

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549**

**FORM S-3**  
REGISTRATION STATEMENT  
*UNDER*  
*THE SECURITIES ACT OF 1933*

**CORBUS PHARMACEUTICALS HOLDINGS, INC.**  
(Exact name of registrant as specified in its charter)

Delaware  
(State or other jurisdiction of  
incorporation or organization)

46-4348039  
(I.R.S. Employer  
Identification Number)

Corbus Pharmaceuticals Holdings, Inc.  
500 River Ridge Drive  
Norwood, MA 02062  
(617) 963-0100

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

Yuval Cohen  
Chief Executive Officer  
Corbus Pharmaceuticals Holdings, Inc.  
500 River Ridge Drive  
Norwood, MA 02062  
(617) 963-0100

(Name, address, including zip code, and telephone number, including area code, of agent for service)

*Copies of all communications, including communications sent to the agent for service, to:*

Michael J. Lerner, Esq.  
Steven M. Skolnick, Esq.  
Lowenstein Sandler LLP  
1251 Avenue of the Americas  
New York, New York 10020  
Tel: (212) 262-6700

**Approximate date of commencement of proposed sale to the public:** From time to time after this Registration Statement becomes effective.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box:

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box:

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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

Large accelerated filer:  Accelerated filer:

Non-accelerated filer:  Smaller reporting company:

Emerging growth company:

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of Securities Act.

**CALCULATION OF REGISTRATION FEE**

| Title of each class of securities to be registered <sup>(1)</sup> | Amount to be registered <sup>(1) (2)</sup> | Proposed maximum offering price per unit <sup>(1) (2)</sup> | Proposed maximum aggregate offering price <sup>(1) (2)</sup> | Amount of registration fee <sup>(2)</sup> |
|---|--|---|--|---|
| Common Stock, par value \$0.0001 per share <sup>(3)</sup>         |  |   |  |   |
| Preferred Stock, par value \$0.0001 per share <sup>(4)</sup>      |  |   |  |   |
| Warrants <sup>(5)</sup>   |  |   |  |   |
| Debt Securities <sup>(6)</sup>                                    |  |   |  |   |
| Subscription Rights <sup>(7)</sup>                                |  |   |  |   |
| Units <sup>(8)</sup>  |  |   |  |   |
| <b>TOTAL:</b>   |  |   | \$ 200,000,000   | \$ 25,960                                 |

- (1) In no event will the aggregate offering price of all securities issued from time to time by the registrant under this registration statement exceed \$200,000,000 or its equivalent in any other currency, currency units, or composite currency or currencies. The securities covered by this registration statement may be sold separately, together or as units with other securities registered under this registration statement.
- (2) The proposed maximum aggregate price has been estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended (the "Securities Act").
- (3) Subject to note (1), this registration statement covers such an indeterminate amount of common stock (with accompanying purchase rights, if any) as may be sold, from time to time, at indeterminate prices, by the registrant and such indeterminate number of shares of common stock as may, from time to time, be issued upon conversion or exchange of other securities registered hereunder, to the extent any such securities are, by their terms, convertible or exchangeable for common stock.
- (4) Subject to note (1), this registration statement covers such an indeterminate number of shares of preferred stock (with accompanying purchase rights, if any) as may be sold from time to time at indeterminate prices by the registrant. Also covered is such an indeterminate amount of common stock (with accompanying purchase rights, if any) (i) as may be issuable or deliverable upon conversion of shares of preferred stock, and (ii) as may be required for delivery upon conversion of shares of preferred stock as a result of anti-dilution provisions.
- (5) Subject to note (1), this registration statement covers such an indeterminate amount and number of warrants (including subscription rights) representing rights to purchase common stock, preferred stock and debt securities registered under this registration statement as may be sold from time to time at indeterminate prices by the registrant. Also covered is such an indeterminate amount of common stock and preferred stock (in each case, with accompanying purchase rights, if any) and debt securities (i) as may be issuable or deliverable upon exercise of warrants, and (ii) as may be required for delivery upon exercise of any warrants as a result of anti-dilution provisions.
- (6) Subject to note (1), this registration statement covers such an indeterminate amount of debt securities as may be sold from time to time at indeterminate prices by the registrant. If any debt securities are issued at an original issue discount, then the offering price shall be in such greater principal amount as shall result in an aggregate initial offering price not to exceed \$200,000,000. Also covered is such an indeterminate amount of common stock and preferred stock (in each case, with accompanying purchase rights, if any) (i) as may be issuable or deliverable upon the exercise or conversion of debt securities, and (ii) as may be required for delivery upon exercise or conversion of debt securities as a result of anti-dilution provisions.
- (7) Subject to note (1), this registration statement covers such an indeterminate amount and number of subscription rights, representing rights to purchase common stock, preferred stock, warrants and debt securities registered under this registration statement, as may be sold from time to time at indeterminate prices by the registrant. Also covered is such an indeterminate amount of common stock, preferred stock and warrants (in each case, with accompanying purchase rights, if any) and debt securities (i) as may be issuable or deliverable upon exercise of subscription rights, and (ii) as may be required for delivery upon exercise of any subscription rights as a result of anti-dilution provisions.
- (8) Each unit will represent an interest in two or more securities, which may or may not be separable from one another.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission acting pursuant to said Section 8(a), may determine.

## EXPLANATORY NOTE

This registration statement contains two prospectuses:

- a base prospectus which covers the offering, issuance and sale by the registrant of up to a maximum aggregate offering price of \$200,000,000 of the registrant's common stock, preferred stock, debt securities, warrants, subscription rights and/or units; and
- a sale agreement prospectus covering the offering, issuance and sale by the registrant of up to a maximum aggregate offering price of \$75,000,000 of the registrant's common stock that may be issued and sold under a sale agreement with Jefferies LLC.

The base prospectus immediately follows this explanatory note. The specific terms of any securities to be offered pursuant to the base prospectus will be specified in a prospectus supplement to the base prospectus. The sale agreement prospectus immediately follows the base prospectus. The common stock that may be offered, issued and sold by the registrant under the sale agreement prospectus is included in the \$200,000,000 of securities that may be offered, issued and sold by the registrant under the base prospectus. Upon termination of the sale agreement with Jefferies LLC, any portion of the \$75,000,000 included in the sale agreement prospectus that is not sold pursuant to the sale agreement will be available for sale in other offerings pursuant to the base prospectus and a corresponding prospectus supplement, and if no shares are sold under the sale agreement, the full \$75,000,000 of securities may be sold in other offerings pursuant to the base prospectus.

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**The information in this prospectus is not complete and may be changed. A registration statement relating to these securities has been filed with the Securities and Exchange Commission. These securities may not be sold until the registration statement is declared effective. This prospectus is not an offer to sell these securities, and is not soliciting an offer to buy these securities, nor shall there be any sale of these securities, in any state or other jurisdiction where such offer, solicitation or sale is not permitted or would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction.**

**Subject to completion, dated April 7, 2020**

**PROSPECTUS**

**Corbus Pharmaceuticals Holdings, Inc.**



**\$200,000,000**

**Common Stock  
Preferred Stock  
Warrants  
Debt Securities  
Subscription Rights  
Units**

We may offer, issue and sell from time to time together or separately, in one or more offerings, any combination of (i) our common stock, (ii) our preferred stock, which we may issue in one or more series, (iii) warrants, (iv) senior or subordinated debt securities, (v) subscription rights and (vi) units. The debt securities may consist of debentures, notes, or other types of debt. The debt securities, preferred stock, warrants and subscription rights may be convertible into, or exercisable or exchangeable for, common or preferred stock or other securities of ours. The units may consist of any combination of the securities listed above.

The aggregate public offering price of the securities that we may offer will not exceed \$200,000,000. We will offer the securities in an amount and on terms that market conditions will determine at the time of the offering. Our common stock is listed on the Nasdaq Global Market under the symbol "CRBP." The last reported sale price for our common stock on April 6, 2020 as quoted on the Nasdaq Global Market was \$5.19 per share. You are urged to obtain current market quotations of our common stock. We have no preferred stock, warrants, debt securities, subscription rights or units listed on any market. Each prospectus supplement will indicate if the securities offered thereby will be listed on any securities exchange.

Investing in our securities involves risk. You should carefully consider the risks that we refer you to under the section captioned "Risk Factors" in this prospectus on page 2 before buying our securities.

Should we offer any of the securities described in this prospectus, we will provide you with the specific terms of the particular securities being offered in supplements to this prospectus. You should read this prospectus and any supplement, together with additional information described under the headings "Additional Information" and "Incorporation of Certain Information by Reference" carefully before you invest. This prospectus may not be used to sell securities unless accompanied by a prospectus supplement.

We may sell these securities directly to our stockholders or to other purchasers or through agents on our behalf or through underwriters or dealers as designated from time to time. If any agents or underwriters are involved in the sale of any of these securities, the applicable prospectus supplement will provide the names of the agents or underwriters and any applicable fees, commissions or discounts.

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.**

**The date of this prospectus is \_\_\_\_\_, 2020.**

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## **TABLE OF CONTENTS**

|   |    |
|---|----|
| <a href="#">ABOUT THIS PROSPECTUS</a>   | 1  |
| <a href="#">PROSPECTUS SUMMARY</a>  | 1  |
| <a href="#">RISK FACTORS</a>  | 2  |
| <a href="#">FORWARD-LOOKING STATEMENTS</a>  | 3  |
| <a href="#">USE OF PROCEEDS</a>   | 3  |
| <a href="#">THE SECURITIES WE MAY OFFER</a>   | 4  |
| <a href="#">DESCRIPTION OF CAPITAL STOCK</a>  | 4  |
| <a href="#">DESCRIPTION OF STOCK WARRANTS</a>   | 7  |
| <a href="#">DESCRIPTION OF DEBT SECURITIES</a>  | 9  |
| <a href="#">DESCRIPTION OF SUBSCRIPTION RIGHTS</a>  | 14 |
| <a href="#">DESCRIPTION OF UNITS</a>  | 15 |
| <a href="#">FORMS OF SECURITIES</a>   | 16 |
| <a href="#">PLAN OF DISTRIBUTION</a>  | 18 |
| <a href="#">LEGAL MATTERS</a>   | 21 |
| <a href="#">EXPERTS</a>   | 21 |
| <a href="#">DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES</a> | 22 |
| <a href="#">ADDITIONAL INFORMATION</a>  | 22 |
| <a href="#">INCORPORATION OF CERTAIN INFORMATION BY REFERENCE</a>                                   | 24 |

Corbus Pharmaceuticals Holdings, Inc. is referred to herein as “Corbus,” “the Company,” “we,” “us,” and “our,” unless the context indicates otherwise.

You may only rely on the information contained in this prospectus and the accompanying prospectus supplement or that we have referred you to. We have not authorized anyone to provide you with different information. This prospectus and any prospectus supplement do not constitute an offer to sell or a solicitation of an offer to buy any securities other than the securities offered by this prospectus and the prospectus supplement. This prospectus and any prospectus supplement do not constitute an offer to sell or a solicitation of an offer to buy any securities in any circumstances in which such offer or solicitation is unlawful. Neither the delivery of this prospectus or any prospectus supplement nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in our affairs since the date of this prospectus or such prospectus supplement or that the information contained by reference to this prospectus or any prospectus supplement is correct as of any time after its date.

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## ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or SEC, using a “shelf” registration process. Under this shelf registration process, we may from time to time offer and sell, in one or more offerings, any or all of the securities described in this prospectus, separately or together, up to an aggregate offering price of \$200,000,000. This prospectus provides you with a general description of our securities being offered. When we issue the securities being offered by this prospectus, we will provide a prospectus supplement (which term includes, as applicable, the at-the-market sale agreement prospectus filed with the registration statement of which this prospectus forms a part) that will contain specific information about the terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with additional information described under the heading “Additional Information” and “Incorporation of Certain Information by Reference.”

## PROSPECTUS SUMMARY

The following summary highlights some information from this prospectus. It is not complete and does not contain all of the information that you should consider before making an investment decision. You should read this entire prospectus, including the “Risk Factors” section on page 2 and the disclosures to which that section refers you, the financial statements and related notes and the other more detailed information appearing elsewhere or incorporated by reference into this prospectus before investing in any of the securities described in this prospectus.

### **About Us**

We are a Phase 3, clinical stage pharmaceutical company focused on the development and commercialization of novel therapeutics to treat chronic and serious inflammatory and fibrotic diseases with clear unmet medical needs by targeting the human endocannabinoid system, or ECS. We are developing a pipeline of cannabinoid drug candidates which are rationally designed, synthetic, small molecule drugs which target the ECS to treat inflammatory and fibrotic diseases. Our focus on the ECS is backed by an ever-expanding body of knowledge on the biology of the ECS and its role as being a master regulator of inflammation and fibrosis. Our lead investigational drug candidate, lenabasum, is a novel, synthetic, oral, cannabinoid type 2 (CB2) agonist designed to resolve chronic inflammation, limit fibrosis and support tissue repair. We are currently developing lenabasum to treat four life threatening diseases: systemic sclerosis, or SSc, dermatomyositis, or DM, cystic fibrosis, or CF, and systemic lupus erythematosus, or SLE. In addition, we are developing a pipeline of experimental drug candidates from our library of novel compounds targeting the ECS. Our pipeline also includes CRB-4001, a second generation, peripherally restricted cannabinoid receptor type 1, or CB1, inverse agonist designed to treat organ specific fibrotic liver diseases, such as nonalcoholic steatohepatitis, or NASH.

### **Corporate Information**

Our principal executive offices are located at 500 River Ridge Drive, Norwood, Massachusetts 02062, and our telephone number is (617) 963-0100. Our website address is [www.corbuspharma.com](http://www.corbuspharma.com). We have included our website address as an inactive textual reference only and our website and the information contained on, or that can be accessed through, our website will not be deemed to be incorporated by reference in, and are not considered part of, this prospectus. You should not rely on our website or any such information in making your decision whether to purchase our securities.

## RISK FACTORS

Before purchasing any of the securities you should carefully consider the risk factors incorporated by reference in this prospectus from our Annual Report on Form 10-K for the fiscal year ended December 31, 2019 and any subsequent updates described in our Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as the risks, uncertainties and additional information set forth in our SEC reports on Forms 10-K, 10-Q and 8-K and in the other documents incorporated by reference in this prospectus. For a description of these reports and documents, and information about where you can find them, see “Additional Information” and “Incorporation of Certain Information By Reference.” Additional risks not presently known or that we presently consider to be immaterial could subsequently materially and adversely affect our financial condition, results of operations, business and prospects.

## FORWARD-LOOKING STATEMENTS

This prospectus, including the documents that we incorporate by reference, contains forward-looking statements as that term is defined in the federal securities laws. The events described in forward-looking statements contained in this prospectus, including the documents that we incorporate by reference, may not occur. Generally, these statements relate to our business plans or strategies, projected or anticipated benefits or other consequences of our plans or strategies, financing plans, projected or anticipated benefits from acquisitions that we may make, or projections involving anticipated revenues, earnings or other aspects of our operating results or financial position, and the outcome of any contingencies. Any such forward-looking statements are based on current expectations, estimates and projections of management. We intend for these forward-looking statements to be covered by the safe-harbor provisions for forward-looking statements. Words such as “may,” “expect,” “believe,” “anticipate,” “project,” “plan,” “intend,” “estimate,” and “continue,” and their opposites and similar expressions are intended to identify forward-looking statements. We caution you that these statements are not guarantees of future performance or events and are subject to a number of uncertainties, risks and other influences, many of which are beyond our control that may influence the accuracy of the statements and the projections upon which the statements are based. Factors that may affect our results include, but are not limited to, the risks and uncertainties discussed in the “Risk Factors” section on page 2 of this prospectus, in our Annual Report on Form 10-K for the fiscal year ended December 31, 2019 or in other reports we file with the Securities and Exchange Commission.

Any one or more of these uncertainties, risks and other influences could materially affect our results of operations and whether forward-looking statements made by us ultimately prove to be accurate. Our actual results, performance and achievements could differ materially from those expressed or implied in these forward-looking statements. We undertake no obligation to publicly update or revise any forward-looking statements, whether from new information, future events or otherwise.

You should rely only on the information in this prospectus. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely upon it.

## USE OF PROCEEDS

Unless we inform you otherwise in the prospectus supplement relating to a particular offering of securities, we will use the net proceeds from the sale of the securities offered by this prospectus and the exercise price from the exercise of any convertible securities, if any, for general corporate purposes, which may include funding research, development and product manufacturing, clinical trials, acquisitions or investments in businesses, products or technologies that are complementary to our own, increasing our working capital, reducing indebtedness, and capital expenditures.

When particular securities are offered, the prospectus supplement relating to that offering will set forth our intended use of the net proceeds received from the sale of those securities we sell. Pending the application of the net proceeds for these purposes, we expect to invest the proceeds in short-term, interest-bearing instruments or other investment-grade securities.



## THE SECURITIES WE MAY OFFER

### General

The descriptions of the securities contained in this prospectus, together with the applicable prospectus supplements, summarize all of the material terms and provisions of the various types of securities that we may offer. We will describe in the applicable prospectus supplement relating to any securities the particular terms of the securities offered by that prospectus supplement. If we indicate in the applicable prospectus supplement, the terms of the securities may differ from the terms we have summarized below. We may also include in the prospectus supplement information about material United States federal income tax considerations relating to the securities, and the securities exchange, if any, on which the securities will be listed.

We may sell from time to time, in one or more offerings:

- common stock;
- preferred stock;
- debt securities;
- subscription rights to purchase shares of common stock, preferred stock or debt securities;
- warrants to purchase shares of common stock or preferred stock; and
- units consisting of any combination of the securities listed above.

In this prospectus, we refer to the common stock, preferred stock, debt securities, subscription rights, warrants and units collectively as “securities.” The total dollar amount of all securities that we may sell pursuant to this prospectus will not exceed \$200,000,000.

If we issue debt securities at a discount from their original stated principal amount, then, for purposes of calculating the total dollar amount of all securities issued under this prospectus, we will treat the initial offering price of the debt securities as the total original principal amount of the debt securities.

This prospectus may not be used to consummate a sale of securities unless it is accompanied by a prospectus supplement.

## DESCRIPTION OF CAPITAL STOCK

### General

Our authorized capital stock consists of:

- 150,000,000 shares of common stock, par value \$0.0001 per share; and
- 10,000,000 shares of preferred stock, par value \$0.0001 per share, of which, as of the date of this prospectus, none of which shares have been designated.

As of close of business on April 6, 2020, 72,490,449 shares of common stock were issued and outstanding and no shares of preferred stock were issued and outstanding.

The additional shares of our authorized capital stock available for issuance may be issued at times and under circumstances so as to have a dilutive effect on earnings per share and on the equity ownership of the holders of our common stock. The ability of our board of directors to issue additional shares of stock could enhance the board’s ability to negotiate on behalf of the stockholders in a takeover situation but could also be used by the board to make a change of control more difficult, thereby denying stockholders the potential to sell their shares at a premium and entrenching current management. The following description is a summary of the material provisions of our capital stock. You should refer to our certificate of incorporation, as amended, and our bylaws, both of which are on file with the SEC as exhibits to previous SEC filings, for additional information. The summary below is qualified by provisions of applicable law.

### **Common Stock**

*Voting.* The holders of the common stock are entitled to one vote for each share held of record on all matters on which the holders are entitled to vote (or consent pursuant to written consent). Directors are elected by a plurality of the votes present in person or represented by proxy and entitled to vote.

*Dividends.* The holders of the common stock are entitled to receive, ratably, dividends only if, when and as declared by our board of directors out of funds legally available therefor and after provision is made for each class of capital stock having preference over the common stock.

*Liquidation Rights.* In the event of our liquidation, dissolution or winding-up, the holders of common stock are entitled to share, ratably, in all assets remaining available for distribution after payment of all liabilities and after provision is made for each class of capital stock having preference over the common stock.

*Conversion Right.* The holders of the common stock have no conversion rights.

*Preemptive and Similar Rights.* The holders of the common stock have no preemptive or similar rights.

*Redemption/Put Rights.* There are no redemption or sinking fund provisions applicable to the common stock. All of the outstanding shares of our common stock are fully-paid and nonassessable.

### **Transfer Agent and Registrar**

The transfer agent and registrar for our common stock is Continental Stock Transfer & Trust Company, LLC.

### **Preferred Stock**

We are authorized to issue up to 10,000,000 shares of preferred stock, all of which are undesignated. Our board of directors has the authority, within the limitations and restrictions prescribed by law and without stockholder approval, to provide by resolution for the issuance of shares of preferred stock, and to fix the rights, preferences, privileges and restrictions thereof, including dividend rights, conversion rights, voting rights, terms of redemption, liquidation preference and the number of shares constituting any series of the designation of such series, by delivering an appropriate certificate of amendment to our amended and restated certificate of incorporation to the Delaware Secretary of State pursuant to the Delaware General Corporation Law, or the DGCL. The issuance of preferred stock could have the effect of decreasing the market price of the common stock, impeding or delaying a possible takeover and adversely affecting the voting and other rights of the holders of our common stock.

If we offer a specific series of preferred stock under this prospectus, we will describe the terms of the preferred stock in the prospectus supplement for such offering and will file a copy of the certificate establishing the terms of the preferred stock with the SEC. To the extent required, this description will include:

- the title and stated value;
- the number of shares offered, the liquidation preference per share and the purchase price;
- the dividend rate(s), period(s) and/or payment date(s), or method(s) of calculation for such dividends;
- whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;
- the procedures for any auction and remarketing, if any;

- the provisions for a sinking fund, if any;
- the provisions for redemption, if applicable;
- any listing of the preferred stock on any securities exchange or market;
- whether the preferred stock will be convertible into our common stock, and, if applicable, the conversion price (or how it will be calculated) and conversion period;
- whether the preferred stock will be exchangeable into debt securities, and, if applicable, the exchange price (or how it will be calculated) and exchange period;
- voting rights, if any, of the preferred stock;
- a discussion of any material and/or special U.S. federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of our affairs; and
- any material limitations on issuance of any class or series of preferred stock ranking senior to or on a parity with the series of preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of our affairs.

**Transfer Agent and Registrar for Preferred Stock**

The transfer agent and registrar for any series or class of preferred stock will be set forth in each applicable prospectus supplement.

