the notice referred to in clause (i) and shall end on and include the later of the date the Investors receive the notice referred to in clause (ii) and the date referred to in such notice. The provisions of Section 3(g) hereof shall not be applicable during the period of any Allowable Grace Period. Upon expiration of the Grace Period, the Company shall again be bound by the first sentence of Section 3(f) with respect to the information giving rise thereto unless such material, non-public information is no longer applicable. Notwithstanding anything to the contrary, the Company shall cause its transfer agent to deliver unlegended shares of Common Stock to a transferee of an Investor in accordance with the terms of the Securities Purchase Agreement in connection with any sale of Registrable Securities with respect to which an Investor has entered into a contract for sale, prior to the Investor's receipt of the notice of a Grace Period and for which the Investor has not yet settled.

(s) Except as required by applicable law, neither the Company nor any Subsidiary or affiliate thereof shall identify any Investor as an underwriter in any public disclosure or filing with the SEC, the Principal Market or any Eligible Market and any Purchaser being deemed an underwriter by the SEC shall not relieve the Company of any obligations it has under this Agreement or any other Transaction Document (as defined in the Securities Purchase Agreement); provided, however, that the foregoing shall not prohibit the Company from including the disclosure found in the "Plan of Distribution" section attached hereto as Exhibit B in the Registration Statement. If the Company is required by law to identify any Investor as an underwriter in any public disclosure or filing with the SEC, the Principal Market or any Eligible Market, prior to so identifying any such Investor, the Company shall promptly notify each such Investor of the legal requirement and give each such Investor a reasonable opportunity to persuade the applicable regulator that said disclosure is not required. If the applicable Investors are unable to eliminate the legal requirement to be identified as an underwriter, the applicable Investor shall have five (5) Business Days, or such shorter time as required by the applicable regulator or applicable law, to consent to such disclosure or to agree to withdraw as a selling shareholder under the Registration Statement. If an Investor agrees to withdraw as a selling shareholder under the Registration Statement, the Company shall not be responsible for any such Failures with respect to any such Investor.

(t) Neither the Company nor any of its Subsidiaries has entered, as of the date hereof, nor shall the Company or any of its Subsidiaries, on or after the date of this Agreement, enter into any agreement with respect to its securities, that would have the effect of preventing the Company from performing its obligations hereunder.

4. Obligations of the Investors.

(a) At least five (5) Business Days prior to the first anticipated Filing Date of a Registration Statement, the Company shall notify each Investor in writing of the information the Company requires from each such Investor if such Investor elects to have any of such Investor's Registrable Securities included in such Registration Statement. It shall be a condition precedent to the obligations of the Company to complete any registration pursuant to this Agreement with respect to the Registrable Securities of a particular Investor that such Investor shall timely furnish to the Company such information regarding itself, the Registrable Securities held by it and the intended method of disposition of the Registrable Securities held by it as shall be reasonably required by the Company to effect and maintain the effectiveness of the registration of such Registrable Securities and shall timely execute such documents in connection with such registration as the Company may reasonably request.

(b) Each Investor, by such Investor's acceptance of the Registrable Securities, agrees to cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of any Registration Statement hereunder, unless such Investor has notified the Company in writing of such Investor's election to exclude all of such Investor's Registrable Securities from such Registration Statement.

(c) Each Investor agrees that, upon receipt of any notice from the Company of the happening of any event of the kind described in Section 3(g) or the first sentence of 3(f) (a "**No Sale Notice**"), such Investor will immediately discontinue disposition of Registrable Securities pursuant to any Registration Statement(s) covering such Registrable Securities until such Investor's receipt of copies of the supplemented or amended prospectus as contemplated by Section 3(g) or the first sentence of 3(f) or receipt of notice that no supplement or amendment is required. Notwithstanding anything to the contrary, the Company shall cause its transfer agent to deliver unlegended shares of Common Stock to a transferee of an Investor in accordance with the terms of the Securities Purchase Agreement in connection with any sale of Registrable Securities with respect to which an Investor has entered into a contract for sale prior to the Investor's receipt of a notice from the Company of the happening of any event of the kind described in Section 3(g) or the first sentence of 3(f) and for which the Investor has not yet settled.