**Anti-takeover Effects of Delaware Law and our Certificate of Incorporation, as amended**

Our certificate of incorporation, as amended, and bylaws contain provisions that could have the effect of discouraging potential acquisition proposals or tender offers or delaying or preventing a change of control. These provisions are as follows:

- they provide that special meetings of stockholders may be called only by our board of directors acting pursuant to a resolution approved by the affirmative vote of a majority of the board of directors;
- they do not include a provision for cumulative voting in the election of directors. Under cumulative voting, a minority stockholder holding a sufficient number of shares may be able to ensure the election of one or more directors. The absence of cumulative voting may have the effect of limiting the ability of minority stockholders to effect changes to our board of directors; and
- they allow us to issue, without stockholder approval, up to 10,000,000 shares of preferred stock, with such designations, rights, and preferences as may be determined from time to time by our board of directors that could adversely affect the rights and powers of the holders of the common stock, including dividend, liquidation, conversion, voting, or other rights that could adversely affect the voting power or other rights of the holders of our common stock. The issuance of preferred stock could have the effect of restricting dividends on our common stock, diluting the voting power of our common stock, impairing the liquidation rights of our common stock, or delaying or preventing a change in control of our company, all without further action by our stockholders.

We are subject to the provisions of Section 203 of the General Corporation Law of the State of Delaware, an anti-takeover law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in the following prescribed manner:

- prior to the time of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding (1) shares owned by persons who are directors and also officers and (2) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; and
- at or subsequent to the time of the transaction, the business combination is approved by the board and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock which is not owned by the interested stockholder.

Generally, for purposes of Section 203, a “business combination” includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. An “interested stockholder” is a person who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, owned 15% or more of a corporation’s outstanding voting securities.

#### ***Stockholder Action by Written Consent***

Our certificate of incorporation, as amended, specifically denies the ability of stockholders to take action by written consent of the stockholders in lieu of a meeting.

#### **Potential Effects of Authorized but Unissued Stock**

We have shares of common stock and preferred stock available for future issuance without stockholder approval. We may utilize these additional shares for a variety of corporate purposes, including future public offerings to raise additional capital, to facilitate corporate acquisitions or payment as a dividend on the capital stock.

The existence of unissued and unreserved common stock and preferred stock may enable our board of directors to issue shares to persons friendly to current management or to issue preferred stock with terms that could render more difficult or discourage a third-party attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise, thereby protecting the continuity of our management. In addition, the board of directors has the discretion to determine designations, rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences of each series of preferred stock, all to the fullest extent permissible under the DGCL and subject to any limitations set forth in our certificate of incorporation, as amended. The purpose of authorizing the board of directors to issue preferred stock and to determine the rights and preferences applicable to such preferred stock is to eliminate delays associated with a stockholder vote on specific issuances. The issuance of preferred stock, while providing desirable flexibility in connection with possible financings, acquisitions and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or could discourage a third party from acquiring, a majority of our outstanding voting stock.

#### **DESCRIPTION OF STOCK WARRANTS**

We summarize below some of the provisions that will apply to the warrants unless the applicable prospectus supplement provides otherwise. This summary may not contain all information that is important to you. The complete terms of the warrants will be contained in the applicable warrant certificate and warrant agreement. These documents have been or will be included or incorporated by reference as exhibits to the registration statement of which this prospectus is a part. You should read the warrant certificate and the warrant agreement. You should also read the prospectus supplement, which will contain additional information and which may update or change some of the information below.

## General

We may issue, together with common or preferred stock as units or separately, warrants for the purchase of shares of our common or preferred stock. The terms of each warrant will be discussed in the applicable prospectus supplement relating to the particular series of warrants. The form(s) of certificate representing the warrants and/or the warrant agreement will be, in each case, filed with the SEC as an exhibit to a document incorporated by reference in the registration statement of which this prospectus is a part on or prior to the date of any prospectus supplement relating to an offering of the particular warrant. The following summary of material provisions of the warrants and the warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to a particular series of warrants.

The prospectus supplement relating to any series of warrants that are offered by this prospectus will describe, among other things, the following terms to the extent they are applicable to that series of warrants:

- the procedures and conditions relating to the exercise of the warrants;
- the number of shares of our common or preferred stock, if any, issued with the warrants;
- the date, if any, on and after which the warrants and any related shares of our common or preferred stock will be separately transferable;
- the offering price of the warrants, if any;
- the number of shares of our common or preferred stock which may be purchased upon exercise of the warrants and the price or prices at which the shares may be purchased upon exercise;
- the date on which the right to exercise the warrants will begin and the date on which the right will expire;
- a discussion of the material United States federal income tax considerations applicable to the exercise of the warrants;
- anti-dilution provisions of the warrants, if any;
- call provisions of the warrants, if any; and
- any other material terms of the warrants.

Each warrant may entitle the holder to purchase for cash, or, in limited circumstances, by effecting a cashless exercise for, the number of shares of our common or preferred stock at the exercise price that is described in the applicable prospectus supplement. Warrants will be exercisable during the period of time described in the applicable prospectus supplement. After that period, unexercised warrants will be void. Warrants may be exercised in the manner described in the applicable prospectus supplement.

A holder of a warrant will not have any of the rights of a holder of our common or preferred stock before the stock is purchased upon exercise of the warrant. Therefore, before a warrant is exercised, the holder of the warrant will not be entitled to receive any dividend payments or exercise any voting or other rights associated with shares of our common or preferred stock which may be purchased when the warrant is exercised.

## Transfer Agent and Registrar

The transfer agent and registrar, if any, for any warrants will be set forth in the applicable prospectus supplement.

## DESCRIPTION OF DEBT SECURITIES

This prospectus describes certain general terms and provisions of debt securities that we may offer. The debt securities may be issued pursuant to, in the case of senior debt securities, a senior indenture, and in the case of subordinated debt securities, a subordinated indenture, in each case in the forms filed as exhibits to this registration statement, which we refer to as the “indentures.” The indentures will be entered into between us and a trustee to be named prior to the issuance of any debt securities, which we refer to as the “trustee.” The indentures will not limit the amount of debt securities that can be issued thereunder and will provide that the debt securities may be issued from time to time in one or more series pursuant to the terms of one or more securities resolutions or supplemental indentures creating such series.

We have summarized below the material provisions of the indentures and the debt securities or indicated which material provisions will be described in the related prospectus supplement for any offering of debt securities. These descriptions are only summaries, and you should refer to the relevant indenture for the particular offering of debt securities itself which will describe completely the terms and definitions of the offered debt securities and contain additional information about the debt securities.

### Terms

When we offer to sell a particular series of debt securities, we will describe the specific terms of the securities in a prospectus supplement. The prospectus supplement will set forth the following terms, as applicable, of the debt securities offered thereby:

- the designation, aggregate principal amount, currency or composite currency and denominations;
- the price at which such debt securities will be issued and, if an index formula or other method is used, the method for determining amounts of principal or interest;
- the maturity date and other dates, if any, on which principal will be payable;
- whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
- whether the debt securities rank as senior debt, senior subordinated debt, subordinated debt or any combination thereof, and the terms of any subordination;
- the interest rate (which may be fixed or variable), if any;
- the date or dates from which interest will accrue and on which interest will be payable, and the record dates for the payment of interest;
- the manner of paying principal and interest;
- the place or places where principal and interest will be payable;
- the terms of any mandatory or optional redemption by us or any third party including any sinking fund;
- the terms of any conversion or exchange;
- the terms of any redemption at the option of holders or put by the holders;
- any tax indemnity provisions;

- if the debt securities provide that payments of principal or interest may be made in a currency other than that in which the debt securities are denominated, the manner for determining such payments;
- the portion of principal payable upon acceleration of a Discounted Debt Security (as defined below);
- whether and upon what terms debt securities may be defeased;
- any events of default or covenants in addition to or in lieu of those set forth in the indentures;
- provisions for electronic issuance of debt securities or for the issuance of debt securities in uncertificated form; and
- any additional provisions or other special terms not inconsistent with the provisions of the indentures, including any terms that may be required or advisable under United States or other applicable laws or regulations, or advisable in connection with the marketing of the debt securities.

Debt securities of any series may be issued as registered debt securities or uncertificated debt securities, in such denominations as specified in the terms of the series.

Securities may be issued under the indentures as Discounted Debt Securities to be offered and sold at a substantial discount from the principal amount thereof. Special United States federal income tax and other considerations applicable thereto will be described in the prospectus supplement relating to such Discounted Debt Securities. "Discounted Debt Security" means a security where the amount of principal due upon acceleration is less than the stated principal amount.

We are not obligated to issue all debt securities of one series at the same time and, unless otherwise provided in the prospectus supplement, we may reopen a series, without the consent of the holders of the debt securities of that series, for the issuance of additional debt securities of that series. Additional debt securities of a particular series will have the same terms and conditions as outstanding debt securities of such series, except for the date of original issuance and the offering price, and will be consolidated with, and form a single series with, such outstanding debt securities.

### **Ranking**

The senior debt securities will rank equally with all of our other senior and unsubordinated debt. Our secured debt, if any, will be effectively senior to the senior debt securities to the extent of the value of the assets securing such debt. The subordinated debt securities will be subordinate and junior in right of payment to all of our present and future senior indebtedness to the extent and in the manner described in the prospectus supplement and as set forth in the board resolution, officer's certificate or supplemental indenture relating to such offering.

We have only a stockholder's claim on the assets of our subsidiaries. This stockholder's claim is junior to the claims that creditors of our subsidiaries have against our subsidiaries. Holders of our debt securities will be our creditors and not creditors of any of our subsidiaries. As a result, all the existing and future liabilities of our subsidiaries, including any claims of their creditors, will effectively be senior to the debt securities with respect to the assets of our subsidiaries. In addition, to the extent that we issue any secured debt, the debt securities will be effectively subordinated to such secured debt to the extent of the value of the assets securing such secured debt.

The debt securities will be obligations exclusively of Corbus Pharmaceuticals Holdings, Inc. To the extent that our ability to service our debt, including the debt securities, may be dependent upon the earnings of our subsidiaries, our ability to do so will be dependent on the ability of our subsidiaries to distribute those earnings to us as dividends, loans or other payments.

### **Certain Covenants**

Any covenants that may apply to a particular series of debt securities will be described in the prospectus supplement relating thereto.

### **Successor Obligor**

The indentures will provide that, unless otherwise specified in the securities resolution or supplemental indenture establishing a series of debt securities, we shall not consolidate with or merge into, or transfer all or substantially all of our assets to, any person in any transaction in which we are not the survivor, unless:

- the person is organized under the laws of the United States or a jurisdiction within the United States;
- the person assumes by supplemental indenture all of our obligations under the relevant indenture, the debt securities and any coupons;
- immediately after the transaction no Default (as defined below) exists; and
- we deliver to the trustee an officers' certificate and opinion of counsel stating that the transaction complies with the foregoing requirements and that all conditions precedent provided for in the indenture relating to the transaction have been complied with.

In such event, the successor will be substituted for us, and thereafter all of our obligations under the relevant indenture, the debt securities and any coupons will terminate.

The indentures will provide that these limitations shall not apply if our board of directors makes a good faith determination that the principal purpose of the transaction is to change our state of incorporation.

### **Exchange of Debt Securities**

Registered debt securities may be exchanged for an equal aggregate principal amount of registered debt securities of the same series and date of maturity in such authorized denominations as may be requested upon surrender of the registered debt securities at an agency of the Company maintained for such purpose and upon fulfillment of all other requirements of such agent.

### **Default and Remedies**

Unless the securities resolution or supplemental indenture establishing the series otherwise provides (in which event the prospectus supplement will so state), an "Event of Default" with respect to a series of debt securities will occur if:

- (1) we default in any payment of interest on any debt securities of such series when the same becomes due and payable and the default continues for a period of 30 days;
- (2) we default in the payment of all or any part of the principal and premium, if any, of any debt securities of such series when the same becomes due and payable at maturity or upon redemption, acceleration or otherwise and such default shall continue for five or more days;
- (3) we default in the performance of any of our other agreements applicable to the series and the default continues for 30 days after the notice specified below;



- (4) a court of competent jurisdiction enters an order or decree under any Bankruptcy Law (as defined below) that:
- (A) is for relief against us in an involuntary case,
  - (B) appoints a Custodian (as defined below) for us or for any substantial part of our property, or
  - (C) orders the winding up or liquidation of us, and the order or decree remains unstayed and in effect for 90 days;
- (5) we, pursuant to or within the meaning of any Bankruptcy Law:
- (A) commence a voluntary case,
  - (B) consent to the entry of an order for relief against us in an involuntary case,
  - (C) consent to the appointment of a Custodian for us or for any substantial part of our property, or
  - (D) make a general assignment for the benefit of our creditors; or
- (6) there occurs any other Event of Default provided for in such series.

The term “Bankruptcy Law” means Title 11 of the United States Code or any similar Federal or State law for the relief of debtors. The term “Custodian” means any receiver, trustee, assignee, liquidator or a similar official under any Bankruptcy Law.

“Default” means any event which is, or after notice or passage of time would be, an Event of Default. A Default under subparagraph (3) above is not an Event of Default until the trustee or the holders of at least 25% in principal amount of the series notify us of the Default and we do not cure the Default within the time specified after receipt of the notice.

The trustee may require indemnity satisfactory to it before it enforces the indentures or the debt securities of the series. Subject to certain limitations, holders of a majority in principal amount of the debt securities of the series may direct the trustee in its exercise of any trust or power with respect to such series. Except in the case of Default in payment on a series, the trustee may withhold from securityholders of such series notice of any continuing Default if the trustee determines that withholding notice is in the interest of such securityholders. We are required to furnish the trustee annually a brief certificate as to our compliance with all conditions and covenants under the indentures.

The indentures will not have cross-default provisions. Thus, a default by us on any other debt, including any other series of debt securities, would not constitute an Event of Default.

#### **Amendments and Waivers**

The indentures and the debt securities or any coupons of the series may be amended, and any Default may be waived as follows:

Unless the securities resolution or supplemental indenture otherwise provides (in which event the applicable prospectus supplement will so state), the debt securities and the indentures may be amended with the consent of the holders of a majority in principal amount of the debt securities of all series affected voting as one class. Unless the securities resolution or supplemental indenture otherwise provides (in which event the applicable prospectus supplement will so state), a Default other than a Default in payment on a particular series may be waived with the consent of the holders of a majority in principal amount of the debt securities of the series. However, without the consent of each securityholder affected, no amendment or waiver may:

- change the fixed maturity of or the time for payment of interest on any debt security;

- reduce the principal, premium or interest payable with respect to any debt security;
- change the place of payment of a debt security or the currency in which the principal or interest on a debt security is payable;
- change the provisions for calculating any redemption or repurchase price with respect to any debt security;
- adversely affect any holder's right to receive payment of principal and interest or to institute suit for the enforcement of any such payment;
- reduce the amount of debt securities whose holders must consent to an amendment or waiver;
- make any change that materially adversely affects the right to convert any debt security;
- waive any Default in payment of principal of or interest on a debt security; or
- adversely affect any holder's rights with respect to redemption or repurchase of a debt security.

Without the consent of any securityholder, the indentures or the debt securities may be amended to:

- provide for assumption of our obligations to securityholders in the event of a merger or consolidation requiring such assumption;
- cure any ambiguity, omission, defect or inconsistency;
- conform the terms of the debt securities to the description thereof in the prospectus and prospectus supplement offering such debt securities;
- create a series and establish its terms;
- provide for the acceptance of appointment by a successor trustee or to facilitate the administration of the trusts by more than one trustee;
- provide for uncertificated or unregistered securities;
- make any change that does not adversely affect the rights of any securityholder;
- add to our covenants; or
- make any other change to the indentures so long as no debt securities are outstanding.

#### **Conversion Rights**

Any securities resolution or supplemental indenture establishing a series of debt securities may provide that the debt securities of such series will be convertible at the option of the holders thereof into or for our common stock or other equity or debt instruments. The securities resolution or supplemental indenture may establish, among other things, (1) the number or amount of shares of common stock or other equity or debt instruments for which \$1,000 aggregate principal amount of the debt securities of the series is convertible, as may be adjusted pursuant to the terms of the relevant indenture and the securities resolution; and (2) provisions for adjustments to the conversion rate and limitations upon exercise of the conversion right. The indentures provide that we will not be required to make an adjustment in the conversion rate unless the adjustment would require a cumulative change of at least 1% in the conversion rate. However, we will carry forward any adjustments that are less than 1% of the conversion rate and take them into account in any subsequent adjustment of the conversion rate.

## **Legal Defeasance and Covenant Defeasance**

Debt securities of a series may be defeased in accordance with their terms and, unless the securities resolution or supplemental indenture establishing the terms of the series otherwise provides, as set forth below. We at any time may terminate as to a series all of our obligations (except for certain obligations, including obligations with respect to the defeasance trust and obligations to register the transfer or exchange of a debt security, to replace destroyed, lost or stolen debt securities and coupons and to maintain paying agencies in respect of the debt securities) with respect to the debt securities of the series and any related coupons and the relevant indenture, which we refer to as legal defeasance. We at any time may terminate as to a series our obligations with respect to any restrictive covenants which may be applicable to a particular series, which we refer to as covenant defeasance.

We may exercise our legal defeasance option notwithstanding our prior exercise of our covenant defeasance option. If we exercise our legal defeasance option, a series may not be accelerated because of an Event of Default. If we exercise our covenant defeasance option, a series may not be accelerated by reference to any covenant which may be applicable to a series.

To exercise either defeasance option as to a series, we must (1) irrevocably deposit in trust with the trustee (or another trustee) money or U.S. Government Obligations (as defined below), deliver a certificate from a nationally recognized firm of independent accountants expressing their opinion that the payments of principal and interest when due on the deposited U.S. Government Obligations, without reinvestment, plus any deposited money without investment will provide cash at such times and in such amounts as will be sufficient to pay the principal and interest when due on all debt securities of such series to maturity or redemption, as the case may be; and (2) comply with certain other conditions. In particular, we must obtain an opinion of tax counsel that the defeasance will not result in recognition of any gain or loss to holders for federal income tax purposes.

“U.S. Government Obligations” means direct obligations of the United States or any agency or instrumentality of the United States, the payment of which is unconditionally guaranteed by the United States, which, in either case, have the full faith and credit of the United States pledged for payment and which are not callable at the issuer’s option, or certificates representing an ownership interest in such obligations.

## **Regarding the Trustee**

Unless otherwise indicated in a prospectus supplement, the trustee will also act as depository of funds, transfer agent, paying agent and conversion agent, as applicable, with respect to the debt securities. In certain circumstances, we or the securityholders may remove the trustee as the trustee under a given indenture. The indenture trustee may also provide additional unrelated services to us as a depository of funds, registrar, trustee and similar services.

## **Governing Law**

The indentures and the debt securities will be governed by New York law, except to the extent that the Trust Indenture Act of 1939 is applicable.

## **DESCRIPTION OF SUBSCRIPTION RIGHTS**

We may issue subscription rights to purchase our common stock or debt securities. These subscription rights may be offered independently or together with any other security offered hereby and may or may not be transferable by the stockholder receiving the subscription rights in such offering. In connection with any offering of subscription rights, we may enter into a standby arrangement with one or more underwriters or other purchasers pursuant to which the underwriters or other purchasers may be required to purchase any securities remaining unsubscribed for after such offering.

The prospectus supplement relating to any subscription rights we offer, if any, will, to the extent applicable, include specific terms relating to the offering, including some or all of the following:

- the price, if any, for the subscription rights;
- the exercise price payable for our common stock or debt securities upon the exercise of the subscription rights;
- the number of subscription rights to be issued to each stockholder;
- the number and terms of our common stock or debt securities which may be purchased per each subscription right;
- the extent to which the subscription rights are transferable;
- any other terms of the subscription rights, including the terms, procedures and limitations relating to the exchange and exercise of the subscription rights;
- the date on which the right to exercise the subscription rights shall commence, and the date on which the subscription rights shall expire;
- the extent to which the subscription rights may include an over-subscription privilege with respect to unsubscribed securities or an over-allotment privilege to the extent the securities are fully subscribed; and
- if applicable, the material terms of any standby underwriting or purchase arrangement which may be entered into by us in connection with the offering of subscription rights.

#### DESCRIPTION OF UNITS

We may issue units comprised of one or more of the other securities described in this prospectus in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security (but, to the extent convertible securities are included in the units, the holder of the units will be deemed the holder of the convertible securities and not the holder of the underlying securities). The unit agreement under which a unit is issued, if any, may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date. The applicable prospectus supplement may describe:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units;
- the terms of the unit agreement governing the units;
- United States federal income tax considerations relevant to the units; and
- whether the units will be issued in fully registered global form.

This summary of certain general terms of units and any summary description of units in the applicable prospectus supplement do not purport to be complete and are qualified in their entirety by reference to all provisions of the applicable unit agreement and, if applicable, collateral arrangements and depositary arrangements relating to such units. The forms of the unit agreements and other documents relating to a particular issue of units will be filed with the SEC each time we issue units, and you should read those documents for provisions that may be important to you.

## FORMS OF SECURITIES

Each debt security and, to the extent applicable, warrant, subscription right and unit, will be represented either by a certificate issued in definitive form to a particular investor or by one or more global securities representing the entire issuance of securities. Certificated securities in definitive form and global securities will be issued in registered form. Definitive securities name you or your nominee as the owner of the security, and in order to transfer or exchange these securities or to receive payments other than interest or other interim payments, you or your nominee must physically deliver the securities to the trustee, registrar, paying agent or other agent, as applicable. Global securities name a depository or its nominee as the owner of the debt securities or warrants represented by these global securities. The depository maintains a computerized system that will reflect each investor's beneficial ownership of the securities through an account maintained by the investor with its broker/dealer, bank, trust company or other representative, as we explain more fully below.

### Global Securities

*Registered Global Securities.* We may issue the registered debt securities and, to the extent applicable, warrants, subscription rights and units, in the form of one or more fully registered global securities that will be deposited with a depository or its nominee identified in the applicable prospectus supplement and registered in the name of that depository or nominee. In those cases, one or more registered global securities will be issued in a denomination or aggregate denominations equal to the portion of the aggregate principal or face amount of the securities to be represented by registered global securities. Unless and until it is exchanged in whole for securities in definitive registered form, a registered global security may not be transferred except as a whole by and among the depository for the registered global security, the nominees of the depository or any successors of the depository or those nominees.

If not described below, any specific terms of the depository arrangement with respect to any securities to be represented by a registered global security will be described in the prospectus supplement relating to those securities. We anticipate that the following provisions will apply to all depository arrangements.

Ownership of beneficial interests in a registered global security will be limited to persons, called participants, that have accounts with the depository or persons that may hold interests through participants. Upon the issuance of a registered global security, the depository will credit, on its book-entry registration and transfer system, the participants' accounts with the respective principal or face amounts of the securities beneficially owned by the participants. Any dealers, underwriters or agents participating in the distribution of the securities will designate the accounts to be credited. Ownership of beneficial interests in a registered global security will be shown on, and the transfer of ownership interests will be effected only through, records maintained by the depository, with respect to interests of participants, and on the records of participants, with respect to interests of persons holding through participants. The laws of some states may require that some purchasers of securities take physical delivery of these securities in definitive form. These laws may impair your ability to own, transfer or pledge beneficial interests in registered global securities.

So long as the depository, or its nominee, is the registered owner of a registered global security, that depository or its nominee, as the case may be, will be considered the sole owner or holder of the securities represented by the registered global security for all purposes under the applicable indenture or warrant agreement. Except as described below, owners of beneficial interests in a registered global security will not be entitled to have the securities represented by the registered global security registered in their names, will not receive or be entitled to receive physical delivery of the securities in definitive form and will not be considered the owners or holders of the securities under the applicable indenture or warrant agreement. Accordingly, each person owning a beneficial interest in a registered global security must rely on the procedures of the depository for that registered global security and, if that person is not a participant, on the procedures of the participant through which the person owns its interest, to exercise any rights of a holder under the applicable indenture or warrant agreement. We understand that under existing industry practices, if we request any action of holders or if an owner of a beneficial interest in a registered global security desires to give or take any action that a holder is entitled to give or take under the applicable indenture or warrant agreement, the depository for the registered global security would authorize the participants holding the relevant beneficial interests to give or take that action, and the participants would authorize beneficial owners owning through them to give or take that action or would otherwise act upon the instructions of beneficial owners holding through them.

Principal, premium, if any, interest payments on debt securities and any payments to holders with respect to warrants represented by a registered global security registered in the name of a depository or its nominee will be made to the depository or its nominee, as the case may be, as the registered owner of the registered global security. None of the Company, the trustees, the warrant agents or any other agent of the Company, the trustees or the warrant agents will have any responsibility or liability for any aspect of the records relating to payments made on account of beneficial ownership interests in the registered global security or for maintaining, supervising or reviewing any records relating to those beneficial ownership interests.

We expect that the depository for any of the securities represented by a registered global security, upon receipt of any payment of principal, premium, interest or other distribution of underlying securities or other property to holders on that registered global security, will immediately credit participants' accounts in amounts proportionate to their respective beneficial interests in that registered global security as shown on the records of the depository. We also expect that payments by participants to owners of beneficial interests in a registered global security held through participants will be governed by standing customer instructions and customary practices, as is now the case with the securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of those participants.

If the depository for any of these securities represented by a registered global security is at any time unwilling or unable to continue as depository or ceases to be a clearing agency registered under the Securities Exchange Act of 1934, as amended, or the Exchange Act, and a successor depository registered as a clearing agency under the Exchange Act is not appointed by us within 90 days, we will issue securities in definitive form in exchange for the registered global security that had been held by the depository. Any securities issued in definitive form in exchange for a registered global security will be registered in the name or names that the depository gives to the relevant trustee or warrant agent or other relevant agent of ours or theirs. It is expected that the depository's instructions will be based upon directions received by the depository from participants with respect to ownership of beneficial interests in the registered global security that had been held by the depository.

## PLAN OF DISTRIBUTION

### Initial Offering and Sale of Securities

Unless otherwise set forth in a prospectus supplement accompanying this prospectus, we may sell the securities being offered hereby, from time to time, by one or more of the following methods:

- to or through underwriting syndicates represented by managing underwriters;
- through one or more underwriters without a syndicate for them to offer and sell to the public;
- through dealers or agents; and
- to investors directly in negotiated sales or in competitively bid transactions.

Offerings of securities covered by this prospectus also may be made into an existing trading market for those securities in transactions at other than a fixed price, either:

- on or through the facilities of the Nasdaq Global Market or any other securities exchange or quotation or trading service on which those securities may be listed, quoted, or traded at the time of sale; and/or
- to or through a market maker other than on the securities exchanges or quotation or trading services set forth above.

Those at-the-market offerings, if any, will be conducted by underwriters acting as principal or agent of the Company, who may also be third-party sellers of securities as described above. The prospectus supplement with respect to the offered securities will set forth the terms of the offering of the offered securities, including:

- the name or names of any underwriters, dealers or agents;
- the purchase price of the offered securities and the proceeds to us from such sale;
- any underwriting discounts and commissions or agency fees and other items constituting underwriters' or agents' compensation;
- any initial public offering price and any discounts or concessions allowed or reallocated or paid to dealers;
- any securities exchange on which such offered securities may be listed; and
- any underwriter, agent or dealer involved in the offer and sale of any series of the securities.

The distribution of the securities may be effected from time to time in one or more transactions:

- at fixed prices, which may be changed;
- at market prices prevailing at the time of the sale;
- at varying prices determined at the time of sale; or
- at negotiated prices.

Each prospectus supplement will set forth the manner and terms of an offering of securities including:

- whether that offering is being made to underwriters, through agents or directly to the public;
- the rules and procedures for any auction or bidding process, if used;
- the securities' purchase price or initial public offering price; and
- the proceeds we anticipate from the sale of the securities, if any.

In addition, we may enter into derivative or hedging transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. The applicable prospectus supplement may indicate, in connection with such a transaction, that the third parties may sell securities covered by and pursuant to this prospectus and an applicable prospectus supplement. If so, the third party may use securities pledged by us or borrowed from us or others to settle such sales and may use securities received from us to close out any related short positions. We may also loan or pledge securities covered by this prospectus and an applicable prospectus supplement to third parties, who may sell the loaned securities or, in an event of default in the case of a pledge, sell the pledged securities pursuant to this prospectus and the applicable prospectus supplement.

#### **Sales Through Underwriters**

If underwriters are used in the sale of some or all of the securities covered by this prospectus, the underwriters will acquire the securities for their own account. The underwriters may resell the securities, either directly to the public or to securities dealers, at various times in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. The obligations of the underwriters to purchase the securities will be subject to certain conditions. Unless indicated otherwise in a prospectus supplement, the underwriters will be obligated to purchase all the securities of the series offered if any of the securities are purchased.

Any initial public offering price and any concessions allowed or reallocated to dealers may be changed intermittently.

#### **Sales Through Agents**

Unless otherwise indicated in the applicable prospectus supplement, when securities are sold through an agent, the designated agent will agree, for the period of its appointment as agent, to use specified efforts to sell the securities for our account and will receive commissions from us as will be set forth in the applicable prospectus supplement.

Securities bought in accordance with a redemption or repayment under their terms also may be offered and sold, if so indicated in the applicable prospectus supplement, in connection with a remarketing by one or more firms acting as principals for their own accounts or as agents for us. Any remarketing firm will be identified and the terms of its agreement, if any, with us and its compensation will be described in the prospectus supplement. Remarketing firms may be deemed to be underwriters in connection with the securities remarketed by them.

If so indicated in the applicable prospectus supplement, we may authorize agents, underwriters or dealers to solicit offers by certain specified institutions to purchase securities at a price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a future date specified in the prospectus supplement. These contracts will be subject only to those conditions set forth in the applicable prospectus supplement, and the prospectus supplement will set forth the commissions payable for solicitation of these contracts.

#### **Direct Sales**

We may also sell offered securities directly to institutional investors or others. In this case, no underwriters or agents would be involved. The terms of such sales will be described in the applicable prospectus supplement.

#### **General Information**

Broker-dealers, agents or underwriters may receive compensation in the form of discounts, concessions or commissions from us and/or the purchasers of securities for whom such broker-dealers, agents or underwriters may act as agents or to whom they sell as principal, or both. This compensation to a particular broker-dealer might be in excess of customary commissions.



Underwriters, dealers and agents that participate in any distribution of the offered securities may be deemed “underwriters” within the meaning of the Securities Act of 1933, as amended, or the Securities Act, so any discounts or commissions they receive in connection with the distribution may be deemed to be underwriting compensation. Those underwriters and agents may be entitled, under their agreements with us, to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, or to contribution by us to payments that they may be required to make in respect of those civil liabilities. Certain of those underwriters or agents may be customers of, engage in transactions with, or perform services for, us or our affiliates in the ordinary course of business. We will identify any underwriters or agents, and describe their compensation, in a prospectus supplement. Any institutional investors or others that purchase offered securities directly, and then resell the securities, may be deemed to be underwriters, and any discounts or commissions received by them from us and any profit on the resale of the securities by them may be deemed to be underwriting discounts and commissions under the Securities Act.

We will file a supplement to this prospectus, if required, pursuant to Rule 424(b) under the Securities Act, if we enter into any material arrangement with a broker, dealer, agent or underwriter for the sale of securities through a block trade, special offering, exchange distribution or secondary distribution or a purchase by a broker or dealer. Such prospectus supplement will disclose:

- the name of any participating broker, dealer, agent or underwriter;
- the number and type of securities involved;
- the price at which such securities were sold;
- any securities exchanges on which such securities may be listed;
- the commissions paid or discounts or concessions allowed to any such broker, dealer, agent or underwriter, where applicable; and
- other facts material to the transaction.

In order to facilitate the offering of certain securities under this prospectus or an applicable prospectus supplement, certain persons participating in the offering of those securities may engage in transactions that stabilize, maintain or otherwise affect the price of those securities during and after the offering of those securities. Specifically, if the applicable prospectus supplement permits, the underwriters of those securities may over-allot or otherwise create a short position in those securities for their own account by selling more of those securities than have been sold to them by us and may elect to cover any such short position by purchasing those securities in the open market.

In addition, the underwriters may stabilize or maintain the price of those securities by bidding for or purchasing those securities in the open market and may impose penalty bids, under which selling concessions allowed to syndicate members or other broker-dealers participating in the offering are reclaimed if securities previously distributed in the offering are repurchased in connection with stabilization transactions or otherwise. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. The imposition of a penalty bid may also affect the price of securities to the extent that it discourages resales of the securities. No representation is made as to the magnitude or effect of any such stabilization or other transactions. Such transactions, if commenced, may be discontinued at any time.

In order to comply with the securities laws of certain states, if applicable, the securities must be sold in such jurisdictions only through registered or licensed brokers or dealers. In addition, in certain states the securities may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Rule 15c6-1 under the Exchange Act generally requires that trades in the secondary market settle in two business days, unless the parties to any such trade expressly agree otherwise. Your prospectus supplement may provide that the original issue date for your securities may be more than two scheduled business days after the trade date for your securities. Accordingly, in such a case, if you wish to trade securities on any date prior to the second business day before the original issue date for your securities, you will be required, by virtue of the fact that your securities initially are expected to settle in more than two scheduled business days after the trade date for your securities, to make alternative settlement arrangements to prevent a failed settlement.

This prospectus, any applicable prospectus supplement and any applicable pricing supplement in electronic format may be made available on the Internet sites of, or through other online services maintained by, us and/or one or more of the agents and/or dealers participating in an offering of securities, or by their affiliates. In those cases, prospective investors may be able to view offering terms online and, depending upon the particular agent or dealer, prospective investors may be allowed to place orders online.

Other than this prospectus, any applicable prospectus supplement and any applicable pricing supplement in electronic format, the information on our website or the website of any agent or dealer, and any information contained in any other website maintained by any agent or dealer:

- is not part of this prospectus, any applicable prospectus supplement or any applicable pricing supplement or the registration statement of which they form a part;
- has not been approved or endorsed by us or by any agent or dealer in its capacity as an agent or dealer, except, in each case, with respect to the respective website maintained by such entity; and
- should not be relied upon by investors.

There can be no assurance that we will sell all or any of the securities offered by this prospectus.

This prospectus may also be used in connection with any issuance of common stock or preferred stock upon exercise of a warrant if such issuance is not exempt from the registration requirements of the Securities Act.

In addition, we may issue the securities as a dividend or distribution or in a subscription rights offering to our existing securityholders. In some cases, we or dealers acting with us or on our behalf may also purchase securities and reoffer them to the public by one or more of the methods described above. This prospectus may be used in connection with any offering of our securities through any of these methods or other methods described in the applicable prospectus supplement.

#### **LEGAL MATTERS**

Unless otherwise indicated in the applicable prospectus supplement, the validity of the securities offered hereby will be passed upon for us by Lowenstein Sandler LLP, New York, New York. If the validity of the securities offered hereby in connection with offerings made pursuant to this prospectus are passed upon by counsel for the underwriters, dealers or agents, if any, such counsel will be named in the prospectus supplement relating to such offering.

#### **EXPERTS**

The consolidated balance sheets of Corbus Pharmaceuticals Holdings, Inc. and Subsidiaries as of December 31, 2019 and 2018 and the related consolidated statements of operations, stockholders' equity and cash flows for each of the years then ended, have been audited by EisnerAmper LLP, an independent registered public accounting firm as stated in their reports, which are incorporated herein by reference, which reports (1) express an unqualified opinion on the financial statements, and (2) express an adverse opinion on the effectiveness of internal control over financial reporting. Such consolidated financial statements have been incorporated herein by reference in reliance on the reports of such firm, given upon their authority as experts in auditing and accounting.

**DISCLOSURE OF COMMISSION POSITION  
ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES**

Section 145 of the DGCL provides that we may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal or investigative (other than an action by us or in our right) by reason of the fact that he is or was our director, officer, employee or agent, or is or was serving at our request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him or her in connection with such action, suit or proceeding if he acted in good faith and in a manner he or she reasonably believed to be in or not opposed to our best interests, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. Section 145 further provides that we similarly may indemnify any such person serving in any such capacity who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by us or in our right to procure judgment in our favor, against expenses actually and reasonably incurred in connection with the defense or settlement of such action or suit if he or she acted in good faith and in a manner he reasonably believed to be in or not opposed to our best interests and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to us unless and only to the extent that the Delaware Court of Chancery or such other court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Our certificate of incorporation, as amended, limits the liability of our directors to the fullest extent permitted by Delaware law. In addition, we have entered into indemnification agreements with certain of our directors and officers whereby we have agreed to indemnify those directors and officers to the fullest extent permitted by law, including indemnification against expenses and liabilities incurred in legal proceedings to which the director or officer was, or is threatened to be made, a party by reason of the fact that such director or officer is or was a director, officer, employee or agent of the Company, provided that such director or officer acted in good faith and in a manner that the director or officer reasonably believed to be in, or not opposed to, the best interests of the Company.

We have director and officer liability insurance to cover liabilities our directors and officers may incur in connection with their services to us, including matters arising under the Securities Act. Our certificate of incorporation and bylaws also provide that we will indemnify our directors and officers who, by reason of the fact that he or she is one of our officers or directors of our company, is involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative, related to their board role with the company.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, we will, unless in the opinion of our counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by us is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

**ADDITIONAL INFORMATION**

This prospectus is part of a Registration Statement on Form S-3 that we have filed with the SEC relating to the shares of our securities being offered hereby. This prospectus does not contain all of the information in the Registration Statement and its exhibits. The Registration Statement, its exhibits and the documents incorporated by reference in this prospectus and their exhibits, all contain information that is material to the offering of the securities hereby. Whenever a reference is made in this prospectus to any of our contracts or other documents, the reference may not be complete. You should refer to the exhibits that are a part of the Registration Statement in order to review a copy of the contract or documents. The Registration Statement and the exhibits are available at the SEC's Public Reference Room or through its website.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains an Internet site at <http://www.sec.gov> that contains reports, proxy and information statements, and other information regarding issuers, such as us, that file electronically with the SEC. Additionally, you may access our filings with the SEC through our website at <http://www.corbuspharma.com>. We have included our website address as an inactive textual reference only and our website and the information contained on, or that can be accessed through, our website will not be deemed to be incorporated by reference in, and are not considered part of, this prospectus.

We will provide you without charge, upon your oral or written request, with an electronic or paper copy of any or all reports, proxy statements and other documents we file with the SEC, as well as any or all of the documents incorporated by reference in this prospectus (other than exhibits to such documents unless such exhibits are specifically incorporated by reference into such documents). Requests for such copies should be directed to:

Corbus Pharmaceuticals Holdings, Inc.  
500 River Ridge Drive  
Norwood, MA 02062  
Telephone number: (617) 963-0100

You should rely only on the information in this prospectus and the additional information described above and under the heading "Incorporation of Certain Information by Reference" below. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely upon it. We are not making an offer to sell these securities in any jurisdiction where such offer or sale is not permitted. You should assume that the information in this prospectus was accurate on the date of the front cover of this prospectus only. Our business, financial condition, results of operations and prospects may have changed since that date.

## INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” information that we file with it into this prospectus, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is an important part of this prospectus. The information incorporated by reference is considered to be a part of this prospectus, and information that we file later with the SEC will automatically update and supersede information contained in this prospectus and any accompanying prospectus supplement.

We incorporate by reference the documents listed below that we have previously filed with the SEC:

- Our Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on March 16, 2020;
- our Current Reports on Form 8-K filed with the SEC on February 7, 2020, March 10, 2020 and April 1, 2020 (other than any portions thereof deemed furnished and not filed); and
- the description of our common stock, par value \$0.0001 per share, contained in our Form 8-A filed on April 14, 2015, including any amendment or report filed for the purpose of updating such description.

All reports and other documents that we file with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus but before the termination of the offering of the securities hereunder will also be considered to be incorporated by reference into this prospectus from the date of the filing of these reports and documents, and will supersede the information herein; provided, however, that all reports, exhibits and other information that we “furnish” to the SEC will not be considered incorporated by reference into this prospectus. We undertake to provide without charge to each person (including any beneficial owner) who receives a copy of this prospectus, upon written or oral request, a copy of all of the preceding documents that are incorporated by reference (other than exhibits, unless the exhibits are specifically incorporated by reference into these documents). You may request a copy of these materials in the manner set forth under the heading “Additional Information,” above.

**\$200,000,000**

**Common Stock  
Preferred Stock  
Warrants  
Debt Securities  
Subscription Rights  
Units**



**PROSPECTUS**

, 2020

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The information contained in this prospectus is not complete and may be changed. A registration statement relating to these securities has been filed with the Securities and Exchange Commission. These securities may not be sold until the registration statement is declared effective. This prospectus is not an offer to sell these securities, and is not soliciting an offer to buy these securities, nor shall there be any sale of these securities, in any state or jurisdiction where such offer, solicitation or sale is not permitted or would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction.

Subject to completion, dated April 7, 2020

## PROSPECTUS



Up to \$75,000,000

Common Stock

We have entered into a Open Market Sale Agreement<sup>SM</sup>, or sale agreement, with Jefferies LLC relating to shares of our common stock offered by this prospectus. In accordance with the terms of the sale agreement, we may offer and sell shares of our common stock having an aggregate offering price of up to \$75,000,000 million from time to time through Jefferies LLC, acting as sales agent.

Our common stock is listed on the Nasdaq Global Market under the symbol "CRBP." On April 6, 2020, the last reported sales price of our common stock on the Nasdaq Global Market was \$5.19 per share.

**Investing in our common stock involves risks. Before buying any shares, you should read the discussion of material risks of investing in our common stock in "Risk Factors" beginning on page 5 of this prospectus and in the documents incorporated by reference in this prospectus.**

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.**

Upon delivery of a placement notice, and subject to our instructions in that notice and the terms and conditions of the sale agreement generally, Jefferies LLC may sell our common stock by any method permitted by law deemed to be an "at the market offering" as defined by Rule 415(a)(4) promulgated under the Securities Act of 1933, as amended, or the Securities Act. Jefferies LLC is not required to sell any specific number or dollar amount of securities, but will act as a sales agent using commercially reasonable efforts consistent with its normal trading and sales practices, on mutually agreed terms between Jefferies LLC and us. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

Jefferies LLC will be entitled to compensation at a fixed commission rate equal to 3% of the gross sales price per share sold. In connection with the sale of our common stock on our behalf, Jefferies LLC will be deemed to be an "underwriter" within the meaning of the Securities Act and the compensation of Jefferies LLC will be deemed to be underwriting commissions or discounts. See "Plan of Distribution" beginning on page 12 for additional information regarding the compensation to be paid to Jefferies LLC.

# Jefferies

The date of this prospectus is \_\_\_\_\_, 2020.

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## TABLE OF CONTENTS

|   | <u>Page</u> |
|---|-------------|
| <a href="#">ABOUT THIS PROSPECTUS</a>                             | 1           |
| <a href="#">SUMMARY</a>   | 2           |
| <a href="#">THE OFFERING</a>                                      | 4           |
| <a href="#">RISK FACTORS</a>                                      | 5           |
| <a href="#">SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS</a> | 7           |
| <a href="#">USE OF PROCEEDS</a>                                   | 8           |
| <a href="#">DILUTION</a>  | 9           |
| <a href="#">DESCRIPTION OF CAPITAL STOCK</a>                      | 10          |
| <a href="#">PLAN OF DISTRIBUTION</a>                              | 12          |
| <a href="#">LEGAL MATTERS</a>                                     | 13          |
| <a href="#">EXPERTS</a>   | 13          |
| <a href="#">ADDITIONAL INFORMATION</a>                            | 13          |
| <a href="#">INCORPORATION OF CERTAIN INFORMATION BY REFERENCE</a> | 14          |



## ABOUT THIS PROSPECTUS

This prospectus is part of registration statement on Form S-3 that we have filed with the Securities and Exchange Commission, or the SEC, using a “shelf” registration process. Under the shelf registration process, we may offer shares of our common stock having an aggregate offering price of up to \$75,000,000 from time to time under this prospectus at prices and on terms to be determined by market conditions at the time of the offering.

We provide information to you about this offering of shares of our common stock in this at the market sale agreement prospectus, which describes the specific terms of this offering of common stock. To the extent there is a conflict between the information contained in this at the market sale agreement prospectus, on the one hand, and the information contained in any document incorporated by reference that was filed with the SEC before the date of this prospectus, on the other hand, you should rely on the information in this at the market sale agreement prospectus. If any statement in one of these documents is inconsistent with a statement in another document having a later date — for example, a document incorporated by reference in this prospectus — the statement in the document having the later date modifies or supersedes the earlier statement.