(d) Each Investor covenants and agrees that it will comply with the prospectus delivery requirements of the 1933 Act as applicable to it or an exemption therefrom in connection with sales of Registrable Securities pursuant to the Registration Statement.

5. Expenses of Registration.

All reasonable expenses, other than underwriting discounts and commissions, incurred in connection with registrations, filings or qualifications pursuant to Sections 2 and 3, including, without limitation, all registration, listing and qualifications fees, printers and accounting fees, and fees and disbursements of counsel for the Company shall be paid by the Company.

6. Indemnification.

In the event any Registrable Securities are included in a Registration Statement under this Agreement:

(a) To the fullest extent permitted by law, the Company will, and hereby does, indemnify, hold harmless and defend each Investor, the directors, officers, partners, members, employees, agents, representatives of, and each Person, if any, who controls any Investor within the meaning of the 1933 Act or the 1934 Act (each, an "**Indemnified Person**"), against any losses, claims, damages, liabilities, judgments, fines, penalties, charges, costs, reasonable attorneys' fees, amounts paid in settlement or expenses, joint or several (collectively, "**Claims**"), incurred in investigating, preparing or defending any action, claim, suit, inquiry, proceeding, investigation or appeal taken from the foregoing by or before any court or governmental, administrative or other regulatory agency, body or the SEC, whether pending or threatened, whether or not an indemnified party is or may be a party thereto ("**Indemnified Damages**"), to which any of them may reasonably become subject insofar as such Claims (or actions or proceedings, whether commenced or threatened, in respect thereof) arise out of or are based upon: (i) any untrue statement or alleged untrue statement of a material fact in a Registration Statement or any post-effective amendment thereto or in any filing made in connection with the qualification of the offering under the securities or other "blue sky" laws of any jurisdiction in which Registrable Securities are offered ("**Blue Sky Filing**"), or the omission or alleged omission to state a material fact required to be stated therein or necessary to make the statements therein not misleading, (ii) any untrue statement or alleged untrue statement of a material fact contained in any preliminary prospectus if used prior to the effective date of such Registration Statement, or contained in the final prospectus (as amended or supplemented, if the Company files any amendment thereof or supplement thereto with the SEC) or the omission or alleged omission to state therein any material fact necessary to make the statements made therein, in light of the circumstances under which the statements therein were made, not misleading, (iii) any violation or alleged violation by the Company of the 1933 Act, the 1934 Act, any other law, including, without limitation, any state securities law, or any rule or regulation thereunder relating to the offer or sale of the Registrable Securities pursuant to a Registration Statement or (iv) any violation of this Agreement (the matters in the foregoing clauses (i) through (iv) being, collectively, "**Violations**"). Subject to Section 6(c), the Company shall reimburse the Indemnified Persons, promptly as such expenses are incurred and are due and payable, for any legal fees or other reasonable expenses incurred by them in connection with investigating or defending any such Claim. Notwithstanding anything to the contrary contained herein, the indemnification agreement contained in this Section 6(a): (i) shall not apply to a Claim by an Indemnified Person arising out of or based upon a Violation which occurs in reliance upon and in conformity with information furnished to the Company by such Indemnified Person for such Indemnified Person expressly for use in connection with the preparation of the Registration Statement or any such amendment thereof or supplement thereto; and (ii) shall not apply to amounts paid in settlement of any Claim if such settlement is effected without the prior written consent of the Company, which consent shall not be unreasonably withheld or delayed. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of the Indemnified Person and shall survive the transfer of the Registrable Securities by the Investors pursuant to Section 9.