We have not authorized anyone to provide you with information different from or inconsistent with the information contained in or incorporated by reference in this prospectus. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. You should assume that the information appearing in this prospectus and the documents incorporated by reference in this prospectus is accurate only as of the date of those respective documents, regardless of the time of delivery of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus and the documents incorporated by reference in this prospectus in their entirety before making an investment decision. You should also read and consider the information in the documents to which we have referred you in the sections of this prospectus entitled “Additional Information” and “Incorporation of Certain Information by Reference.”

We are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The distribution of this prospectus and the offering of our common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of our common stock and the distribution of this prospectus outside the United States. This prospectus does not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

All references in this prospectus to “Corbus,” the “Company,” “we,” “us,” or “our” mean Corbus Pharmaceuticals Holdings, Inc. and its subsidiaries unless we state otherwise or the context otherwise indicates. This prospectus and the information incorporated herein by reference contain references to trademarks, service marks and trade names owned by us or other companies. Solely for convenience, trademarks, service marks and trade names referred to in this prospectus and the information incorporated herein, including logos, artwork, and other visual displays, may appear without the ® or ™ symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks, service marks and trade names. We do not intend our use or display of other companies’ trade names, service marks or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies. Other trademarks, trade names and service marks appearing in this prospectus are the property of their respective owners.

## SUMMARY

*This summary highlights selected information about us and this common stock offering. This summary is not complete and may not contain all of the information that is important to you. We encourage you to read this prospectus, including the information under the caption "Risk Factors" and the information we incorporate by reference, in its entirety.*

### Overview

We are a Phase 3, clinical-stage pharmaceutical company focused on the development and commercialization of novel therapeutics to treat chronic and serious inflammatory and fibrotic diseases with clear unmet medical needs by targeting the human endocannabinoid system, or ECS. We are developing a pipeline of cannabinoid drug candidates which are rationally designed, synthetic, small molecule drugs which target the ECS to treat inflammatory and fibrotic diseases. Our focus on the ECS is backed by an ever-expanding body of knowledge on the biology of the ECS and its role as being a master regulator of inflammation and fibrosis. Our lead investigational drug candidate, lenabasum, is a novel, synthetic, oral, cannabinoid type 2, or CB2, agonist designed to resolve chronic inflammation, limit fibrosis and support tissue repair. We are currently developing lenabasum to treat four life threatening diseases: systemic sclerosis, or SSc, dermatomyositis, or DM, cystic fibrosis, or CF, and systemic lupus erythematosus, or SLE. In addition, we are developing a pipeline of experimental drug candidates from our library of novel compounds targeting the ECS. Our pipeline also includes CRB-4001, a second generation, peripherally restricted cannabinoid receptor type 1, or CB1, inverse agonist designed to treat organ specific fibrotic liver diseases, such as nonalcoholic steatohepatitis, or NASH.

Lenabasum selectively binds to CB2 in the periphery, which is preferentially expressed on activated immune cells, fibroblasts and other cell types, including muscle and bone cells. Lenabasum stimulates the production of Specialized Pro-Resolving Lipid Mediators, or SPMs, that act to resolve inflammation and halt fibrosis without immunosuppression by activating endogenous pathways. These pathways are activated in healthy individuals during the course of normal immune responses but are dysfunctional in patients with chronic inflammatory and fibrotic diseases. By its binding to CB2, lenabasum drives innate immune responses from the activation phase into the resolution phase. CB2 plays a central role in modulating and resolving inflammation by, in effect, turning heightened inflammation "off" and restoring homeostasis. This has been demonstrated in animal models lacking CB2 as well as humans with genetic polymorphism in the CB2 gene, as these exhibit excessive inflammation and fibrosis in response to activators of the innate immune system.

Lenabasum is currently being evaluated in a Phase 3 SSc study that has completed the enrollment of 365 patients with top-line data expected to be reported in the summer of 2020, a Phase 2b CF study that has completed the enrollment of 426 patients with top-line data expected in the summer of 2020, and a Phase 3 study in DM that is expected to enroll 150 patients. In addition, we are conducting a Phase 2 SLE study funded by a grant through the National Institutes of Health, or NIH, that is expected to enroll 100 patients. Open-label extension studies are ongoing in SSc and DM for patients who completed the Phase 2 studies and Phase 3 studies in these indications. Lenabasum has generated positive clinical data in three consecutive Phase 2 studies in diffuse cutaneous SSc, CF and skin-predominant DM. Lenabasum has demonstrated acceptable safety and tolerability profiles in clinical studies to date.

The U.S. Food and Drug Administration, or FDA, has granted lenabasum Orphan Drug Designation as well as Fast Track Status for SSc and CF, and Orphan Drug Designation for DM. The European Medicines Authority, or EMA, has granted lenabasum Orphan Drug Designation for SSc, CF and DM.

Since our inception, we have devoted substantially all of our efforts to business planning, research and development, recruiting management and technical staff, acquiring operating assets and raising capital. Our research and development activities have included conducting preclinical studies, developing manufacturing methods and the manufacturing of our drug lenabasum for clinical trials and conducting clinical studies in patients. Two of the four clinical programs for lenabasum are being supported by non-dilutive awards and grants. The NIH has funded the majority of the clinical development costs for the DM Phase 2 clinical trial and is funding the SLE Phase 2 clinical trials. In cystic fibrosis, the Phase 2b clinical trial is being supported by a 2018 award from the Cystic Fibrosis Foundation, or CFF, of up to \$25 million, and the Phase 2 clinical trial was partially funded by a \$5 million award from the Cystic Fibrosis Foundation Therapeutics, Inc., a non-profit drug discovery and development affiliate of the CFF.

In September 2018, we acquired an exclusive worldwide license to develop, manufacture and market drug candidates from more than 600 compounds, targeting the endocannabinoid system from Jenrin Discovery LLC, or Jenrin. The pipeline includes CRB-4001, our peripherally-restricted, CB1 inverse agonist targeting liver, lung, heart and kidney fibrotic diseases. The current patent portfolio for CRB-4001 includes multiple issued patents and pending patent applications. CRB-4001 was developed in collaboration with and with financial support from the NIH. CRB-4001 was specifically designed to eliminate blood-brain barrier penetration and brain CB1 receptor occupancy that mediate the neuropsychiatric issues associated with first-generation CB1 inverse agonists such as rimonabant. Potential indications for CRB-4001 include NASH, primary biliary cholangitis, idiopathic pulmonary fibrosis, radiation-induced pulmonary fibrosis, myocardial fibrosis after myocardial infarction, and acute interstitial nephritis, among others.

On January 3, 2019, we entered into a strategic collaboration with Kaken Pharmaceutical Co., Ltd., or Kaken, for the development and commercialization in Japan of our investigational drug lenabasum for the treatment of SSc and DM, two rare and serious autoimmune diseases. Under the terms of the agreement, Kaken received an exclusive license to commercialize and market lenabasum in Japan for SSc and DM. In March 2019, Kaken made an upfront payment to us of \$27 million. We will be eligible to receive up to an additional \$173 million upon achievement of certain regulatory, development and sales milestones as well as double-digit royalties.

#### **Corporate Information**

Our principal executive offices are located at 500 River Ridge Drive, Norwood, Massachusetts 02062, and our telephone number is (617) 963-0100. Our website address is [www.corbuspharma.com](http://www.corbuspharma.com). We have included our website address as an inactive textual reference only and our website and the information contained on, or that can be accessed through, our website will not be deemed to be incorporated by reference in, and are not considered part of, this prospectus. You should not rely on our website or any such information in making your decision whether to purchase our securities.

## THE OFFERING

|   |  |
|---|--|
| <b>Common stock offered by us</b>                         | Shares of our common stock having an aggregate offering price of up to \$75,000,000 million.   |
| <b>Common stock to be outstanding after this offering</b> | Up to 86,941,316 shares of common stock, assuming sales of 14,450,867 shares in this offering at a public offering price of \$5.19 per share, which was the closing price of our common stock on the Nasdaq Global Market, or Nasdaq, on April 6, 2020. The actual number of shares issued will vary depending on the sales price under this offering.   |
| <b>Manner of offering</b>                                 | “At the market” offering that may be made from time to time through our sales agent, Jefferies LLC. See “Plan of Distribution” beginning on page 12 of this prospectus.  |
| <b>Use of Proceeds</b>                                    | We currently intend to use the net proceeds from this offering to fund our continued development of lenabasum, CRB-4001 and our other preclinical compounds as well as for general corporate purposes, which may include funding preclinical studies and clinical trials, manufacturing lenabasum and CRB-4001 for clinical trials and, if approved, commercial launch, and acquisitions or investments in businesses, products or technologies that are complementary, and to increase our working capital and fund capital expenditures. See “Use of Proceeds” on page 8 of this prospectus. |
| <b>Risk Factors</b>                                       | Investing in our common stock involves a high degree of risk. See “Risk Factors” beginning on page 5 of this prospectus and under similar headings in the other documents that are filed after the date hereof and incorporated by reference in this prospectus for a discussion of factors to consider before deciding to purchase shares of our common stock.  |
| <b>Nasdaq Global Market symbol</b>                        | “CRBP”   |

The number of shares of common stock to be outstanding after this offering is based on 72,490,449 shares of common stock outstanding on April 6, 2020 and excludes:

- 16,313,506 shares of common stock issuable upon the exercise of outstanding options at a weighted average exercise price of \$5.09 per share, of which 8,699,682 options were vested as of March 31, 2020;
- 1,000,000 shares of common stock issuable upon the exercise of outstanding warrants at a weighted average exercise price of \$13.20 per share, of which 500,000 warrants were exercisable as of March 31, 2020; and
- 5,621,910 shares of our common stock available for future issuance under our 2014 Equity Compensation Plan as of March 31, 2020.

## RISK FACTORS

*An investment in our shares of common stock involves a high degree of risk. Prior to making a decision about investing in our shares of common stock, you should carefully consider the risks, uncertainties and assumptions discussed under Item 1A, "Risk Factors," in our Annual Report on Form 10-K for the fiscal year ended December 31, 2019, which is incorporated herein by reference and may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future, together with information in this prospectus and any other information incorporated by reference into this prospectus, including the risk factors set forth below. See the sections of this prospectus entitled "Additional Information" and "Incorporation of Certain Information by Reference." Additional risks and uncertainties not presently known to us, or that we currently see as immaterial, may also harm our business. If any of these risks occur, our business, financial condition and operating results could be harmed, the trading price of our common stock could decline and you could lose part or all of your investment.*

*This prospectus also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks faced by us described below and elsewhere in this prospectus. See "Special Note Regarding Forward-Looking Statements" for information relating to these forward-looking statements.*

### **Risks Relating to The Offering**

***You may experience immediate and substantial dilution in the book value per share of the common stock you purchase.***

Because the price per share of our common stock being offered may be higher than the book value per share of our common stock, you may suffer substantial dilution in the net tangible book value of the common stock you purchase in this offering. See the section entitled "Dilution" below for a more detailed discussion of the dilution you will incur if you purchase common stock in this offering. In addition, we have a significant number of options and restricted stock outstanding. If the holders of these securities exercise them or become vested in them, as applicable, you may incur further dilution.

***Sales of a significant number of shares of our common stock in the public markets, or the perception that such sales could occur, could depress the market price of our common stock.***

Sales of a substantial number of shares of our common stock in the public markets, or the perception that such sales could occur, could depress the market price of our common stock and impair our ability to raise capital through the sale of additional equity securities. We have agreed, without the prior written consent of Jefferies LLC and subject to certain exceptions set forth in the sale agreement, not to sell or otherwise dispose of any common stock or securities convertible into or exchangeable for shares of common stock, warrants or any rights to purchase or acquire common stock during the period beginning on the third trading day immediately prior to the delivery of any placement notice delivered by us to Jefferies LLC and ending on the third trading day immediately following the final settlement date with respect to the shares sold pursuant to such notice. We have further agreed, subject to certain exceptions set forth in the sale agreement, not to sell or otherwise dispose of any common stock or securities convertible into or exchangeable for shares of common stock, warrants or any rights to purchase or acquire common stock in any other "at-the-market" or continuous equity transaction prior to the termination of the sale agreement with Jefferies LLC. It is possible that we could issue and sell additional shares of our common stock in the public markets. We cannot predict the effect that future sales of our common stock would have on the market price of our common stock.

***Our share price has been and could remain volatile.***

The market price of our common stock has historically experienced and may continue to experience significant volatility. From January 2017 through April 6, 2020, the market price of our common stock has fluctuated from a high of \$10.50 per share in the first quarter of 2017, to a low of \$3.29 per share in the first quarter of 2020. Our progress in developing and commercializing our products, the impact of government regulations on our products and industry, the potential sale of a large volume of our common stock by stockholders, our quarterly operating results, changes in general conditions in the economy or the financial markets and other developments affecting us or our competitors could cause the market price of our common stock to fluctuate substantially with significant market losses. If our stockholders sell a substantial number of shares of common stock, especially if those sales are made during a short period of time, those sales could adversely affect the market price of our common stock and could impair our ability to raise capital. In addition, in recent years, the stock market has experienced significant price and volume fluctuations. This volatility has affected the market prices of securities issued by many companies for reasons unrelated to their operating performance and may adversely affect the price of our common stock. In addition, we could be subject to a securities class action litigation as a result of volatility in the price of our stock, which could result in substantial costs and diversion of management's attention and resources and could harm our stock price, business, prospects, results of operations and financial condition.

***Our management team may invest or spend the proceeds of this offering in ways with which you may not agree or in ways which may not yield a significant return.***

Our management will have broad discretion over the use of proceeds from this offering. The net proceeds from this offering will be used to fund our continued development of lenabasum, CRB-4001 and our other preclinical compounds as well as for general corporate purposes, which may include funding preclinical studies and clinical trials, manufacturing lenabasum and CRB-4001 for clinical trials and, if approved, commercial launch, and acquisitions or investments in businesses, products or technologies that are complementary, and to increase our working capital and fund capital expenditures. We may also use a portion of the net proceeds to in-license, acquire or invest in complementary businesses or products; however, we have no current commitments or obligations to do so.

Our management will have considerable discretion in the application of the net proceeds from this offering, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. The net proceeds may be used for corporate purposes that do not increase our operating results or enhance the value of our common stock. Pending their use, we may invest the net proceeds from this offering in short-term, investment-grade, interest-bearing securities. These investments may not yield a favorable return to our stockholders. If we do not invest or apply the net proceeds from this offering in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

***Future sales of shares by existing stockholders could cause our stock price to decline.***

Sales of a substantial number of shares of our common stock in the public market could occur at any time. These sales, or the perception in the market that the holders of a large number of shares of common stock intend to sell shares, could reduce the market price of our common stock.

As of December 31, 2019, we had outstanding options to purchase an aggregate of 13,245,366 shares of our common stock at a weighted average exercise price of \$5.19 per share and warrants to purchase an aggregate of 1,000,000 shares of our common stock at a weighted average exercise price of \$13.20 per share. The exercise of such outstanding options and warrants will result in further dilution of your investment. If our existing stockholders sell substantial amounts of our common stock in the public market, or if the public perceives that such sales could occur, this could have an adverse impact on the market price of our common stock, even if there is no relationship between such sales and the performance of our business.

## SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the information incorporated herein by reference contain forward-looking statements within the meaning of the federal securities laws, which statements involve substantial risks and uncertainties. All statements, other than statements of historical facts, included or incorporated by reference in this prospectus regarding our strategy, future events, future operations, future financial position, future revenue, projected costs, prospects, plans, objectives of management and expected market growth are forward-looking statements. The words “anticipate,” “believe,” “estimate,” “expect,” “intend,” “may,” “plan,” “predict,” “project,” “would” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. These forward-looking statements include, among other things, statements about:

- our lack of operating history and history of operating losses;
- our anticipated timing for clinical development, regulatory submissions, commencement and completion of clinical trials and product approvals;
- the results of our clinical trials, including the possibility of unfavorable clinical trial results or that results from our clinical trials will differ from results in past clinical trials;
- actual or anticipated variations in our operating results;
- our cash position;
- market conditions in our industry;
- our ability to complete required clinical trials of our product candidates and obtain approval from the FDA or other regulatory agencies in different jurisdictions;
- our ability to maintain or protect the validity of our patents and other intellectual property;
- our ability to retain key personnel;
- our ability to internally develop new inventions and intellectual property;
- interpretations of current laws and the passages of future laws;
- acceptance of our business model by investors;
- the accuracy of our estimates regarding expenses and capital requirements;
- our ability to adequately support growth;
- our expectations related to the use of proceeds from this offering and prior offerings and other financing activities; and
- our estimates regarding expenses, future revenue, capital requirements and ability to satisfy our capital needs.

Forward-looking statements may also concern our expectations relating to our subsidiaries. We caution you that the foregoing list may not contain all of the forward-looking statements made in this prospectus and the information incorporated herein.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this prospectus and the information incorporated herein, particularly in “Risk Factors,” that could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments that we may make.

You should read this prospectus, the documents that we incorporate by reference into this prospectus, including our Annual Report on Form 10-K for the year ended December 31, 2019, and the documents that we have filed as exhibits to our filings with the SEC completely and with the understanding that our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

## USE OF PROCEEDS

The amount of proceeds from this offering will depend upon the number of shares of our common stock sold and the market price at which they are sold. There can be no assurance that we will be able to sell any shares under or fully utilize the sale agreement with Jefferies LLC as a source of financing. We currently intend to use the net proceeds from this offering to fund our continued development of lenabasum, CRB-4001 and our other preclinical compounds as well as for general corporate purposes, which may include funding preclinical studies and clinical trials, manufacturing lenabasum and CRB-4001 for clinical trials and, if approved, commercial launch, and acquisitions or investments in businesses, products or technologies that are complementary, and to increase our working capital and fund capital expenditures. We have not determined the amount of net proceeds to be used specifically for such purposes and, as a result, management will retain broad discretion over the allocation of net proceeds. The occurrence of unforeseen events or changed business conditions could result in the application of the net proceeds from this offering in a manner other than as described in this prospectus. Pending their uses, we intend to invest the net proceeds of this offering in interest-bearing bank accounts or in short-term, interest-bearing, investment-grade securities.



## DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted to the extent of the difference between the price per share you pay in this offering and our pro forma net tangible book value per share after this offering. We calculate net tangible book value per share by dividing our net tangible book value, which is tangible assets less total liabilities, by the number of outstanding shares of our common stock.

Our net tangible book value as of December 31, 2019 was approximately \$6.2 million, or \$0.10 per share. Net tangible book value per share after this offering gives effect to the sale of \$75 million of common stock in this offering at an assumed offering price of \$5.19 per share, which was the closing price of our common stock as reported on Nasdaq on April 6, 2020, after deducting offering commissions and estimated expenses payable by us. Our net tangible book value as of December 31, 2019, after giving effect to this offering as described above, would have been approximately \$78.8 million, or \$1.00 per share of common stock. This represents an immediate increase in net tangible book value of \$0.90 per share to existing stockholders and an immediate dilution of \$4.19 per share to new investors purchasing our common stock in this offering. The following table illustrates the per share dilution:

|   |    |             |             |
|---|----|-------------|-------------|
| Assumed offering price per share  |    | \$          | 5.19        |
| Net tangible book value per share as of December 31, 2019   | \$ | 0.10        |             |
| Increase in net tangible book value per share attributable to new investors                                 | \$ | <u>0.90</u> |             |
| As adjusted net tangible book value per share as of December 31, 2019, after giving effect to this offering |    | \$          | <u>1.00</u> |
| Dilution per share to new investors in this offering  |    | \$          | <u>4.19</u> |

The above discussion and table are based on 64,672,893 shares of our common stock outstanding as of December 31, 2019 and excludes, as of that date:

- 13,245,366 shares of common stock issuable upon the exercise of outstanding options at a weighted average exercise price of \$5.19 per share, of which 7,836,094 options were vested as of December 31, 2019;
- 1,000,000 shares of common stock issuable upon the exercise of outstanding warrants at a weighted average exercise price of \$13.20 per share, of which 500,000 warrants were exercisable as of December 31, 2019; and
- 4,313,836 shares of our common stock available for future issuance under our 2014 Equity Compensation Plan as of December 31, 2019. In accordance with the terms of our 2014 Equity Compensation Plan, effective as of January 1, 2020, the number of shares of common stock available for issuance under the 2014 Equity Compensation Plan increased by 4,527,103 shares, which was seven percent (7%) of the outstanding shares of common stock on December 31, 2019. As of January 1, 2020, 8,540,939 shares of our common stock were available for future issuance under our 2014 Equity Compensation Plan.

To the extent that options or warrants are exercised, new options are issued under our 2014 Equity Compensation Plan, or we issue additional shares of common stock in the future, there may be further dilution to investors participating in this offering. In addition, we may choose to raise additional capital because of market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans. If we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

## DESCRIPTION OF CAPITAL STOCK

### General

Our authorized capital stock consists of:

- 150,000,000 shares of common stock, par value \$0.0001 per share; and
- 10,000,000 shares of preferred stock, par value \$0.0001 per share, of which, as of the date of this prospectus, none of which shares have been designated.

As of close of business on April 6, 2020, 72,490,449 shares of common stock were issued and outstanding and no shares of preferred stock were issued and outstanding.

The additional shares of our authorized capital stock available for issuance may be issued at times and under circumstances so as to have a dilutive effect on earnings per share and on the equity ownership of the holders of our common stock. The ability of our board of directors to issue additional shares of stock could enhance the board's ability to negotiate on behalf of the stockholders in a takeover situation but could also be used by the board to make a change of control more difficult, thereby denying stockholders the potential to sell their shares at a premium and entrenching current management. The following description is a summary of the material provisions of our capital stock. You should refer to our certificate of incorporation, as amended and bylaws, both of which are on file with the SEC as exhibits to previous SEC filings, for additional information. The summary below is qualified by provisions of applicable law.

### Common Stock

*Voting.* The holders of the common stock are entitled to one vote for each share held of record on all matters on which the holders are entitled to vote (or consent pursuant to written consent). Directors are elected by a plurality of the votes present in person or represented by proxy and entitled to vote.

*Dividends.* The holders of the common stock are entitled to receive, ratably, dividends only if, when and as declared by our board of directors out of funds legally available therefor and after provision is made for each class of capital stock having preference over the common stock.