(b) In connection with any Registration Statement in which an Investor is participating, each such Investor agrees to severally and not jointly indemnify, hold harmless and defend, to the same extent and in the same manner as is set forth in Section 6(a), the Company, each of its directors, each of its officers who signs the Registration Statement and each Person, if any, who controls the Company within the meaning of the 1933 Act or the 1934 Act (each, an "**Indemnified Party**"), against any Claim or Indemnified Damages to which any of them may become subject, under the 1933 Act, the 1934 Act or otherwise, insofar as such Claim or Indemnified Damages arise out of or are based upon any Violation, in each case to the extent, and only to the extent, that such Violation occurs in reliance upon and in conformity with information furnished to the Company by such Investor expressly for use in connection with such Registration Statement; and, subject to Section 6(c), such Investor shall reimburse the Indemnified Party for any legal or other expenses reasonably incurred by an Indemnified Party in connection with investigating or defending any such Claim; provided, however, that the indemnity agreement contained in this Section 6(b) and the agreement with respect to contribution contained in Section 7 shall not apply to amounts paid in settlement of any Claim if such settlement is effected without the prior written consent of such Investor, which consent shall not be unreasonably withheld or delayed; provided, further, however, that the Investor shall be liable under this Section 6(b) for only that amount of a Claim or Indemnified Damages as does not exceed the net proceeds to such Investor as a result of the sale of Registrable Securities pursuant to such Registration Statement. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of such Indemnified Party and shall survive the transfer of the Registrable Securities by the Investors pursuant to Section 9.

(c) Promptly after receipt by an Indemnified Person or Indemnified Party under this Section 6 of notice of the commencement of any action or proceeding (including any governmental action or proceeding) involving a Claim, such Indemnified Person or Indemnified Party shall, if a Claim in respect thereof is to be made against any indemnifying party under this Section 6, deliver to the indemnifying party a written notice of the commencement thereof, and the indemnifying party shall have the right to participate in, and, to the extent the indemnifying party so desires and has acknowledged its indemnification obligations hereunder in writing, jointly with any other indemnifying party similarly noticed, to assume control of the defense thereof with counsel mutually satisfactory to the indemnifying party and the Indemnified Person or the Indemnified Party, as the case may be; provided, however, that an Indemnified Person or Indemnified Party shall have the right to retain its own counsel with the fees and expenses of not more than one counsel for all such Indemnified Person or Indemnified Party to be paid by the indemnifying party, if, in the reasonable opinion of counsel retained by the Indemnified Person or Indemnified Party, as applicable, the representation by such counsel of the Indemnified Person or Indemnified Party and the indemnifying party would be inappropriate due to differing interests between such Indemnified Person or Indemnified Party and any other party represented by such counsel in such proceeding. In the case of an Indemnified Person, legal counsel referred to in the immediately preceding sentence shall be selected by the Investors holding at least a majority in interest of the Registrable Securities included in the Registration Statement to which the Claim relates. The Indemnified Party or Indemnified Person shall reasonably cooperate with the indemnifying party in connection with any negotiation or defense of any such action or Claim by the indemnifying party and shall furnish to the indemnifying party all information reasonably available to the Indemnified Party or Indemnified Person which relates to such action or Claim. The indemnifying party shall keep the Indemnified Party or Indemnified Person fully apprised at all times as to the status of the defense or any settlement negotiations with respect thereto. No indemnifying party shall be liable for any settlement of any action, claim or proceeding effected without its prior written consent, provided, however, that the indemnifying party shall not unreasonably withhold, delay or condition its consent. No indemnifying party shall, without the prior written consent of the Indemnified Party or Indemnified Person, consent to entry of any judgment or enter into any settlement or other compromise which does not include as an unconditional term thereof the giving by the claimant or plaintiff to such Indemnified Party or Indemnified Person of a release from all liability in respect to such Claim or litigation and such settlement shall not include any admission as to fault on the part of the Indemnified Party. Following indemnification as provided for hereunder, the indemnifying party shall be subrogated to all rights of the Indemnified Party or Indemnified Person with respect to all third parties, firms or corporations relating to the matter for which indemnification has been made. The failure to deliver written notice to the indemnifying party within a reasonable time of the commencement of any such action shall not relieve such indemnifying party of any liability to the Indemnified Person or Indemnified Party under this Section 6, except to the extent that the indemnifying party is prejudiced in its ability to defend such action.

(d) The indemnification required by this Section 6 shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as and when bills are received or Indemnified Damages are incurred.

(e) The indemnity agreements contained herein shall be in addition to (i) any cause of action or similar right of the Indemnified Party or Indemnified Person against the indemnifying party or others, and (ii) any liabilities the indemnifying party may be subject to pursuant to the law.

7. Contribution.

To the extent any indemnification by an indemnifying party is prohibited or limited by law, the indemnifying party agrees to make the maximum contribution with respect to any amounts for which it would otherwise be liable under Section 6 to the fullest extent permitted by law; provided, however, that: (i) no Person involved in the sale of Registrable Securities which Person is guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the 1933 Act) in connection with such sale shall be entitled to contribution from any Person involved in such sale of Registrable Securities who was not guilty of fraudulent misrepresentation; and (ii) contribution by any seller of Registrable Securities shall be limited in amount to the amount of net proceeds received by such seller from the sale of such Registrable Securities pursuant to such Registration Statement.

8. Reports Under the 1934 Act.

With a view to making available to the Investors the benefits of Rule 144 promulgated under the 1933 Act or any other similar rule or regulation of the SEC that may at any time permit the Investors to sell securities of the Company to the public without registration ("**Rule 144**"), the Company agrees to:

(a) make and keep public information available, as those terms are understood and defined in Rule 144;

(b) file with the SEC in a timely manner all reports and other documents required of the Company under the 1933 Act and the 1934 Act so long as the Company remains subject to such requirements and the filing of such reports and other documents is required for the applicable provisions of Rule 144; and

(c) furnish to each Investor so long as such Investor owns Registrable Securities, promptly upon request, a written statement by the Company, if true, that it has complied with the reporting requirements of the 1933 Act and the 1934 Act and that it has satisfied the current public information provisions set forth in Rule 144.

9. Assignment of Registration Rights.

The rights under this Agreement shall be automatically assignable by the Investors to any transferee of all or any portion of such Investor's Registrable Securities if: (i) the Investor agrees in writing with the transferee or assignee to assign such rights, and a copy of such agreement is furnished to the Company within a reasonable time after such assignment; (ii) the Company is, within a reasonable time after such transfer or assignment, furnished with written notice of (a) the name and address of such transferee or assignee, and (b) the securities with respect to which such registration rights are being transferred or assigned; (iii) immediately following such transfer or assignment the further disposition of such securities by the transferee or assignee is restricted under the 1933 Act or applicable state securities laws; (iv) at or before the time the Company receives the written notice contemplated by clause (ii) of this sentence the transferee or assignee agrees in writing with the Company to be bound by all of the provisions contained herein; and (v) such transfer shall have been made in accordance with the applicable requirements of the Securities Purchase Agreement.

10. Amendment of Registration Rights.

Provisions of this Agreement may be amended and the observance thereof may be waived (either generally or in a particular instance and either retroactively or prospectively), only with the written consent of the Company and the Required Holders; provided that any such amendment or waiver that complies with the foregoing but that disproportionately, materially and adversely affects the rights and obligations of any Investor relative to the comparable rights and obligations of the other Investors shall require the prior written consent of such adversely affected Investor. Any amendment or waiver effected in accordance with this Section 10 shall be binding upon each Investor and the Company. No such amendment shall be effective to the extent that it applies to less than all of the holders of the Registrable Securities. No consideration shall be offered or paid to any Person to amend or consent to a waiver or modification of any provision of this Agreement unless the same consideration (other than the reimbursement of legal fees) also is offered to all of the parties to this Agreement.

11. Miscellaneous.

(a) A Person is deemed to be a holder of Registrable Securities whenever such Person owns or is deemed to own of record such Registrable Securities. If the Company receives conflicting instructions, notices or elections from two or more Persons with respect to the same Registrable Securities, the Company shall act upon the basis of instructions, notice or election received from such record owner of such Registrable Securities.