*Liquidation Rights.* In the event of our liquidation, dissolution or winding-up, the holders of common stock are entitled to share, ratably, in all assets remaining available for distribution after payment of all liabilities and after provision is made for each class of capital stock having preference over the common stock.

*Conversion Right.* The holders of the common stock have no conversion rights.

*Preemptive and Similar Rights.* The holders of the common stock have no preemptive or similar rights.

*Redemption/Put Rights.* There are no redemption or sinking fund provisions applicable to the common stock. All of the outstanding shares of our common stock are fully-paid and nonassessable.

### Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Continental Stock Transfer & Trust Company, LLC.

### Preferred Stock

We are authorized to issue up to 10,000,000 shares of preferred stock, all of which are undesignated. Our board of directors has the authority, within the limitations and restrictions prescribed by law and without stockholder approval, to provide by resolution for the issuance of shares of preferred stock, and to fix the rights, preferences, privileges and restrictions thereof, including dividend rights, conversion rights, voting rights, terms of redemption, liquidation preference and the number of shares constituting any series of the designation of such series, by delivering an appropriate certificate of amendment to our amended and restated certificate of incorporation to the Delaware Secretary of State pursuant to the Delaware General Corporation Law, or the DGCL. The issuance of preferred stock could have the effect of decreasing the market price of the common stock, impeding or delaying a possible takeover and adversely affecting the voting and other rights of the holders of our common stock.

### **Anti-takeover Effects of Delaware Law and our Certificate of Incorporation, as amended**

Our certificate of incorporation, as amended, and bylaws contain provisions that could have the effect of discouraging potential acquisition proposals or tender offers or delaying or preventing a change of control. These provisions are as follows:

- they provide that special meetings of stockholders may be called only by our board of directors acting pursuant to a resolution approved by the affirmative vote of a majority of the board of directors;
- they do not include a provision for cumulative voting in the election of directors. Under cumulative voting, a minority stockholder holding a sufficient number of shares may be able to ensure the election of one or more directors. The absence of cumulative voting may have the effect of limiting the ability of minority stockholders to effect changes to our board of directors; and
- they allow us to issue, without stockholder approval, up to 10,000,000 shares of preferred stock, with such designations, rights, and preferences as may be determined from time to time by our board of directors that could adversely affect the rights and powers of the holders of the common stock, including dividend, liquidation, conversion, voting, or other rights that could adversely affect the voting power or other rights of the holders of our common stock. The issuance of preferred stock could have the effect of restricting dividends on our common stock, diluting the voting power of our common stock, impairing the liquidation rights of our common stock, or delaying or preventing a change in control of our company, all without further action by our stockholders.

We are subject to the provisions of Section 203 of the General Corporation Law of the State of Delaware, an anti-takeover law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in the following prescribed manner:

- prior to the time of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding (1) shares owned by persons who are directors and also officers and (2) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; and
- at or subsequent to the time of the transaction, the business combination is approved by the board and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock which is not owned by the interested stockholder.

Generally, for purposes of Section 203, a “business combination” includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. An “interested stockholder” is a person who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, owned 15% or more of a corporation’s outstanding voting securities.

#### ***Stockholder Action by Written Consent***

Our certificate of incorporation, as amended, specifically denies the ability of stockholders to take action by written consent of the stockholders in lieu of a meeting.

#### **Potential Effects of Authorized but Unissued Stock**

We have shares of common stock and preferred stock available for future issuance without stockholder approval. We may utilize these additional shares for a variety of corporate purposes, including future public offerings to raise additional capital, to facilitate corporate acquisitions or payment as a dividend on the capital stock.

The existence of unissued and unreserved common stock and preferred stock may enable our board of directors to issue shares to persons friendly to current management or to issue preferred stock with terms that could render more difficult or discourage a third-party attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise, thereby protecting the continuity of our management. In addition, the board of directors has the discretion to determine designations, rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences of each series of preferred stock, all to the fullest extent permissible under the DGCL and subject to any limitations set forth in our certificate of incorporation, as amended. The purpose of authorizing the board of directors to issue preferred stock and to determine the rights and preferences applicable to such preferred stock is to eliminate delays associated with a stockholder vote on specific issuances. The issuance of preferred stock, while providing desirable flexibility in connection with possible financings, acquisitions and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or could discourage a third-party from acquiring, a majority of our outstanding voting stock.

## PLAN OF DISTRIBUTION

We have entered into a sale agreement with Jefferies, under which we may offer and sell up to \$75,000,000 of our shares of common stock from time to time through Jefferies acting as agent. Sales of our shares of common stock, if any, under this prospectus supplement and the accompanying prospectus will be made by any method that is deemed to be an “at the market offering” as defined in Rule 415(a)(4) under the Securities Act.

Each time we wish to issue and sell our shares of common stock under the sale agreement, we will notify Jefferies of the number of shares to be issued, the dates on which such sales are anticipated to be made, any limitation on the number of shares to be sold in any one day and any minimum price below which sales may not be made. Once we have so instructed Jefferies, unless Jefferies declines to accept the terms of such notice, Jefferies has agreed to use its commercially reasonable efforts consistent with its normal trading and sales practices to sell such shares up to the amount specified on such terms. The obligations of Jefferies under the sale agreement to sell our shares of common stock are subject to a number of conditions that we must meet.

The settlement of sales of shares between us and Jefferies is generally anticipated to occur on the second trading day following the date on which the sale was made. Sales of our shares of common stock as contemplated in this prospectus supplement will be settled through the facilities of The Depository Trust Company or by such other means as we and Jefferies may agree upon. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

We will pay Jefferies a commission equal to 3% of the aggregate gross proceeds we receive from each sale of our shares of common stock. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. In addition, we have agreed to reimburse Jefferies for the fees and disbursements of its counsel, payable upon execution of the sale agreement, in an amount not to exceed \$50,000, in addition to certain ongoing disbursements of its legal counsel. In accordance with Rule 5110 of the Financial Industry Regulatory Authority, Inc., these reimbursed fees and expenses are deemed sales compensation in connection with this offering. We estimate that the total expenses for the offering, excluding any commissions or expense reimbursement payable to Jefferies under the terms of the sale agreement, will be approximately \$100,000. The remaining sale proceeds, after deducting any other transaction fees, will equal our net proceeds from the sale of such shares.

Jefferies will provide written confirmation to us before the open on The Nasdaq Global Market on the day following each day on which our shares of common stock are sold under the sale agreement. Each confirmation will include the number of shares sold on that day, the aggregate gross proceeds of such sales and the proceeds to us.

In connection with the sale of our shares of common stock on our behalf, Jefferies will be deemed to be an “underwriter” within the meaning of the Securities Act, and the compensation of Jefferies will be deemed to be underwriting commissions or discounts. We have agreed to indemnify Jefferies against certain civil liabilities, including liabilities under the Securities Act. We have also agreed to contribute to payments Jefferies may be required to make in respect of such liabilities.

The offering of our shares of common stock pursuant to the sale agreement will terminate upon the earlier of (i) the sale of all shares of common stock subject to the sale agreement and (ii) the termination of the sale agreement as permitted therein. We and Jefferies may each terminate the sale agreement at any time upon ten days’ prior notice.

This summary of the material provisions of the sale agreement does not purport to be a complete statement of its terms and conditions. A copy of the sale agreement is filed as an exhibit to the registration statement of which this prospectus supplement forms a part.

Jefferies and its affiliates may in the future provide various investment banking, commercial banking, financial advisory and other financial services for us and our affiliates, for which services they may in the future receive customary fees. In the course of its business, Jefferies may actively trade our securities for its own account or for the accounts of customers, and, accordingly, Jefferies may at any time hold long or short positions in such securities.

A prospectus supplement and the accompanying prospectus in electronic format may be made available on a website maintained by Jefferies, and Jefferies may distribute the prospectus supplement and the accompanying prospectus electronically.

## LEGAL MATTERS

The validity of the common stock being offered will be passed upon for us by Lowenstein Sandler LLP, New York, New York. Covington & Burling LLP, New York, New York is counsel for Jefferies LLC in connection with this offering.

## EXPERTS

The consolidated balance sheets of Corbus Pharmaceuticals Holdings, Inc. and Subsidiaries as of December 31, 2019 and 2018 and the related consolidated statements of operations, stockholders' equity and cash flows for each of the years then ended, have been audited by EisnerAmper LLP, an independent registered public accounting firm, as stated in their reports, which are incorporated herein by reference, which reports (1) express an unqualified opinion on the financial statements, and (2) express an adverse opinion on the effectiveness of internal control over financial reporting. Such consolidated financial statements have been incorporated herein by reference in reliance on the reports of such firm, given upon their authority as experts in auditing and accounting.

## ADDITIONAL INFORMATION

This prospectus is part of a Registration Statement on Form S-3 that we have filed with the SEC relating to the securities being offered hereby. This prospectus does not contain all of the information in the Registration Statement and its exhibits. The Registration Statement, its exhibits and the documents incorporated by reference in this prospectus and their exhibits, all contain information that is material to the offering of the Securities hereby. Whenever a reference is made in this prospectus to any of our contracts or other documents, the reference may not be complete. You should refer to the exhibits that are a part of the Registration Statement in order to review a copy of the contract or documents. The Registration Statement and the exhibits are available at the SEC's Public Reference Room or through its Website.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains an Internet site at <http://www.sec.gov> that contains reports, proxy and information statements, and other information regarding issuers, such as us, that file electronically with the SEC. Additionally, you may access our filings with the SEC through our website at <http://www.corbuspharma.com>. We have included our website address as an inactive textual reference only and our website and the information contained on, or that can be accessed through, our website will not be deemed to be incorporated by reference in, and are not considered part of, this prospectus.

We will provide you without charge, upon your oral or written request, with an electronic or paper copy of any or all reports, proxy statements and other documents we file with the SEC, as well as any or all of the documents incorporated by reference in this prospectus (other than exhibits to such documents unless such exhibits are specifically incorporated by reference into such documents). Requests for such copies should be directed to:

Corbus Pharmaceuticals Holdings, Inc.  
500 River Ridge Drive  
Norwood, MA 02062  
Telephone number: (617) 963-0100

You should rely only on the information in this prospectus and the additional information described above and under the heading "Incorporation of Certain Information by Reference" below. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely upon it. We are not making an offer to sell these securities in any jurisdiction where such offer or sale is not permitted. You should assume that the information in this prospectus was accurate on the date of the front cover of this prospectus only. Our business, financial condition, results of operations and prospects may have changed since that date.

## INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” information that we file with it into this prospectus, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is an important part of this prospectus. The information incorporated by reference is considered to be a part of this prospectus, and information that we file later with the SEC will automatically update and supersede information contained in this prospectus and any accompanying prospectus supplement.

We incorporate by reference the documents listed below that we have previously filed with the SEC:

- Our Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on March 16, 2020;
- our Current Reports on Form 8-K filed with the SEC on February 7, 2020, March 10, 2020 and April 1, 2020 (other than any portions thereof deemed furnished and not filed); and
- the description of our common stock, par value \$0.0001 per share, contained in our Form 8-A filed on April 14, 2015, including any amendment or report filed for the purpose of updating such description.

All reports and other documents that we file with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, between the date of the initial registration statement and the effectiveness of the registration statement, and following the effectiveness of the registration statement until the termination of the offering of the securities hereunder, will also be considered to be incorporated by reference into this prospectus from the date of the filing of these reports and documents, and will supersede the information herein; provided, however, that all reports, exhibits and other information that we “furnish” to the SEC will not be considered incorporated by reference into this prospectus. We undertake to provide without charge to each person (including any beneficial owner) who receives a copy of this prospectus, upon written or oral request, a copy of all of the preceding documents that are incorporated by reference (other than exhibits, unless the exhibits are specifically incorporated by reference into these documents). You may request a copy of these materials in the manner set forth under the heading “Additional Information,” above.

Any statements contained in a document incorporated by reference in this prospectus shall be deemed to be modified, superseded or replaced for purposes of this prospectus to the extent that a statement contained in this prospectus (or in any other subsequently filed document which also is incorporated by reference in this prospectus) modifies, supersedes or replaces such statement. Any statement so modified, superseded or replaced shall not be deemed, except as so modified, superseded or replaced, to constitute a part of this prospectus. Statements contained in this prospectus and any document incorporated by reference as to the contents of any contract, agreement or other document referred to are not necessarily complete, and in each instance reference is made to the copy of the contract, agreement or other document filed as an exhibit to the registration statement or any incorporated document, each statement being so qualified by this reference.



**Up to \$75,000,000  
Common Stock**

**PROSPECTUS**

**Jefferies**

**, 2020**

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**PART II**  
**INFORMATION NOT REQUIRED IN PROSPECTUS**

**Item 14. Other Expenses of Issuance and Distribution**

The following table sets forth the costs and expenses payable by Corbus in connection with the sale of securities being registered. All amounts are estimates except the SEC registration fee (which has previously been paid).

|                              |           |                |
|------------------------------|-----------|----------------|
| SEC Registration Fee         | \$        | 25,960         |
| Legal Fees and Expenses      |           | 10,000*        |
| Accounting Fees and Expenses |           | 5,000*         |
| Printing and Engraving       |           | 2,000*         |
| Miscellaneous                |           | 380*           |
| <b>Total:</b>                | <b>\$</b> | <b>43,340*</b> |

\* Estimated

**Item 15. Indemnification of Directors and Officers**

The Delaware General Corporation Law authorizes corporations to limit or eliminate, subject to certain conditions, the personal liability of directors to corporations and their stockholders for monetary damages for breach of their fiduciary duties. Our certificate of incorporation, as amended, limits the liability of our directors to the fullest extent permitted by Delaware law. In addition, we have entered into indemnification agreements with certain of our directors and officers whereby we have agreed to indemnify those directors and officers to the fullest extent permitted by law, including indemnification against expenses and liabilities incurred in legal proceedings to which the director or officer was, or is threatened to be made, a party by reason of the fact that such director or officer is or was a director, officer, employee or agent of the Company, provided that such director or officer acted in good faith and in a manner that the director or officer reasonably believed to be in, or not opposed to, the best interests of the Company.

We have director and officer liability insurance to cover liabilities our directors and officers may incur in connection with their services to us, including matters arising under the Securities Act. Our certificate of incorporation, as amended, and bylaws also provide that we will indemnify our directors and officers who, by reason of the fact that he or she is one of our officers or directors of our company, is involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative related to their board role with the company.

**Item 16. Exhibits**

| Exhibit<br>No. | Description  |
|----------------|--|
| 1.1            | Form of Underwriting Agreement. **   |
| 1.2            | <a href="#">Open Market Sale Agreement<sup>SM</sup></a> , dated April 7, 2020, by and between the Registrant and Jefferies LLC.*   |
| 3.1            | <a href="#">Amended and Restated Certificate of Incorporation (incorporated herein by reference to Exhibit 3.1 to our Current Report on Form 8-K filed with the SEC on May 26, 2017).</a>                  |
| 3.2            | <a href="#">Amended and Restated Bylaws (incorporated herein by reference to Exhibit 3.2 to our Current Report on Form 8-K filed with the SEC on May 26, 2017).</a>  |
| 4.1            | <a href="#">Specimen Common Stock Certificate, \$0.0001 par value (incorporated herein by reference to Exhibit 4.4 to our Registration Statement on Form S-8 filed with the SEC on November 18, 2014).</a> |
| 4.2            | Specimen Preferred Stock Certificate. **   |



- 4.3 Form of Warrant Agreement.\*\*
- 4.4 Form of Warrant Certificate.\*\*
- 4.5 [Form of Senior Debt Indenture.](#)\*
- 4.6 [Form of Subordinated Debt Indenture.](#)\*
- 4.7 [Form of Senior Note \(included in Exhibit 4.5\).](#)\*
- 4.8 [Form of Subordinated Note \(included in Exhibit 4.6\).](#)\*
- 4.9 Form of Unit Agreement.\*\*
- 4.10 Form of Subscription Agreement.\*\*
- 5.1 [Legal opinion of Lowenstein Sandler LLP.](#)\*
- 23.1 [Consent of EisnerAmper LLP.](#)\*
- 23.2 [Consent of Lowenstein Sandler LLP \(included in Exhibit 5.1\).](#)\*
- 24.1 [Power of Attorney \(included on the signature page\).](#)\*
- 25.1 Statement of Eligibility on Form T-1 of the Trustee for the Senior Debt Indenture.\*\*\*
- 25.2 Statement of Eligibility on Form T-1 of the Trustee for the Subordinated Debt Indenture.\*\*\*

\* Filed herewith.

\*\* To be filed, if applicable, by amendment or by a report filed under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, and incorporated herein by reference.

\*\*\* To be filed pursuant to Section 305(b)(2) of the Trust Indenture Act of 1939, as amended.

#### **Item 17. Undertakings**

The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

(a) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933,

(b) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the Registration Statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement,

(c) To include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the Registration Statement.

Provided, however, that paragraphs (1)(a), (1)(b) and (1)(c) above do not apply if the registration statement is on Form S-3 and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(a) If the Registrant is relying on Rule 430B:

(i) Each prospectus filed by the Registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(b) If the Registrant is subject to Rule 430C, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be a part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(5) That, for the purpose of determining liability of the Registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the Registrant undertakes that in a primary offering of securities of the Registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the Registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the Registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the Registrant or used or referred to by the Registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about Registrant or its securities provided by or on behalf of the Registrant; and

(iv) Any other communication that is an offer in the offering made by the Registrant to the purchaser.

(6) The Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(7) The undersigned hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the Commission under Section 305(b)(2) of the Act.

(8) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the forgoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Norwood, Commonwealth of Massachusetts, on this 7th day of April, 2020.

### CORBUS PHARMACEUTICALS HOLDINGS, INC.

By: /s/ Yuval Cohen

Yuval Cohen, Ph.D.

Chief Executive Officer (Principal Executive Officer)

**KNOW ALL MEN BY THESE PRESENTS**, that each person whose signature appears below constitutes and appoints Yuval Cohen and Sean Moran, and each of them, each with full power to act without the other, his true and lawful attorneys-in-fact and agents, each with full power of substitution and resubstitution, for such person and in his name, place and stead, in any and all capacities, to sign any amendments to this Registration Statement, and to sign any registration statement for the same offering covered by this Registration Statement, including post-effective amendments or registration statements filed pursuant to Rule 462(b) under the Securities Act of 1933, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming that each of said such attorneys-in-fact and agents or his substitute or substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

| <u>Signature</u>                                | <u>Title</u>  | <u>Date</u>   |
|---|---|---------------|
| <u>/s/ Yuval Cohen</u><br>Yuval Cohen, Ph. D.   | Chief Executive Officer and Director<br>(Principal Executive Officer)   | April 7, 2020 |
| <u>/s/ Sean Moran</u><br>Sean Moran             | Chief Financial Officer<br>(Principal Financial and Accounting Officer) | April 7, 2020 |
| <u>/s/ Alan Holmer</u><br>Alan Holmer           | Director  | April 7, 2020 |
| <u>/s/ Avery W. Catlin</u><br>Avery W. Catlin   | Director  | April 7, 2020 |
| <u>/s/ John Jenkins</u><br>John Jenkins         | Director  | April 7, 2020 |
| <u>/s/ David Hochman</u><br>David Hochman       | Director  | April 7, 2020 |
| <u>/s/ Rachelle Jacques</u><br>Rachelle Jacques | Director  | April 7, 2020 |
| <u>/s/ Peter Salzmänn</u><br>Peter Salzmänn     | Director  | April 7, 2020 |

**OPEN MARKET SALE AGREEMENT**<sup>SM</sup>

April 7, 2020

JEFFERIES LLC  
520 Madison Avenue  
New York, New York 10022

Ladies and Gentlemen:

Corbus Pharmaceuticals Holdings, Inc., a Delaware corporation (the “**Company**”), proposes, subject to the terms and conditions stated herein, to issue and sell from time to time through Jefferies LLC, as sales agent and/or principal (the “**Agent**”), shares of the Company’s common stock, par value \$0.0001 per share (the “**Common Shares**”), having an aggregate offering price of up to \$75,000,000 on the terms set forth in this agreement (this “**Agreement**”).

**Section 1. DEFINITIONS**

(a) Certain Definitions. For purposes of this Agreement, capitalized terms used herein and not otherwise defined shall have the following respective meanings:

“**Affiliate**” of a Person means another Person that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such first- mentioned Person. The term “control” (including the terms “controlling,” “controlled by” and “under common control with”) means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a Person, whether through the ownership of voting securities, by contract or otherwise.

“**Agency Period**” means the period commencing on the date of this Agreement and expiring on the earliest to occur of (x) the date on which the Agent shall have placed the Maximum Program Amount pursuant to this Agreement and (y) the date this Agreement is terminated pursuant to Section 7.

“**Commission**” means the U.S. Securities and Exchange Commission.

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

“**Floor Price**” means the minimum price set by the Company in the Issuance Notice below which the Agent shall not sell Shares during the applicable period set forth in the Issuance Notice, which may be adjusted by the Company at any time during the period set forth in the Issuance Notice by delivering written notice of such change to the Agent and which in no event shall be less than \$1.00 without the prior written consent of the Agent, which may be withheld in the Agent’s sole discretion.

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<sup>SM</sup> “Open Market Sale Agreement” is a service mark of Jefferies LLC

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“**Issuance Amount**” means the aggregate Sales Price of the Shares to be sold by the Agent pursuant to any Issuance Notice.

“**Issuance Notice**” means a written notice delivered to the Agent by the Company in accordance with this Agreement in the form attached hereto as Exhibit A that is executed by its Chief Executive Officer, President or Chief Financial Officer.

“**Issuance Notice Date**” means any Trading Day during the Agency Period that an Issuance Notice is delivered pursuant to Section 3(b)(i).

“**Issuance Price**” means the Sales Price less the Selling Commission.

“**Maximum Program Amount**” means Common Shares with an aggregate Sales Price of the lesser of (a) the number or dollar amount of Common Shares registered under the effective Registration Statement (defined below) pursuant to which the offering is being made, (b) the number of authorized but unissued Common Shares (less Common Shares issuable upon exercise, conversion or exchange of any outstanding securities of the Company or otherwise reserved from the Company’s authorized capital stock), (c) the number or dollar amount of Common Shares permitted to be sold under Form S-3 (including General Instruction I.B.6 thereof, if applicable), or (d) the number or dollar amount of Common Shares for which the Company has filed a Prospectus (defined below).