(b) Any notices, consents, waivers or other communications required or permitted to be given under the terms of this Agreement must be in writing and will be deemed to have been delivered: (i) upon receipt, when delivered personally; (ii) upon receipt, when sent by facsimile (provided confirmation of transmission is mechanically or electronically generated and kept on file by the sending party); (iii) when sent, if sent by electronic mail; or (iv) one Business Day after deposit with a nationally recognized overnight delivery service, in each case properly addressed to the party to receive the same. The addresses, facsimile numbers and email addresses for such communications shall be:

If to the Company:

GT Biopharma, Inc.
310 N. Westlake Blvd, Suite 206
Westlake Village, CA 91362
Attn: Chief Executive Officer
Email: rwu@gtbiopharma.com

With a copy (for information purposes only) to:

Gary R. Henrie, Esq.
P.O. Box 107
Nauvoo, IL 62354
Email: grhlaw@hotmail.com

If to the Transfer Agent:

Computershare
350 Indiana Street, Suite 800
Golden, Colorado 80401
Fax: (303) 262-0610

If to Legal Counsel:

Grushko & Mittman, P.C.
515 Rockaway Avenue
Valley Stream, NY 11581
Attn: Barbara R. Mittman, Esq.
Fax: (212) 697-3575

If to a Purchaser, to its address, facsimile number and/or email address set forth on the Schedule of Purchasers attached hereto or on the signature pages of the Securities Purchase Agreement, with copies to such Purchaser's representatives as set forth on the Schedule of Purchasers, or to such other address, facsimile number and/or email address to the attention of such other Person as the recipient party has specified by written notice given to each other party five (5) days prior to the effectiveness of such change. Written confirmation of receipt (A) given by the recipient of such notice, consent, waiver or other communication, (B) mechanically or electronically generated by the sender's facsimile machine or email containing the time, date, recipient facsimile number and an image of the first page of such transmission or (C) provided by a courier or overnight courier service shall be rebuttable evidence of personal service, receipt by facsimile or receipt from a nationally recognized overnight delivery service in accordance with clause (i), (ii) or (iii) above, respectively.

(c) Failure of any party to exercise any right or remedy under this Agreement or otherwise, or delay by a party in exercising such right or remedy, shall not operate as a waiver thereof.

(d) All questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be governed by the internal laws of the State of New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in The City of New York, Borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof to such party at the address for such notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. **EACH PARTY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION HEREWITH OR ARISING OUT OF THIS AGREEMENT OR ANY TRANSACTION CONTEMPLATED HEREBY.**

(e) If any provision of this Agreement is prohibited by law or otherwise determined to be invalid or unenforceable by a court of competent jurisdiction, the provision that would otherwise be prohibited, invalid or unenforceable shall be deemed amended to apply to the broadest extent that it would be valid and enforceable, and the invalidity or unenforceability of such provision shall not affect the validity of the remaining provisions of this Agreement so long as this Agreement as so modified continues to express, without material change, the original intentions of the parties as to the subject matter hereof and the prohibited nature, invalidity or unenforceability of the provision(s) in question does not substantially impair the respective expectations or reciprocal obligations of the parties or the practical realization of the benefits that would otherwise be conferred upon the parties. The parties will endeavor in good faith negotiations to replace the prohibited, invalid or unenforceable provision(s) with a valid provision(s), the effect of which comes as close as possible to that of the prohibited, invalid or unenforceable provision(s).

(f) This Agreement, the other Transaction Documents (as defined in the Securities Purchase Agreement) and the instruments referenced herein and therein constitute the entire agreement among the parties hereto with respect to the subject matter hereof and thereof. There are no restrictions, promises, warranties or undertakings, other than those set forth or referred to herein and therein. This Agreement, the other Transaction Documents and the instruments referenced herein and therein supersede all prior agreements and understandings among the parties hereto with respect to the subject matter hereof and thereof.

(g) Subject to the requirements of Section 9, this Agreement shall inure to the benefit of and be binding upon the permitted successors and assigns of each of the parties hereto.

(h) The headings in this Agreement are for convenience of reference only and shall not limit or otherwise affect the meaning hereof.

(i) This Agreement may be executed in identical counterparts, each of which shall be deemed an original but all of which shall constitute one and the same agreement. This Agreement, once executed by a party, may be delivered to the other party hereto by facsimile transmission of a copy of this Agreement bearing the signature of the party so delivering this Agreement.

(j) Each party shall do and perform, or cause to be done and performed, all such further acts and things, and shall execute and deliver all such other agreements, certificates, instruments and documents, as any other party may reasonably request in order to carry out the intent and accomplish the purposes of this Agreement and the consummation of the transactions contemplated hereby.

(k) All consents and other determinations required to be made by the Investors pursuant to this Agreement shall be made, unless otherwise specified in this Agreement, by the Required Holders.

(l) The language used in this Agreement will be deemed to be the language chosen by the parties to express their mutual intent and no rules of strict construction will be applied against any party.

(m) This Agreement is intended for the benefit of the parties hereto and their respective permitted successors and assigns, and is not for the benefit of, nor may any provision hereof be enforced by, any other Person.

(n) The obligations of each Investor hereunder are several and not joint with the obligations of any other Investor, and no provision of this Agreement is intended to confer any obligations on any Investor vis-à-vis any other Investor. Nothing contained herein, and no action taken by any Investor pursuant hereto, shall be deemed to constitute the Investors as a partnership, an association, a joint venture or any other kind of entity, or create a presumption that the Investors are in any way acting in concert or as a group with respect to such obligations or the transactions contemplated herein.

(o) Legal Counsel may resign as Legal Counsel on five (5) calendar days' prior notice to the Company and Alpha Capital Anstalt. Legal Counsel may rely on instructions from Alpha Capital Anstalt without communicating or verifying such instructions with any other Purchaser.

* * * * *

[Signature Page Follows]

above. IN WITNESS WHEREOF, the parties have executed this Registration Rights Agreement as of the date first written

COMPANY:

GT BIOPHARMA, INC.

By: Name: Raymond W. Urbanski Title: Chief Executive
Officer

[SIGNATURE PAGE OF HOLDERS FOLLOWS]

[SIGNATURE PAGE OF PURCHASERS TO GT BIOPHARMA, INC. RRA]

Name of Purchaser: _____

Address of Purchaser: _____

Signature of Authorized Signatory of Purchaser: _____

Name of Authorized Signatory: _____

Title of Authorized Signatory: _____

[SIGNATURE PAGES CONTINUE]

EXHIBIT A
FORM OF NOTICE OF EFFECTIVENESS
OF REGISTRATION STATEMENT

Computershare
350 Indiana Street, Suite 800
Golden, Colorado 80401
Fax: (303) 262-0610

Re: GT Biopharma, Inc.

Ladies and Gentlemen:

We have been requested by GT Biopharma, Inc., a Delaware corporation (the "**Company**"), and have represented the Company in connection with that certain Securities Purchase Agreement, dated as of February 4, 2019 (the "**Securities Purchase Agreement**"), entered into by and among the Company and the purchasers named therein (collectively, the "**Holder**s") pursuant to which the Company issued to the Holders convertible promissory notes ("**Notes**") convertible for shares of the Company's common stock, par value \$0.001 per share (the "**Common Stock**") (the shares of Common Stock issuable pursuant to the terms of the Notes and Securities Purchase Agreement, collectively, the "**Conversion Shares**"). Pursuant to the Securities Purchase Agreement, the Company also has entered into a Registration Rights Agreement with the Holders (the "**Registration Rights Agreement**") pursuant to which the Company agreed, among other things, to register the resale of the Registrable Securities (as defined in the Registration Rights Agreement), including the Conversion Shares issuable pursuant to the Securities Purchase Agreement under the Securities Act of 1933, as amended (the "**1933 Act**"). The description of the Registrable Securities are set forth on **Schedule A** hereto [Selling Shareholder Table]. In connection with the Company's obligations under the Registration Rights Agreement, on February __, 2019, the Company filed a Registration Statement on Form S-3 (File No. 333-_____) (the "**Registration Statement**") with the Securities and Exchange Commission (the "**SEC**") relating to the Registrable Securities which names each of the Holders as a selling shareholder thereunder.