“**Person**” means an individual or a corporation, partnership, limited liability company, trust, incorporated or unincorporated association, joint venture, joint stock company, governmental authority or other entity of any kind.

“**Principal Market**” means the Nasdaq Global Market or such other national securities exchange on which the Common Shares, including any Shares, are then listed.

“**Sales Price**” means the actual sale execution price of each Share placed by the Agent pursuant to this Agreement.

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

“**Selling Commission**” means three percent (3%) of the gross proceeds of Shares sold pursuant to this Agreement, or as otherwise agreed between the Company and the Agent with respect to any Shares sold pursuant to this Agreement.

“**Settlement Date**” means the second business day following each Trading Day during the period set forth in the Issuance Notice on which Shares are sold pursuant to this Agreement, when the Company shall deliver to the Agent the amount of Shares sold on such Trading Day and the Agent shall deliver to the Company the Issuance Price received on such sales.

“Shares” shall mean the Company’s Common Shares issued or issuable pursuant to this Agreement.

“Trading Day” means any day on which the Principal Market is open for trading.

## Section 2. REPRESENTATIONS AND WARRANTIES OF THE COMPANY

The Company represents and warrants to, and agrees with, the Agent that as of (1) the date of this Agreement, (2) each Issuance Notice Date, (3) each Settlement Date, (4) each Triggering Event Date and (5) as of each Time of Sale (each of the times referenced above is referred to herein as a “Representation Date”), except as may be disclosed in the Prospectus (including any documents incorporated by reference therein and any supplements thereto) on or before a Representation Date:

(a) Registration Statement. The Company has prepared and will file with the Commission a shelf registration statement on Form S-3 that contains a base prospectus and a preliminary prospectus supplement, in each case, to be used in connection with the public offering and sale of the Shares. The Company will cause such registration statement to become effective as soon as possible under the Securities Act and will file in final form a prospectus supplement relating to the public offering and sale of the Shares in a form reasonably satisfactory to the Agent. The offer and sale of the Shares through the Agent will be effected pursuant to such registration statement only after such registration statement has been declared effective by the Commission. The Company may file one or more additional registration statements from time to time that will contain a base prospectus and related prospectus or prospectus supplement, if applicable, with respect to the Shares. Except where the context otherwise requires, such registration statement(s), including the financial statements, exhibits and schedules thereto, in the form in which it became or becomes effective under the Securities Act, including all documents incorporated or deemed to be incorporated therein by reference and any information deemed to be a part thereof at the time of effectiveness pursuant to Rule 430B under the Securities Act, is herein referred to as the “**Registration Statement**,” and the prospectus constituting a part of such registration statement(s), together with any prospectus supplement filed with the Commission pursuant to Rule 424(b) under the Securities Act relating to a particular issuance of the Shares, including all documents incorporated or deemed to be incorporated therein by reference pursuant to Item 12 of Form S-3 under the Securities Act, in each case, as from time to time amended or supplemented, is referred to herein as the “**Prospectus**,” except that if any revised prospectus is provided to the Agent by the Company for use in connection with the offering of the Shares that is not required to be filed by the Company pursuant to Rule 424(b) under the Securities Act, the term “**Prospectus**” shall refer to such revised prospectus from and after the time it is first provided to the Agent for such use. The Registration Statement at the time it originally became effective is herein called the “**Original Registration Statement**.” As used in this Agreement, the terms “amendment” or “supplement” when applied to the Registration Statement or the Prospectus shall be deemed to include the filing by the Company with the Commission of any document under the Exchange Act after the date hereof that is or is deemed to be incorporated therein by reference.

All references in this Agreement to financial statements and schedules and other information which is “contained,” “included” or “stated” in, or “part of” the Registration Statement or the Prospectus (and all other references of like import) shall be deemed to mean and include all such financial statements and schedules and other information which is or is deemed to be incorporated by reference in or otherwise deemed under the Securities Act to be a part of or included in the Registration Statement or the Prospectus, as the case may be, as of any specified date; and all references in this Agreement to amendments or supplements to the Registration Statement or the Prospectus shall be deemed to mean and include, without limitation, the filing of any document under the Exchange Act which is or is deemed to be incorporated by reference in or otherwise deemed under the Securities Act to be a part of or included in the Registration Statement or the Prospectus, as the case may be, as of any specified date. All references in this Agreement to (i) the Registration Statement or the Prospectus, any amendments or supplements to the foregoing, or any free writing prospectus, shall include any copy thereof filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval System (“EDGAR”) and (ii) the Prospectus shall be deemed to include any “electronic Prospectus” provided for use in connection with the offering of the Shares as contemplated by Section 4(g) of this Agreement. As used herein, “free writing prospectus” has the meaning set forth in Rule 405 under the Securities Act.

At the time the Original Registration Statement was or will be filed with the Commission or, if later, at the time the Company’s Annual Report on Form 10-K for the year ended December 31, 2019 (the “**Annual Report**”) was filed with the Commission, the Company met the then-applicable requirements for use of Form S-3 under the Securities Act. During the Agency Period, each time the Company files an Annual Report on Form 10-K, the Company will meet the then-applicable requirements for use of Form S-3 under the Securities Act.

(b) Compliance with Registration Requirements. The Company will cause the Original Registration Statement to be declared effective under the Securities Act. The Company has complied or will comply in all material respects with all requests of the Commission for additional or supplemental information, if any. No stop order suspending the effectiveness of the Registration Statement is in effect and no proceedings for such purpose have been instituted or are pending or, to the best knowledge of the Company, are contemplated or threatened by the Commission.

The Prospectus when filed complied or will comply in all material respects with the Securities Act and, if filed with the Commission through its EDGAR, was or will be identical (except as may be permitted by Regulation S-T under the Securities Act) to the copy thereof delivered to the Agent for use in connection with the offer and sale of the Shares. Each of the Registration Statement and any post-effective amendment thereto, at the time it became or becomes effective, and at any subsequent time that it is deemed to have become effective as to the Agent pursuant to Rule 430B(f)(2) under the Securities Act, complied and will comply in all material respects with the Securities Act and did not and will 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 not misleading. As of the date of this Agreement, the Prospectus and any free writing prospectus considered together (collectively, the “**Time of Sale Information**”) did not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading. The Prospectus, as amended or supplemented, as of its date and at all subsequent times, did not and will not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The representations and warranties set forth in the three immediately preceding sentences do not apply to statements in or omissions from the Registration Statement or any post-effective amendment thereto, or the Prospectus, or any amendments or supplements thereto, made in reliance upon and in conformity with information relating to the Agent furnished to the Company in writing by the Agent expressly for use therein, it being understood and agreed that the only such information furnished by the Agent to the Company consists of the information described in Section 6 below. There are no contracts or other documents required to be described in the Prospectus or to be filed as exhibits to the Registration Statement which have not been described or filed as required. The Registration Statement and the offer and sale of the Shares as contemplated hereby meet the requirements of Rule 415 under the Securities Act and comply in all material respects with said rule.



(c) Ineligible Issuer Status; Free Writing Prospectuses As of the determination date referenced in Rule 164(h) under the Securities Act, the Company was not, is not or will not be (as applicable) an “ineligible issuer” in connection with the offering of the Shares pursuant to Rules 164, 405 and 433 under the Securities Act. Each free writing prospectus that the Company is required to file pursuant to Rule 433(d) under the Securities Act has been, or will be, filed with the Commission in accordance with the requirements of the Securities Act. Each free writing prospectus that the Company has filed, or is required to file, pursuant to Rule 433(d) under the Securities Act or that was prepared by or on behalf of or used or referred to by the Company complies or will comply in all material respects with the requirements of Rule 433 under the Securities Act including timely filing with the Commission or retention where required and legending, and each such free writing prospectus, as of its issue date and at all subsequent times through the completion of the public offer and sale of the Shares did not, does not and will not include any information that conflicted, conflicts or will conflict with the information contained in the Registration Statement or the Prospectus that is not superseded or modified. Except for the free writing prospectuses, if any, furnished to you before first use, the Company has not prepared, used or referred to any free writing prospectus. Other than the Registration Statement and the Prospectus, the Company (including its agents and representatives, other than the Agent in its capacity as such) has not prepared, used, authorized, approved or referred to and will not prepare, use, authorize, approve or refer to any “written communication” (as defined in Rule 405 under the Securities Act) that constitutes an offer to sell or solicitation of an offer to buy the Shares other than any document not constituting a prospectus pursuant to Section 2(a)(10)(a) of the Securities Act or Rule 134 under the Securities Act.

(d) Incorporated Documents. The documents incorporated by reference in the Registration Statement and the Prospectus, when they were filed with the Commission, conformed in all material respects to the requirements of the Exchange Act, and none of such documents contained any untrue statement of a material fact or omitted to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; and any further documents so filed and incorporated by reference in the Registration Statement and the Prospectus, when such documents are filed with the Commission, will conform in all material respects to the requirements of the Exchange Act and will not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(e) Statistical and Market Data. Nothing has come to the attention of the Company that has caused the Company to believe that the statistical and market-related data included or incorporated by reference in the Registration Statement or the Prospectus is not based on or derived from sources that are reliable and accurate in all material respects.

(f) Disclosure Controls. The Company and its subsidiaries maintain an effective system of “disclosure controls and procedures” (as defined in Rule 13a-15(e) of the Exchange Act) that complies in all material respects with the requirements of the Exchange Act and that has been designed to ensure that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Commission’s rules and forms, including controls and procedures designed to ensure that such information is accumulated and communicated to the Company’s management as appropriate to allow timely decisions regarding required disclosure.

(g) Accounting Controls. The Company and its subsidiaries maintain systems of “internal control over financial reporting” (as defined in Rule 13a-15(f) of the Exchange Act) that have been designed to comply in all material respects with the requirements of the Exchange Act and have been designed by, or under the supervision of, their respective principal executive and principal financial officers, or persons performing similar functions, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States (“GAAP”), including, but not limited to, 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, (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 and (v) interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement fairly presents the information called for in all material respects and is prepared in accordance with the Commission’s rules and guidelines applicable thereto. Except as disclosed in the Registration Statement and the Prospectus, there are no material weaknesses in the Company’s internal control over financial reporting. The Company’s auditors and the audit committee of the board of directors of the Company have been advised of: (A) all significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting which have adversely affected or are reasonably likely to adversely affect the Company’s ability to record, process, summarize and report financial information; and (B) any fraud, whether or not material, that involves management or other employees who have a significant role in the Company’s internal control over financial reporting.

(h) Due Authorization. The Company has full corporate right, power and authority to execute and deliver this Agreement and to perform its obligations hereunder; and all corporate action required to be taken for the due and proper authorization, execution and delivery by it of this Agreement and the consummation by it of the transactions contemplated hereby has been duly and validly taken.

(i) This Agreement. This Agreement has been duly authorized, executed and delivered by the Company.

(j) Authorization of the Shares. The Shares to be issued and sold by the Company hereunder have been duly authorized and, when issued and delivered and paid for as provided herein, will be duly and validly issued, will be fully paid and nonassessable and will conform to the descriptions thereof in the Registration Statement and the Prospectus; and the issuance of the Shares is not subject to any preemptive or similar rights that have not been duly waived.

(k) No Registration Rights. Except as described in the Registration Statement and the Prospectus, no person has the right to require the Company or any of its subsidiaries to register any securities for sale under the Securities Act by reason of the filing of the Registration Statement with the Commission or the issuance and sale of the Shares, except for such rights that have been waived.

(l) No Material Adverse Change. Since the date of the most recent financial statements of the Company included or incorporated by reference in the Registration Statement and the Prospectus, (i) there has not been any change in the capital stock (other than the issuance of Common Shares upon exercise of stock options and warrants described as outstanding in the Registration Statement and the Prospectus, and the grant of options and other equity-based awards under any stock-based compensation plans of the Company and its subsidiaries that are in existence as of the date hereof and disclosed in the Registration Statement and the Prospectus (“**Company Stock Plans**”)), short-term debt or long-term debt of the Company or any of its subsidiaries, or any dividend or distribution of any kind declared, set aside for payment, paid or made by the Company on any class of capital stock, or any material adverse change, or any development that could reasonably be expected to result in a prospective material adverse change, in or affecting the business, properties, management, financial position, prospects, shareholders’ equity or results of operations of the Company and its subsidiaries taken as a whole; (ii) neither the Company nor any of its subsidiaries has entered into any transaction or agreement (whether or not in the ordinary course of business) or incurred any liability or obligation, direct or contingent; and (iii) neither the Company nor any of its subsidiaries has sustained any loss or interference with its business that is material to the Company and its subsidiaries taken as a whole and that is either from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor disturbance or dispute or any action, order or decree of any court or arbitrator or governmental or regulatory authority, except in each of clauses (i) through (iii) as otherwise disclosed in the Registration Statement and the Prospectus.

(m) Independent Accountants. EisnerAmper LLP, who have certified certain financial statements of the Company and its subsidiaries, is an independent registered public accounting firm with respect to the Company and its subsidiaries within the applicable rules and regulations adopted by the Commission and the Public Company Accounting Oversight Board (United States) and as required by the Securities Act.

(n) Financial Statements. The financial statements (including the related notes thereto) of the Company and its consolidated subsidiaries included or incorporated by reference in the Registration Statement and the Prospectus comply in all material respects with the applicable requirements of the Securities Act and the Exchange Act, as applicable, and present fairly in all material respects the financial position of the Company and its consolidated subsidiaries as of the dates indicated and the results of their operations and the changes in their cash flows for the periods specified; such financial statements have been prepared in conformity with GAAP applied on a consistent basis throughout the periods covered thereby, except in the case of any unaudited financial statements, which are subject to normal year-end adjustments and do not contain certain footnotes as permitted by the applicable rules of the Commission, and any supporting schedules included or incorporated by reference in the Registration Statement present fairly in all material respects the information required to be stated therein; and the other financial information included or incorporated by reference in the Registration Statement or the Prospectus has been derived from the accounting records of the Company and its consolidated subsidiaries and presents fairly the information shown thereby.

(o) eXtensible Business Reporting Language. The interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement fairly presents the information called for in all material respects and has been prepared in accordance with the Commission's rules and guidelines applicable thereto.

(p) Organization and Good Standing. The Company and each of its subsidiaries have been duly organized and are validly existing and in good standing (or their jurisdictional equivalents) under the laws of their respective jurisdictions of organization, are duly qualified to do business and are in good standing in each jurisdiction in which their respective ownership or lease of property or the conduct of their respective businesses requires such qualification, and have all corporate power and authority necessary to own or hold their respective properties and to conduct the businesses in which they are engaged, except where the failure to be so qualified or in good standing or have such power or authority could not reasonably be expected, individually or in the aggregate, to have a material adverse effect on the business, properties, management, financial position, prospects, shareholders' equity or results of operations of the Company and its subsidiaries taken as a whole or on the performance by the Company of its obligations under this Agreement (a "**Material Adverse Effect**"). The Company does not own or control, directly or indirectly, any corporation, association or other entity other than the subsidiaries listed in Exhibit 21.1 to its Annual Report on Form 10-K for the year ended December 31, 2019.

(q) Capitalization. The Company has an authorized capitalization as set forth in the Registration Statement and the Prospectus under the heading "Description of Capital Stock; all the outstanding shares of capital stock of the Company have been duly and validly authorized and issued and fully paid and nonassessable and are not subject to any preemptive or similar rights that have not been duly waived or satisfied; except as described in or expressly contemplated by the Registration Statement and the Prospectus, there are no outstanding rights (including, without limitation, preemptive rights), warrants or options to acquire, or instruments convertible into or exchangeable for, any shares of capital stock or other equity interest in the Company or any of its wholly owned subsidiaries, or any contract, commitment, agreement, understanding or arrangement of any kind relating to the issuance of any capital stock of the Company or any of its wholly owned subsidiaries, any convertible or exchangeable securities or any rights, warrants or options; the capital stock of the Company conforms in all material respects to the descriptions thereof contained in the Registration Statement and the Prospectus; and all the outstanding shares of capital stock or other equity interests of each subsidiary described in the Registration Statement or the Prospectus as owned, directly or indirectly, by the Company have been duly and validly authorized and issued, are fully paid and nonassessable and are owned directly or indirectly by the Company, free and clear of any lien, charge, encumbrance, security interest, restriction on voting or transfer or any other claim of any third party.

(r) Stock Options. With respect to the outstanding stock options (the “**Stock Options**”) granted pursuant to the Company Stock Plans, (i) each grant of a Stock Option was duly authorized no later than the date on which the grant of such Stock Option was by its terms to be effective by all necessary corporate action, including, as applicable, approval by the board of directors of the Company (or a duly constituted and authorized committee thereof) and any required shareholder approval by the necessary number of votes or written consents, and the award agreement governing such grant (if any) was duly executed and delivered by each party thereto; (ii) each such grant was made in all material respects in accordance with the terms of the applicable Company Stock Plan, Exchange Act and all applicable laws and regulatory rules or requirements, including the rules of the Principal Market and any other exchange on which the Company’s securities are traded, to the extent applicable; and (iii) each such grant was properly accounted for in accordance with GAAP in the financial statements (including the related notes) of the Company, except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(s) Stock Exchange Listing. The Common Shares (including the Shares) are registered pursuant to Section 12(b) or 12(g) of the Exchange Act and are listed on the Principal Market, and the Company has taken no action designed to, or likely to have the effect of, terminating the registration of the Common Shares under the Exchange Act or delisting the Common Shares from the Principal Market, nor has the Company received any notification that the Commission or the Principal Market is contemplating terminating such registration or listing. To the Company’s knowledge, it is in compliance with all applicable listing requirements of the Principal Market.

(t) No Violation or Default. Neither the Company nor any of its subsidiaries is (i) in violation of its charter or bylaws or similar organizational documents; (ii) in default, and no event has occurred that, with notice or lapse of time or both, would constitute a default, in the due performance or observance of any term, covenant or condition contained in any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company or any of its subsidiaries is a party, by which the Company or any of its subsidiaries is bound or to which any of the property or assets of the Company or any of its subsidiaries is subject (collectively, “**Company Contracts**”); or (iii) in violation of any law or statute or any judgment, order, rule or regulation of any court or arbitrator or governmental or regulatory authority, except, in the case of clauses (ii) and (iii) above, for any such default or violation that could not, individually or in the aggregate, have a Material Adverse Effect. To the knowledge of the Company, all third parties that are parties to any Company Contracts are in compliance with the terms, covenants and conditions contained in such Company Contracts, except for any violation that could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(u) No Conflicts. The execution, delivery and performance by the Company of this Agreement, the issuance and sale of the Shares by the Company and the consummation by the Company of the transactions contemplated by this Agreement will not (i) conflict with or result in a breach or violation of any of the terms or provisions of, or constitute a default under, or result in the creation or imposition of any lien, charge or encumbrance upon any property or assets of the Company or any of its subsidiaries pursuant to, any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company or any of its subsidiaries is a party, by which the Company or any of its subsidiaries is bound or to which any of the property or assets of the Company or any of its subsidiaries is subject; (ii) result in any violation of the provisions of the charter or bylaws or similar organizational documents of the Company or any of its subsidiaries; or (iii) result in the violation of any law or statute or any judgment, order, rule or regulation of any court or arbitrator or governmental or regulatory authority, except, in the case of clauses (i) and (iii) above, for any such conflict, breach, violation or default that could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(v) No Consents Required. No consent, approval, authorization, order, license, registration or qualification of or with any court or arbitrator or governmental or regulatory authority is required for the execution, delivery and performance by the Company of this Agreement, the issuance and sale of the Shares and consummation of the transactions contemplated by this Agreement, except for the registration of the Shares under the Securities Act and such consents, approvals, authorizations, orders and registrations or qualifications as may be required by the Financial Industry Regulatory Authority, Inc. (“**FINRA**”), the Principal Market, and under applicable state securities laws in connection with the purchase and distribution of the Shares by the Agent.

(w) Legal Proceedings. Except as described in the Registration Statement and the Prospectus, there are no legal, governmental or regulatory investigations, actions, suits or proceedings pending to which the Company or any of its subsidiaries is a party or to which any property of the Company or any of its subsidiaries is the subject, including any proceeding before the United States Food and Drug Administration of the U.S. Department of Health and Human Services (the “**FDA**”) or comparable federal, state, local or foreign governmental and regulatory authorities (“**Governmental Authority**”) relating to an alleged failure to comply, or deficiency in compliance, with the requirements of the FDA or other Governmental Authority that, individually or in the aggregate, if determined adversely to the Company or any of its subsidiaries, could reasonably be expected to have a Material Adverse Effect; to the knowledge of the Company, no such investigations, actions, suits or proceedings are threatened or contemplated by any governmental or regulatory authority or threatened by others; and (i) there are no current or pending legal, governmental or regulatory actions, suits or proceedings that are required under the Securities Act to be described in the Registration Statement or the Prospectus that are not so described in the Registration Statement and the Prospectus and (ii) there are no statutes, regulations or contracts or other documents that are required under the Securities Act to be filed as exhibits to the Registration Statement or described in the Registration Statement or the Prospectus that are not so filed as exhibits to the Registration Statement or described in the Registration Statement and the Prospectus.

(x) No Labor Disputes. No labor disturbance by or dispute with employees of the Company or any of its subsidiaries exists or, to the knowledge of the Company, is threatened, and to the knowledge of the Company, there is no existing or imminent labor disturbance by, or dispute with, the employees of any of its or its subsidiaries’ principal suppliers, contractors or customers, except as could not, individually or in the aggregate, have a Material Adverse Effect.

(y) Intellectual Property. The Company and its subsidiaries own, or have obtained valid and enforceable licenses for, the inventions, patent applications, patents, trademarks, trade names, service names, copyrights, trade secrets and other intellectual property (1) described in the Registration Statement or the Prospectus as being owned or licensed by them or (2) which, to their knowledge, are necessary for the conduct of their respective businesses as currently conducted or as currently proposed in the Registration Statement or the Prospectus to be conducted (collectively, "**Intellectual Property**") except in the case of clause (2) where the failure to own, possess or acquire such rights could not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect. Except as described in the Registration Statement and the Prospectus or as could not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect, to the Company's knowledge: (i) there are no third parties who have rights to any Intellectual Property, except for Intellectual Property rights which are licensed by the Company from or granted by the Company to its partners, licensors and licensees and customary reversionary rights of third-party licensors with respect to Intellectual Property that is licensed to the Company or one or more of its subsidiaries; and (ii) there is no infringement by third parties of any Intellectual Property. Except as could not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect, there is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by others: (A) challenging the Company's rights in or to any Intellectual Property, and the Company is unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim; (B) challenging the validity, enforceability or scope of any Intellectual Property, and the Company is unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim; or (C) asserting that the Company or any of its subsidiaries infringes or otherwise violates, or would, upon the commercialization of any product or service described in the Registration Statement or the Prospectus as under development, infringe or violate, any patent, trademark, trade name, service name, copyright, trade secret or other proprietary rights of others, and the Company is unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim. Except as could not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect, the Company and its subsidiaries have complied with the terms of each agreement pursuant to which Intellectual Property has been licensed to the Company or any subsidiary, and all such agreements are in full force and effect. The product candidates described in the Registration Statement or the Prospectus as under development by the Company or any subsidiary fall within the scope of the claims of one or more patents or patent applications owned by, or exclusively licensed to, the Company or any subsidiary.

(z) Licenses and Permits. The Company and its subsidiaries possess all licenses, certificates, permits and other authorizations issued by, and have made all declarations and filings with, the appropriate federal, state, local or foreign governmental or regulatory authorities that are necessary for the ownership or lease of their respective properties or the conduct of their respective businesses as described in the Registration Statement or the Prospectus (including, without limitation, those administered by the FDA, the U.S. Drug Enforcement Administration or by any other Governmental Authority), except where the failure to possess or make the same would not, individually or in the aggregate, have a Material Adverse Effect; and except as described in the Registration Statement and the Prospectus, neither the Company nor any of its subsidiaries has received notice of any revocation or modification of any such license, certificate, permit or authorization or has any reason to believe that any such license, certificate, permit or authorization will not be renewed in the ordinary course, except where such revocation, modification or nonrenewal would not reasonably be expected to have a Material Adverse Effect.

(aa) Title to Real and Personal Property. The Company owns no real property, and the Company and its subsidiaries have valid rights to lease or otherwise use all items of real and personal property that are material to the respective businesses of the Company and its subsidiaries, in each case free and clear of all liens, encumbrances, claims and defects and imperfections of title except those that (i) do not materially interfere with the use made and proposed to be made of such property by the Company and its subsidiaries or (ii) would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect.

(bb) Taxes. The Company and its subsidiaries have timely filed all material returns that are required to have been filed by them pursuant to applicable state, local or foreign law, and have paid all taxes shown thereon or otherwise assessed, which are due and payable, except assessments against which appeals have been or will be promptly taken and as to which adequate reserves have been provided; and except as otherwise disclosed in the Registration Statement and the Prospectus, there is no material tax deficiency that has been, or would reasonably be expected to be, asserted against the Company or any of its subsidiaries or any of their respective properties or assets.

(cc) Investment Company Act. The Company is not and, after giving effect to the offering and sale of the Shares and the application of the proceeds therefrom as described in the Registration Statement or the Prospectus, will not be required to register as an "investment company" or an entity "controlled" by an "investment company" within the meaning of the Investment Company Act of 1940, as amended, and the rules and regulations of the Commission thereunder (the "**Investment Company Act**").

(dd) Insurance. The Company and its subsidiaries have insurance covering their respective properties, operations, personnel and businesses, including business interruption insurance, which insurance is in amounts and insures against such losses and risks as the Company reasonably believes are adequate to protect the Company and its subsidiaries and their respective businesses including; and neither the Company nor any of its subsidiaries has (i) received notice from any insurer or agent of such insurer that capital improvements or other expenditures are required or necessary to be made in order to continue such insurance or (ii) any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage at reasonable cost from similar insurers as may be necessary to continue its business in all material respects.

(ee) No Stabilization. Neither the Company nor any of its subsidiaries, nor any of their respective directors, officers or controlling persons, has taken, directly or indirectly, any action that has constituted or is designed to or that would reasonably be expected to cause or result in, under the Exchange Act or otherwise, any stabilization or manipulation of the price any security of the Company to facilitate the sale or resale of the Common Shares, including any stabilization or manipulation of the price of the Common Shares.

(ff) Margin Rules. The application of the proceeds received by the Company from the issuance, sale and delivery of the Shares as described in the Registration Statement and the Prospectus will not violate Regulation T, U or X of the Board of Governors of the Federal Reserve System or any other regulation of such Board of Governors.

(gg) Forward-Looking Statements. No forward-looking statement (within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act) contained in the Registration Statement or the Prospectus has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith.



(hh) No Undisclosed Relationships. No relationship, direct or indirect, exists between or among the Company or any of its subsidiaries, on the one hand, and the directors, officers, shareholders, customers or suppliers of the Company, or any of its subsidiaries or any other related party, on the other, that is required by the Securities Act to be described in the Registration Statement and the Prospectus that has not been described as required.

(ii) No Contract Termination. The Company has not sent or received any communication regarding termination of, or intent not to renew, any of the contracts or agreements referred to or described in the Prospectus, or referred to or described in, or filed as an exhibit to, the Registration Statement, and no such termination or non-renewal has been threatened by the Company or, to the Company's knowledge, any other party to any such contract or agreement, which threat of termination or non-renewal has not been rescinded as of the date hereof.

(jj) FINRA Matters. All of the information provided to the Agent or to counsel for the Agent by the Company, its counsel, its officers and directors and the holders of any securities (debt or equity) or options to acquire any securities of the Company in connection with the offering of the Shares is true, complete, correct and compliant with FINRA's rules, and any letters, filings or other supplemental information provided to FINRA pursuant thereto or to conduct rules promulgated by the National Association of Securities Dealers, Inc. is true, complete and correct.

(kk) Compliance with and Liability under Environmental Laws. (i) The Company and its subsidiaries (A) are, and, during the past five years, were, in compliance with any and all applicable federal, state, local and foreign laws, rules, regulations, requirements, decisions, judgments, decrees, orders and the common law relating to pollution or the protection of the environment, natural resources or human health or safety, including those relating to the generation, storage, treatment, use, handling, transportation, Release (as defined below) or threat of Release of Hazardous Materials (as defined below) (collectively, "**Environmental Laws**"), (iB) have received and are in compliance with all permits, licenses, certificates or other authorizations or approvals required of them under applicable Environmental Laws to conduct their respective businesses, (C) have not received notice of any actual or potential liability under or relating to, or actual or potential violation of, any Environmental Laws, including for the investigation or remediation of any Release or threat of Release of Hazardous Materials, and have no knowledge of any event or condition that would reasonably be expected to result in any such notice, (D) are not conducting or paying for, in whole or in part, any investigation, remediation or other corrective action pursuant to any Environmental Law at any location, and (E) are not a party to any order, decree or agreement that imposes any obligation or liability under any Environmental Law; and (ii) there are no costs or liabilities associated with Environmental Laws of or relating to the Company or its subsidiaries, except in the case of each of (i) and (ii) above, for any such matter as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect; and (iii) except as described in the Registration Statement and the Prospectus, (A) there are no proceedings that are pending, or that are known by the Company to be contemplated, against the Company or any of its subsidiaries under any Environmental Laws in which a governmental entity is also a party, other than such proceedings regarding which it is reasonably believed no monetary sanctions of \$100,000 or more will be imposed against the Company or any of its subsidiaries, (B) to the knowledge of the Company, there are no facts or issues regarding compliance with Environmental Laws, or liabilities or other obligations under Environmental Laws, including the Release or threat of Release of Hazardous Materials, that would reasonably be expected to have a Material Adverse Effect, and (C) none of the Company or any of its subsidiaries anticipates material capital expenditures relating to any Environmental Laws.

(ll) Hazardous Materials. To the knowledge of the Company, there has been no storage, generation, transportation, use, handling, treatment, Release (as defined below) or threat of Release of Hazardous Materials (as those terms are defined below) by, relating to or caused by the Company or any of its subsidiaries (or, to the knowledge of the Company and its subsidiaries, any other entity (including any predecessor) for whose acts or omissions the Company or any of its subsidiaries is or would reasonably be expected to be liable) at, on, under or from any property or facility now or, to the knowledge of the Company, previously owned, operated or leased by the Company or any of its subsidiaries, or, to the knowledge of the Company, at, on, under or from any other property or facility, in violation of any Environmental Laws or in a manner or amount or to a location that could reasonably be expected to result in any liability under any Environmental Law, except for any violation or liability which could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. “**Hazardous Materials**” means any material, chemical, substance, waste, pollutant, contaminant, compound, mixture, or constituent thereof, in any form or amount, including petroleum (including crude oil or any fraction thereof) and petroleum products, natural gas liquids, asbestos and asbestos containing materials, naturally occurring radioactive materials, brine, and drilling mud, which is regulated or which can give rise to liability under any Environmental Law. “**Release**” means any spilling, leaking, seepage, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, disposing, depositing, dispersing, or migrating in, into or through the environment, or in, into, from or through any building or structure.

(mm) Compliance with ERISA. Except, in each case, for any such matter as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, (i) each employee benefit plan, within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended (“**ERISA**”), for which the Company or any member of its “Controlled Group” (defined as any organization which is a member of a controlled group of corporations within the meaning of Section 414(b), (c), (m) or (o) of the Internal Revenue Code of 1986, as amended (the “**Code**”)) would have any liability (each, a “**Plan**”) has been maintained in compliance with its terms and the requirements of any applicable statutes, orders, rules and regulations, including but not limited to ERISA and the Code; (ii) no prohibited transaction, within the meaning of Section 406 of ERISA or Section 4975 of the Code, has occurred with respect to any Plan, excluding transactions effected pursuant to a statutory or administrative exemption; (iii) for each Plan that is subject to the funding rules of Section 412 of the Code or Section 302 of ERISA, the minimum funding standard of Section 412 of the Code or Section 302 of ERISA, as applicable, has been satisfied (without taking into account any waiver thereof or extension of any amortization period) and to the knowledge of the Company is reasonably expected to be satisfied in the future (without taking into account any waiver thereof or extension of any amortization period); (iv) the fair market value of the assets of each Plan that is subject to the funding rules of Section 412 of the Code or Section 302 of ERISA exceeds the present value of all benefits accrued under such Plan (determined based on those assumptions used to fund such Plan); (v) no “reportable event” (within the meaning of Section 4043(c) of ERISA) has occurred or to the knowledge of the Company is reasonably expected to occur; (vi) neither the Company nor any member of the Controlled Group has incurred, nor to the knowledge of the Company reasonably expects to incur, any liability under Title IV of ERISA (other than contributions to the Plan or premiums to the Pension Benefit Guaranty Corporation (the “**PBGC**”), in the ordinary course and without default) in respect of a Plan (including a “multiemployer plan”, within the meaning of Section 4001(a)(3) of ERISA); and (vii) to the knowledge of the Company, there is no pending audit or investigation by the Internal Revenue Service, the U.S. Department of Labor, the PBGC or any other governmental agency or any foreign regulatory agency with respect to any Plan. None of the following events has occurred or, to the knowledge of the Company, is reasonably likely to occur: (x) a material increase in the aggregate amount of contributions required to be made to all Plans by the Company or its subsidiaries in the current fiscal year of the Company and its subsidiaries compared to the amount of such contributions made during the Company and its subsidiaries’ most recently completed fiscal year; or (y) an increase that is material to the Company and its subsidiaries, taken as a whole, in the Company and its subsidiaries’ “accumulated post-retirement benefit obligations” (within the meaning of Statement of Financial Accounting Standards 106) compared to the amount of such obligations in the Company and its subsidiaries’ most recently completed fiscal year.

(nn) Brokers. Neither the Company nor any of its subsidiaries is a party to any contract, agreement or understanding with any person (other than this Agreement) that would give rise to a valid claim against the Company or any of its subsidiaries or the Agent for a brokerage commission, finder's fee or like payment in connection with the offering and sale of the Shares.

(oo) No Restrictions on Subsidiaries. Except as prohibited by law, no wholly owned subsidiary of the Company is currently prohibited, directly or indirectly, under any agreement or other instrument to which it is a party or is subject, from paying any dividends to the Company, from making any other distribution on such wholly owned subsidiary's capital stock, from repaying to the Company any loans or advances to such wholly owned subsidiary from the Company or from transferring any of such wholly owned subsidiary's properties or assets to the Company or any other subsidiary of the Company.

(pp) No Unlawful Payments. Neither the Company nor any of its subsidiaries nor, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person authorized to act on behalf of the Company or any of its subsidiaries has (i) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expense relating to political activity; (ii) made any direct or indirect unlawful payment to any foreign or domestic government official or employee from corporate funds; (iii) violated or is in violation of any provision of the Foreign Corrupt Practices Act of 1977, as amended, or any applicable law or regulation implementing the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, or committed an offence under the Bribery Act 2010 of the United Kingdom or any other applicable anti-bribery or anti-corruption law; or (iv) made, offered, agreed to or requested any unlawful bribe or other unlawful benefit, including, without limitation, any rebate, payoff, influence payment, kickback or other unlawful or improper payment or benefit. The Company and its subsidiaries have instituted, maintain and enforce, and will continue to maintain and enforce, policies and procedures designed to promote and ensure compliance with all applicable anti-bribery and anti-corruption laws.

(qq) Compliance with Anti-Money Laundering Laws. The operations of the Company and its subsidiaries are, and have been conducted at all times, in material compliance with applicable financial recordkeeping and reporting requirements, including those of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the applicable money laundering statutes of all jurisdictions where the Company or any of its subsidiaries conducts business, the rules and regulations thereunder and any related or similar rules, regulations or guidelines issued, administered or enforced by any governmental agency (collectively, the “**Anti-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 of its subsidiaries with respect to the Anti-Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(rr) FDA and Healthcare Compliance. Except as described in the Registration Statement and the Prospectus, and except where such noncompliance would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, the Company: (i) is and at all times has been in compliance with all statutes, rules and regulations of the FDA and other Governmental Authority applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, storage, import, export or disposal of any product under development, manufactured or distributed by the Company, including, without limitation, the federal Food, Drug, and Cosmetic Act, 21 U.S.C. § 301 et seq., the Controlled Substances Act, 21 U.S.C. § 801 et. seq., the False Claims Act, 31 U.S.C. §§ 3729-3733, the Health Insurance Portability and Accountability Act, and the Health Information Technology for Economic and Clinical Health Act (collectively, “**Applicable FDA Laws**”); (ii) to the knowledge of the Company, has not received any FDA Form 483, notice of adverse finding, warning letter, untitled letter or other correspondence or notice from the FDA or any Governmental Authority alleging or asserting material noncompliance with any Applicable FDA Laws or any licenses, certificates, approvals, clearances, exemptions, authorizations, permits and supplements or amendments thereto required by any such Applicable FDA Laws (“**Authorizations**”); (iii) possesses all Authorizations and the Company is in compliance with the terms of such Authorizations; (iv) has not received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from the FDA or any Governmental Authority or third party alleging that any product, operation or activity is in material violation of any Applicable FDA Laws or Authorizations and has no knowledge that the FDA or any Governmental Authority or third party is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding; (v) has not received notice that the FDA or any Governmental Authority has taken, is taking or intends to take action to limit, suspend, modify or revoke any material Authorizations and has no knowledge that the FDA or any Governmental Authority is considering such action; and (vi) has filed, obtained, maintained or submitted all reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable FDA Laws or Authorizations and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were materially complete and correct on the date filed (or were corrected or supplemented by a subsequent submission).

(ss) Clinical Studies. The studies, tests and preclinical and clinical trials conducted by or, to the Company's knowledge, on behalf of the Company that are described in the Registration Statement or the Prospectus, or the results of which are referred to in the Registration Statement or the Prospectus, as applicable, were and, if still ongoing, are being conducted in all material respects in accordance with Applicable FDA Laws; the descriptions of the results of such studies, tests and trials contained in the Registration Statement or the Prospectus are, to the Company's knowledge, accurate and complete in all material respects and fairly present the data derived from such studies, tests and trials; except to the extent disclosed in the Registration Statement or the Prospectus, the Company is not aware of any studies, tests or trials, the results of which the Company believes reasonably call into question the study, test or trial results described or referred to in the Registration Statement or the Prospectus when viewed in the context in which such results are described and the clinical state of development; and, except to the extent disclosed in the Registration Statement and the Prospectus, the Company has not received any notices or correspondence from the FDA or any Governmental Authority requiring the termination or suspension of any studies, tests or preclinical or clinical trials conducted by or on behalf of the Company that are described in the Registration Statement or the Prospectus or the results of which are referred to in the Registration Statement or the Prospectus, other than ordinary course communications with respect to modifications in connection with the design and implementation of such trials.

(tt) Regulatory Compliance. Other than those FDA and healthcare compliance matters that are addressed in Section 2(rr) hereof, and except as described in the Registration Statement and the Prospectus, to the knowledge of the Company, all third parties that are collaborating with the Company (i) are in material compliance with all applicable statutes, rules and regulations of the applicable regulatory authorities (collectively, "**Applicable Laws**") and (ii) have not received any notice of adverse finding, warning letter, untitled letter or other correspondence or notice from any regulatory authority alleging or asserting material noncompliance with any Applicable Laws or any licenses, certificates, approvals, clearances, exemptions, authorizations, permits and supplements or amendments thereto required by any such Applicable Laws, in either case of (i) or (ii) above, solely related to products being developed in collaboration with the Company.

(uu) No Conflicts with Sanctions Laws. None of the Company, any of its subsidiaries or, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person associated with or authorized to act on behalf of the Company or any of its subsidiaries is currently the subject or the target of any sanctions administered or enforced by the U.S. government (including, without limitation, the Office of Foreign Assets Control of the U.S. Department of the Treasury or the U.S. Department of State and including, without limitation, the designation as a "specially designated national" or "blocked person"), the United Nations Security Council, the European Union, Her Majesty's Treasury or other relevant sanctions authority (collectively, "**Sanctions**"); nor is the Company or any of its subsidiaries located, organized or resident in a country or territory that is the subject or target of Sanctions, including, without limitation, Cuba, Iran, North Korea, Sudan, Syria and the Crimea region of Ukraine, (each, a "**Sanctioned Country**"); and the Company will not directly or indirectly use the proceeds of the offering of the Shares hereunder, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity (i) to fund or facilitate any activities of or business with any person that, at the time of such funding or facilitation, is the subject or target of Sanctions, (ii) to fund or facilitate any activities of or business in any Sanctioned Country or (iii) in any other manner that will result in a violation by any person (including any person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions. For the past five years, the Company and its subsidiaries have not knowingly engaged in and are not now knowingly engaged in any dealings or transactions with any person that at the time of the dealing or transaction is or was the subject or the target of Sanctions or with any Sanctioned Country.

(vv) Compliance with Cuba Act. The Company has complied with, and is and will be in compliance with, the provisions of that certain Florida act relating to disclosure of doing business with Cuba, codified as Section 517.075 of the Florida statutes, and the rules and regulations thereunder (collectively, the “**Cuba Act**”) or is exempt therefrom.

(ww) Recognition of the U.S. Special Resolution Regimes

(i) In the event that the Agent is a Covered Entity and becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from the Agent of this Agreement, and any interest and obligation in or under this Agreement, will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if this Agreement, and any such interest and obligation, were governed by the laws of the United States or a state of the United States.

(ii) In the event that the Agent is a Covered Entity and the Agent or a BHC Act Affiliate of the Agent becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against the Agent are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if this Agreement were governed by the laws of the United States or a state of the United States.

For purposes of this Agreement, (A) “**BHC Act Affiliate**” has the meaning assigned to the term “affiliate” in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k); (B) “**Covered Entity**” means any of the following: (i) a “covered entity” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b); (ii) a “covered bank” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or (iii) a “covered FSI” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b); (C) “**Default Right**” has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable; and (D) “**U.S. Special Resolution Regime**” means each of (i) the Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

(xx) Sarbanes-Oxley Act. There is and has been no failure on the part of the Company or, to the knowledge of the Company, any of the Company’s directors or officers, in their capacities as such, to comply with any applicable provision of the Sarbanes-Oxley Act of 2002, as amended, and the rules and regulations promulgated in connection therewith, including Section 402 related to loans and Sections 302 and 906 related to certifications.

(yy) Cybersecurity. The Company and its subsidiaries' information technology assets and equipment, computers, systems, networks, hardware, software, websites, applications, and databases (collectively, "**IT Systems**") are adequate for, and operate and perform in all material respects as required in connection with the operation of the business of the Company and its subsidiaries as currently conducted, free and clear of all material bugs, errors, defects, Trojan horses, time bombs, malware and other corruptants. The Company and its subsidiaries have implemented and maintained commercially reasonable physical, technical and administrative controls, policies, procedures, and safeguards to maintain and protect their material confidential information and the integrity, continuous operation, redundancy and security of all IT Systems and data, including "Personal Data," used in connection with their businesses. "**Personal Data**" means (i) a natural person's name, street address, telephone number, e-mail address, photograph, social security number or tax identification number, driver's license number, passport number, credit card number, bank information, or customer or account number; (ii) any information which would qualify as "personally identifying information" under the Federal Trade Commission Act, as amended; (iii) "personal data" as defined by GDPR; (iv) any information which would qualify as "protected health information" under the Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act (collectively, "**HIPAA**"); and (v) any other piece of information that allows the identification of such natural person, or his or her family, or permits the collection or analysis of any data related to an identified person's health or sexual orientation. There have been no breaches, violations, outages or unauthorized uses of or accesses to same, except for those that have been remedied without material cost or liability or the duty to notify any other person, nor any incidents under internal review or investigations relating to the same. The Company and its subsidiaries are presently in material compliance with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Personal Data and to the protection of such IT Systems and Personal Data from unauthorized use, access, misappropriation or modification.