In connection with the foregoing, we advise you that a member of the SEC's staff has advised us by telephone that the SEC has entered an order declaring the Registration Statement effective under the 1933 Act at [ENTER TIME OF EFFECTIVENESS] on [ENTER DATE OF EFFECTIVENESS]. We have no knowledge, subsequent to such telephonic conversation with the SEC's staff, that any stop order suspending its effectiveness has been issued or that any proceedings for that purpose are pending before, or threatened by, the SEC. Based on the foregoing, the Registrable Securities set forth on **Schedule A** hereto are available for resale under the 1933 Act pursuant to the Registration Statement.

This letter, unless and until subsequently revoked or modified orally by the Company's securities counsel or in writing from any member of this firm (which writing may include email correspondence), shall serve as our standing instruction to you that the Registrable Securities set forth on **Schedule A** hereto are freely transferable by the Holders pursuant to the Registration Statement. You need not require further letters from us to effect any future legend-free issuance or reissuance of Registrable Securities to the Holders as contemplated by the Company's Irrevocable Transfer Agent Instructions dated February [●], 2019.

Very truly yours,

EXHIBIT B
SELLING SHAREHOLDERS

The shares of Common Stock being offered by the selling stockholders are those issued upon conversion of the Notes that were issued to the selling stockholders pursuant to the Securities Purchase Agreement dated as of February __, 2019 (the “**Securities Purchase Agreement**”), by and among the Company and the investors named therein. We are registering the shares of Common Stock in order to permit the selling stockholders to offer the shares for resale from time to time. Except for the ownership of the shares of common stock issued pursuant to the Securities Purchase Agreement, the selling shareholders have not had any material relationship with us within the past three years.

The table below lists the selling stockholders and other information regarding the beneficial ownership of the shares of Common Stock by each of the selling stockholders. The second column lists the number of shares of Common Stock beneficially owned by each selling stockholder, based on its ownership of the Notes as of _____, 2019.

The third column lists the shares of Common Stock being offered by this prospectus by the selling stockholders and does not take in account any limitations on conversion of the Notes or issuance of Common Stock.

In accordance with the terms of a registration rights agreement with the selling stockholders (the “**Registration Rights Agreement**”), this prospectus generally covers the resale of at least the sum of the number of shares of Common Stock issued upon conversion of the Notes issued pursuant to the Securities Purchase Agreement as of the trading day immediately preceding the date the registration statement is initially filed with the SEC. The fourth column assumes the sale of all of the shares offered by the selling stockholders pursuant to this prospectus.

Under the terms of the Notes, a selling stockholder may not convert the Notes to the extent such exercise would cause such selling stockholder, together with its affiliates, to beneficially own a number of shares of Common Stock which would exceed 9.99% of our then outstanding shares of Common Stock following such exercise. The number of shares in the second column does not reflect these limitations. The selling stockholders may sell all, some or none of their shares in this offering. See “Plan of Distribution.”

Name of Selling Shareholder	Number of Shares of Common Stock Owned Prior to Offering	Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus	Number of Shares of Common Stock Owned After Offering
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PLAN OF DISTRIBUTION

We are registering the shares of Common Stock that may be issued upon conversion of the Notes issued pursuant to the Securities Purchase Agreement to permit the resale of these shares of Common Stock by the holders of such shares from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the selling stockholders of the shares of Common Stock. We will bear all fees and expenses incident to our obligation to register the shares of Common Stock.

The selling stockholders may sell all or a portion of the shares of Common Stock beneficially owned by them and offered hereby from time to time directly or through one or more underwriters, broker-dealers or agents. If the shares of Common Stock are sold through underwriters or broker-dealers, the selling stockholders will be responsible for underwriting discounts or commissions or agent's commissions. The shares of Common Stock may be sold in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions, pursuant to one or more of the following methods:

- on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale;
- in the over-the-counter market;
- in transactions otherwise than on these exchanges or systems or in the over-the-counter market;
- through the writing of options, whether such options are listed on an options exchange or otherwise;
- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales effected after the effective date of this Registration Statement;
- sales pursuant to Rule 144;
- broker-dealers may agree with the selling securityholders to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

If the selling stockholders effect such transactions by selling shares of Common Stock to or through underwriters, broker-dealers or agents, such underwriters, broker-dealers or agents may receive commissions in the form of discounts, concessions or commissions from the selling stockholders or commissions from purchasers of the shares of Common Stock for whom they may act as agent or to whom they may sell as principal (which discounts, concessions or commissions as to particular underwriters, broker-dealers or agents may be in excess of those customary in the types of transactions involved). In connection with sales of the shares of Common Stock or otherwise, the selling stockholders may enter into hedging transactions with broker-dealers, which may in turn engage in short sales of the shares of Common Stock in the course of hedging in positions they assume. The selling stockholders may also sell shares of Common Stock short and deliver shares of Common Stock covered by this prospectus to close out short positions and to return borrowed shares in connection with such short sales. The selling stockholders may also loan or pledge shares of Common Stock to broker-dealers that in turn may sell such shares.

The selling stockholders may pledge or grant a security interest in some or all of the shares of Common Stock or Notes owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of Common Stock from time to time pursuant to this prospectus or any amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act of 1933, as amended, amending, if necessary, the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholders also may transfer and donate the shares of Common Stock in other circumstances in which case the transferees, donees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

The selling stockholders and any broker-dealer participating in the distribution of the shares of Common Stock may be deemed to be "underwriters" within the meaning of the Securities Act, and any commission paid, or any discounts or concessions allowed to, any such broker-dealer may be deemed to be underwriting commissions or discounts under the Securities Act. At the time a particular offering of the shares of Common Stock is made, a prospectus supplement, if required, will be distributed which will set forth the aggregate amount of shares of Common Stock being offered and the terms of the offering, including the name or names of any broker-dealers or agents, any discounts, commissions and other terms constituting compensation from the selling stockholders and any discounts, commissions or concessions allowed or re-allowed or paid to broker-dealers.

Under the securities laws of some states, the shares of Common Stock may be sold in such states only through registered or licensed brokers or dealers. In addition, in some states the shares of Common Stock may not be sold unless such shares have been registered or qualified for sale in such state or an exemption from registration or qualification is available and is complied with.

There can be no assurance that any selling stockholder will sell any or all of the shares of Common Stock registered pursuant to the registration statement, of which this prospectus forms a part.

The selling stockholders and any other person participating in such distribution will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including, without limitation, Regulation M of the Exchange Act, which may limit the timing of purchases and sales of any of the shares of Common Stock by the selling stockholders and any other participating person. Regulation M may also restrict the ability of any person engaged in the distribution of the shares of Common Stock to engage in market-making activities with respect to the shares of Common Stock. All of the foregoing may affect the marketability of the shares of Common Stock and the ability of any person or entity to engage in market-making activities with respect to the shares of Common Stock.

We will pay all expenses of the registration of the shares of Common Stock pursuant to the Registration Rights Agreement, estimated to be \$[] in total, including, without limitation, SEC filing fees and expenses of compliance with state securities or "blue sky" laws; provided, however, that a selling stockholder will pay all underwriting discounts and selling commissions, if any. We will indemnify the selling stockholders against liabilities, including some liabilities under the Securities Act, in accordance with the Registration Rights Agreement, or the selling stockholders will be entitled to contribution. We may be indemnified by the selling stockholders against civil liabilities, including liabilities under the Securities Act, that may arise from any written information furnished to us by the selling stockholder specifically for use in this prospectus, in accordance with the Registration Rights Agreement, or we may be entitled to contribution.

Once sold under the registration statement, of which this prospectus forms a part, the shares of Common Stock will be freely tradable in the hands of persons other than our affiliates.