(zz) Compliance with Data Privacy Laws. The Company and its subsidiaries are, and at all prior times were, in material compliance with all applicable state and federal data privacy and security laws and regulations, including without limitation HIPAA, and the Company and its subsidiaries have taken commercially reasonable actions to prepare to comply with, and since May 25, 2018, have been and currently are in compliance with, the European Union General Data Protection Regulation ("**GDPR**") (EU 2016/679) (collectively, the "**Privacy Laws**"). To ensure compliance with the Privacy Laws, the Company and its subsidiaries have in place, comply with, and take appropriate steps reasonably designed to ensure compliance in all material respects with their policies and procedures relating to data privacy and security and the collection, storage, use, disclosure, handling, and analysis of Personal Data (the "**Policies**"). The Company and its subsidiaries have at all times made all disclosures to users or customers required by Privacy Laws, and none of such disclosures made or contained in any Policy have, to the knowledge of the Company, been inaccurate or in violation of any Privacy Laws in any material respect. The Company further certifies that neither it nor any subsidiary: (i) has received notice of any actual or potential liability under or relating to, or actual or potential violation of, any of the Privacy Laws, and has no knowledge of any event or condition that would reasonably be expected to result in any such notice; (ii) is currently conducting or paying for, in whole or in part, any investigation, remediation, or other corrective action pursuant to any Privacy Law; or (iii) is a party to any order, decree, or agreement that imposes any obligation or liability under any Privacy Law.

(aaa) Other Underwriting Agreements. The Company is not a party to any agreement with an agent or underwriter for any other "at the market" or continuous equity transaction.

Any certificate signed by any officer or representative of the Company or any of its subsidiaries and delivered to the Agent or counsel for the Agent in connection with an issuance of Shares shall be deemed a representation and warranty by the Company to the Agent as to the matters covered thereby on the date of such certificate.

The Company acknowledges that the Agent and, for purposes of the opinions to be delivered pursuant to Section 4(p) hereof, counsel to the Company and counsel to the Agent, will rely upon the accuracy and truthfulness of the foregoing representations and hereby consents to such reliance.

### **Section 3. ISSUANCE AND SALE OF COMMON SHARES**

(a) Sale of Securities. On the basis of the representations, warranties and agreements herein contained, but subject to the terms and conditions herein set forth, the Company and the Agent agree that the Company may from time to time seek to sell Shares through the Agent, acting as sales agent, or directly to the Agent, acting as principal, as follows, with an aggregate Sales Price of up to the Maximum Program Amount, based on and in accordance with Issuance Notices as the Company may deliver, during the Agency Period.

(b) Mechanics of Issuances.

(i) Issuance Notice. Upon the terms and subject to the conditions set forth herein, on any Trading Day during the Agency Period on which the conditions set forth in Section 5(a) and Section 5(b) shall have been satisfied, the Company may exercise its right to request an issuance of Shares by delivering to the Agent an Issuance Notice; *provided, however*, that (A) in no event may the Company deliver an Issuance Notice to the extent that (I) the sum of (x) the aggregate Sales Price of the requested Issuance Amount, plus (y) the aggregate Sales Price of all Shares issued under all previous Issuance Notices effected pursuant to this Agreement, would exceed the Maximum Program Amount; and (B) prior to delivery of any Issuance Notice, the period set forth for any previous Issuance Notice shall have expired or been terminated. An Issuance Notice shall be considered delivered on the Trading Day that it is received by e-mail to the persons set forth in Schedule A hereto and confirmed by the Company by telephone (including a voicemail message to the persons so identified), with the understanding that, with adequate prior written notice, the Agent may modify the list of such persons from time to time.

(ii) Agent Efforts. Upon the terms and subject to the conditions set forth in this Agreement, upon the receipt of an Issuance Notice, the Agent will use its commercially reasonable efforts consistent with its normal sales and trading practices to place the Shares with respect to which the Agent has agreed to act as sales agent, subject to, and in accordance with the information specified in, the Issuance Notice, unless the sale of the Shares described therein has been suspended, cancelled or otherwise terminated in accordance with the terms of this Agreement. For the avoidance of doubt, the parties to this Agreement may modify an Issuance Notice at any time provided they both agree in writing to any such modification.

(iii) Method of Offer and Sale. The Shares may be offered and sold (A) in privately negotiated transactions with the consent of the Company; (B) as block transactions; or (C) by any other method permitted by law deemed to be an “at the market offering” as defined in Rule 415(a)(4) under the Securities Act, including sales made directly on the Principal Market or sales made into any other existing trading market of the Common Shares. Nothing in this Agreement shall be deemed to require either party to agree to the method of offer and sale specified in the preceding sentence, and (except as specified in clauses (A) and (B) above) the method of placement of any Shares by the Agent shall be at the Agent’s discretion.



(iv) Confirmation to the Company. If acting as sales agent hereunder, the Agent will provide written confirmation to the Company no later than the opening of the Trading Day next following the Trading Day on which it has placed Shares hereunder setting forth the number of shares sold on such Trading Day, the corresponding Sales Price and the Issuance Price payable to the Company in respect thereof.

(v) Settlement. Each issuance of Shares will be settled on the applicable Settlement Date for such issuance of Shares and, subject to the provisions of Section 5, on or before each Settlement Date, the Company will, or will cause its transfer agent to, electronically transfer the Shares being sold by crediting the Agent or its designee's account at The Depository Trust Company through its Deposit/Withdrawal At Custodian (DWAC) System, or by such other means of delivery as may be mutually agreed upon by the parties hereto and, upon receipt of such Shares, which in all cases shall be freely tradable, transferable, registered shares in good deliverable form, the Agent will deliver, by wire transfer of immediately available funds, the related Issuance Price in same day funds delivered to an account designated by the Company prior to the Settlement Date. The Company may sell Shares to the Agent as principal at a price agreed upon at each relevant time Shares are sold pursuant to this Agreement (each, a "**Time of Sale**").

(vi) Suspension or Termination of Sales. Consistent with standard market settlement practices, the Company or the Agent may, upon notice to the other party hereto in writing or by telephone (confirmed immediately by verifiable email), suspend any sale of Shares, and the period set forth in an Issuance Notice shall immediately terminate; *provided, however*, that (A) such suspension and termination shall not affect or impair either party's obligations with respect to any Shares placed or sold hereunder prior to the receipt of such notice; (B) if the Company suspends or terminates any sale of Shares after the Agent confirms such sale to the Company, the Company shall still be obligated to comply with Section 3(b)(v) with respect to such Shares; and (C) if the Company defaults in its obligation to deliver Shares on a Settlement Date, the Company agrees that it will hold the Agent harmless against any loss, claim, damage or expense (including, without limitation, penalties, interest and reasonable legal fees and expenses), as incurred, arising out of or in connection with such default by the Company. The parties hereto acknowledge and agree that, in performing its obligations under this Agreement, the Agent may borrow Common Shares from stock lenders in the event that the Company has not delivered Shares to settle sales as required by subsection (v) above, and may use the Shares to settle or close out such borrowings. The Company agrees that no such notice shall be effective against the Agent unless it is made to the persons identified in writing by the Agent pursuant to Section 3(b)(i).

(vii) No Guarantee of Placement, Etc. The Company acknowledges and agrees that (A) there can be no assurance that the Agent will be successful in placing Shares; (B) the Agent will incur no liability or obligation to the Company or any other Person if it does not sell Shares; and (C) the Agent shall be under no obligation to purchase Shares on a principal basis pursuant to this Agreement, except as otherwise specifically agreed by the Agent and the Company.

(viii) Material Non-Public Information. Notwithstanding any other provision of this Agreement, the Company and the Agent agree that the Company shall not deliver any Issuance Notice to the Agent, and the Agent shall not be obligated to place any Shares, during any period in which the Company is in possession of material non-public information.

(c) Fees. As compensation for services rendered, the Company shall pay to the Agent, on the applicable Settlement Date, the Selling Commission for the applicable Issuance Amount (including with respect to any suspended or terminated sale pursuant to Section 3(b)(vi)) by the Agent deducting the Selling Commission from the applicable Issuance Amount.

(d) Expenses. The Company agrees to pay all costs, fees and expenses incurred in connection with the performance of its obligations hereunder and in connection with the transactions contemplated hereby, including without limitation (i) all expenses incident to the issuance and delivery of the Shares (including all printing and engraving costs); (ii) all fees and expenses of the registrar and transfer agent of the Shares; (iii) all necessary issue, transfer and other stamp taxes in connection with the issuance and sale of the Shares; (iv) all fees and expenses of the Company's counsel, independent public or certified public accountants and other advisors; (v) all costs and expenses incurred in connection with the preparation, printing, filing, shipping and distribution of the Registration Statement (including financial statements, exhibits, schedules, consents and certificates of experts), the Prospectus, any free writing prospectus prepared by or on behalf of, used by, or referred to by the Company, and all amendments and supplements thereto, and this Agreement; (vi) all filing fees, attorneys' fees and expenses incurred by the Company or the Agent in connection with qualifying or registering (or obtaining exemptions from the qualification or registration of) all or any part of the Shares for offer and sale under the state securities or blue sky laws or the provincial securities laws of Canada, and, if requested by the Agent, preparing and printing a "Blue Sky Survey" or memorandum and a "Canadian wrapper," and any supplements thereto, advising the Agent of such qualifications, registrations, determinations and exemptions; (vii) the reasonable fees and disbursements of the Agent's counsel, including the reasonable fees and expenses of counsel for the Agent in connection with, determining compliance of the sales of Shares with FINRA's rules and FINRA review, if any, and approval of the Agent's participation in the offering and distribution of the Shares; (viii) the filing fees incident to FINRA review, if any; (ix) the costs and expenses of the Company relating to investor presentations on any "road show" undertaken in connection with the marketing of the offering of the Shares, including, without limitation, expenses associated with the preparation or dissemination of any electronic road show, expenses associated with the production of road show slides and graphics, fees and expenses of any consultants engaged in connection with the road show presentations with the prior approval of the Company, travel and lodging expenses of the representatives, employees and officers of the Company and of the Agent and any such consultants, and the cost of any aircraft chartered in connection with the road show; and (x) the fees and expenses associated with listing the Shares on the Principal Market. The fees and disbursements of Agent's counsel pursuant to subsections (vi) and (vii) above shall not exceed (A) \$50,000 in connection with the first Issuance Notice and (B) \$15,000 in connection with each Triggering Event Date (as defined below) on which the Company is required to provide a certificate pursuant to Section 4(o).

#### Section 4. ADDITIONAL COVENANTS

The Company covenants and agrees with the Agent as follows, in addition to any other covenants and agreements made elsewhere in this Agreement:

(a) Continued Compliance with Securities Laws. The Company will comply with the Securities Act and the Exchange Act so as to permit the completion of the distribution of the Shares as contemplated by this Agreement, the Registration Statement and the Prospectus. Without limiting the generality of the foregoing, the Company will, during the Agency Period: (i) file on a timely basis with the Commission and the Principal Market all reports and documents required to be filed under the Exchange Act; and (ii) either (A) include in its Quarterly reports on Form 10-Q and its Annual Reports on Form 10-K, a summary detailing, for the relevant reporting period, (1) the number of Shares sold through the Agent pursuant to this Agreement and (2) the net proceeds received by the Company from such sales or (B) prepare a prospectus supplement containing, or include in such other filing permitted by the Securities Act or Exchange Act (each an “**Interim Prospectus Supplement**”), such summary information and, at least once a quarter and subject to this Section 4, file such Interim Prospectus Supplement pursuant to Rule 424(b) under the Securities Act (and within the time periods required by Rule 424(b) and Rule 430B under the Securities Act).

(b) Certain Notifications and Required Actions. After the date of this Agreement, the Company shall promptly advise the Agent in writing of: (i) the receipt of any comments of, or requests for additional or supplemental information from, the Commission; (ii) the time and date of any filing of any post-effective amendment to the Registration Statement or any amendment or supplement to the Prospectus or any free writing prospectus; (iii) of the time and date that any post-effective amendment to the Registration Statement becomes effective; and (iv) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto or any amendment or supplement to the Prospectus or of any order preventing or suspending the use of any free writing prospectus or the Prospectus, or of any proceedings to remove, suspend or terminate from listing or quotation the Common Shares from any securities exchange upon which they are listed for trading or included or designated for quotation, or of the threatening or initiation of any proceedings for any of such purposes. If the Commission shall enter any such stop order at any time, the Company will use its reasonable best efforts to obtain the lifting of such order at the earliest possible moment. Additionally, the Company agrees that it shall comply with all applicable provisions of Rule 424(b), Rule 433 and Rule 430B under the Securities Act and will use its reasonable efforts to confirm that any filings made by the Company under Rule 424(b) or Rule 433 were received in a timely manner by the Commission.

(c) Amendments and Supplements to the Prospectus and Other Securities Act Matters. If any event shall occur or condition exist as a result of which it is necessary to amend or supplement the Prospectus so that the Prospectus does not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when the Prospectus is delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) to a purchaser, not misleading, or if in the opinion of the Agent or counsel for the Agent it is otherwise necessary to amend or supplement the Prospectus to comply with applicable law, the Company agrees (subject to Section 4(d) and Section 4(e) hereof) to promptly prepare, file with the Commission and furnish at its own expense to the Agent, amendments or supplements to the Prospectus so that the statements in the Prospectus as so amended or supplemented will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when the Prospectus is delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) to a purchaser, not misleading or so that the Prospectus, as amended or supplemented, will comply with applicable law. Neither the Agent's consent to, nor delivery of, any such amendment or supplement shall constitute a waiver of any of the Company's obligations under Section 4(d) and Section 4(e) hereof. Notwithstanding the foregoing, the Company shall not be required to file such amendment or supplement if there is no pending Issuance Notice and the Company believes that it is in its best interest not to file such amendment or supplement; *provided, however*, that if the Company subsequently chooses to deliver an Issuance Notice to the Agent, the Company agrees to file such amendment or supplement prior to the delivery of such Issuance Notice.

(d) Agent's Review of Proposed Amendments and Supplements. Prior to amending or supplementing the Registration Statement or the Prospectus (including any amendment or supplement through incorporation of any report filed under the Exchange Act), the Company shall furnish to the Agent for review, a reasonable amount of time prior to the time of filing or use of the proposed amendment or supplement, a copy of each such proposed amendment or supplement. The Company shall not file or use any such proposed amendment or supplement without the Agent's prior written consent, which consent shall not be unreasonably delayed, withheld or conditioned. The Company shall file with the Commission within the applicable period specified in Rule 424(b) under the Securities Act any prospectus required to be filed pursuant to such Rule.

(e) Free Writing Prospectuses. The Company shall furnish to the Agent for review, a reasonable amount of time prior to the proposed time of filing or use thereof, a copy of each proposed free writing prospectus or any amendment or supplement thereto to be prepared by or on behalf of, used by, or referred to by the Company, and the Company shall not file, use or refer to any proposed free writing prospectus or any amendment or supplement thereto without the Agent's prior written consent. The Company shall furnish to the Agent, without charge, as many copies of any free writing prospectus prepared by or on behalf of, used by or referred to by the Company, as the Agent may reasonably request. If at any time when a prospectus is required by the Securities Act (including, without limitation, pursuant to Rule 173(d)) to be delivered in connection with sales of the Shares (but in any event if at any time through and including the date of this Agreement) there occurred or occurs an event or development as a result of which any free writing prospectus prepared by or on behalf of, used by, or referred to by the Company conflicted or would conflict with the information contained in the Registration Statement or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances prevailing at such time, not misleading, the Company shall promptly amend or supplement such free writing prospectus to eliminate or correct such conflict or so that the statements in such free writing prospectus as so amended or supplemented will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances prevailing at such time, not misleading, as the case may be; *provided, however*, that prior to amending or supplementing any such free writing prospectus, the Company shall furnish to the Agent for review, a reasonable amount of time prior to the proposed time of filing or use thereof, a copy of such proposed amended or supplemented free writing prospectus, and the Company shall not file, use or refer to any such amended or supplemented free writing prospectus without the Agent's prior written consent, which consent shall not be unreasonably delayed, withheld or conditioned.

(f) Filing of Agent Free Writing Prospectuses. The Company shall not take any action that would result in the Agent or the Company being required to file with the Commission pursuant to Rule 433(d) under the Securities Act a free writing prospectus prepared by or on behalf of the Agent that the Agent otherwise would not have been required to file thereunder.

(g) Delivery of Registration Statement and Prospectus. After the date of this Agreement through the last time that a prospectus is required by the Securities Act (including, without limitation, pursuant to Rule 173(d)) to be delivered in connection with sales of the Shares, the Company shall furnish to the Agent, without charge, in connection with sales of the Shares, copies of the Registration Statement and each amendment thereto, and copies of the Prospectus and each amendment or supplement thereto in the form in which it is filed with the Commission pursuant to the Securities Act or Rule 424(b) under the Securities Act, both in such quantities as the Agent may reasonably request from time to time. If requested by the Agent, the Company shall cause to be prepared and delivered, at its expense, to the Agent an “electronic Prospectus” to be used by the Agent in connection with the offering and sale of the Shares. As used herein, the term “**electronic Prospectus**” means a form of Prospectus, and any amendment or supplement thereto, that meets each of the following conditions: (i) it shall be encoded in an electronic format, satisfactory to the Agent, that may be transmitted electronically by the Agent to offerees and purchasers of the Shares; (ii) it shall disclose the same information as the paper Prospectus, except to the extent that graphic and image material cannot be disseminated electronically, in which case such graphic and image material shall be replaced in the electronic Prospectus with a fair and accurate narrative description or tabular representation of such material, as appropriate; and (iii) it shall be in or convertible into a paper format or an electronic format, reasonably satisfactory to the Agent, that will allow investors to store and have continuously ready access to the Prospectus at any future time, without charge to investors (other than any fee charged for subscription to the Internet as a whole and for on-line time). The Company hereby confirms that it has included or will include in the Prospectus filed pursuant to EDGAR or otherwise with the Commission and in the Registration Statement at the time it was declared effective an undertaking that, upon receipt of a request by an investor or his or her representative, the Company shall transmit or cause to be transmitted promptly, without charge, a paper copy of the Prospectus.

(h) Future Reports to the Agent. During the Agency Period, the Company will furnish to the Agent, at 520 Madison Avenue, New York, New York 10022, Attention: Global Head of Syndicate: (i) as soon as practicable after the end of each fiscal year, copies of the Annual Report of the Company containing the balance sheet of the Company as of the close of such fiscal year and statements of income, stockholders’ equity and cash flows for the year then ended and the opinion thereon of the Company’s independent public or certified public accountants; (ii) as soon as practicable after the filing thereof, copies of each proxy statement, Annual Report on Form 10-K, Quarterly Report on Form 10-Q, Current Report on Form 8-K or other report filed by the Company with the Commission, FINRA or any securities exchange; and (iii) as soon as available, copies of any report or communication of the Company furnished or made available generally to holders of its capital stock; *provided, however*, that the requirements of this Section 4(h) shall be satisfied to the extent that such reports, statement, communications, financial statements or other documents are available on EDGAR.

(i) Blue Sky Compliance. The Company shall cooperate with the Agent and counsel for the Agent to qualify or register the Shares for sale under (or obtain exemptions from the application of) the state securities or blue sky laws or Canadian provincial securities laws (or other foreign laws) of those jurisdictions designated by the Agent, shall comply with such laws and shall continue such qualifications, registrations and exemptions in effect so long as required for the distribution of the Shares. The Company shall not be required to qualify as a foreign corporation or to take any action that would subject it to general service of process in any such jurisdiction where it is not presently qualified or where it would be subject to taxation as a foreign corporation. The Company will advise the Agent promptly of the suspension of the qualification or registration of (or any such exemption relating to) the Shares for offering, sale or trading in any jurisdiction or any initiation or threat of any proceeding for any such purpose, and in the event of the issuance of any order suspending such qualification, registration or exemption, the Company shall use its reasonable best efforts to obtain the withdrawal thereof at the earliest possible moment.

(j) Earnings Statement. The Company will make generally available to its security holders and to the Agent as soon as practical an earnings statement (which need not be audited) covering a period of at least twelve months beginning with the first fiscal quarter of the Company commencing after the date of this Agreement that will satisfy the provisions of Section 11(a) of the Securities Act and the rules and regulations of the Commission thereunder.

(k) Listing; Reservation of Shares. (i) The Company will maintain the listing of the Shares on the Principal Market; and (ii) the Company will reserve and keep available at all times, free of preemptive rights, Common Shares for the purpose of enabling the Company to satisfy its obligations under this Agreement.

(l) Transfer Agent. The Company shall engage and maintain, at its expense, a registrar and transfer agent for the Shares.

(m) Due Diligence. During the term of this Agreement, the Company will reasonably cooperate with any reasonable due diligence review conducted by the Agent in connection with the transactions contemplated hereby, including, without limitation, providing information and making available documents and senior corporate officers, during normal business hours and at the Company's principal offices, as the Agent may reasonably request from time to time.

(n) Representations and Warranties. The Company acknowledges that each delivery of an Issuance Notice and each delivery of Shares on a Settlement Date shall be deemed to be (i) an affirmation to the Agent that the representations and warranties of the Company contained in or made pursuant to this Agreement are true and correct as of the date of such Issuance Notice or of such Settlement Date, as the case may be, as though made at and as of each such date, except as may be disclosed in the Prospectus (including any documents incorporated by reference therein and any supplements thereto); and (ii) an undertaking that the Company will advise the Agent if any of such representations and warranties will not be true and correct as of the Settlement Date for the Shares relating to such Issuance Notice, as though made at and as of each such date (except that such representations and warranties shall be deemed to relate to the Registration Statement and the Prospectus as amended and supplemented relating to such Shares).

(o) Deliverables at Triggering Event Dates; Certificates. The Company agrees that on or prior to the date of the first Issuance Notice and, during the term of this Agreement after the date of the first Issuance Notice, upon:

(i) the filing of the Prospectus or the amendment or supplement of any Registration Statement or Prospectus (other than a prospectus supplement relating solely to an offering of securities other than the Shares or a prospectus filed pursuant to Section 4(a)(ii)(B)), by means of a post-effective amendment, sticker or supplement, but not by means of incorporation of documents by reference into the Registration Statement or Prospectus;

(ii) the filing with the Commission of an Annual Report on Form 10-K or a Quarterly Report on Form 10-Q (including any Form 10-K/A or Form 10-Q/A containing amended financial information or a material amendment to the previously filed Annual Report on Form 10-K or Quarterly Report on Form 10-Q), in each case, of the Company; or

(iii) the filing with the Commission of a Current Report on Form 8-K of the Company containing amended financial information (other than information “furnished” pursuant to Item 2.02 or 7.01 of Form 8-K or to provide disclosure pursuant to Item 8.01 of Form 8-K relating to reclassification of certain properties as discontinued operations in accordance with Statement of Financial Accounting Standards No. 144) that is material to the offering of securities of the Company in the Agent’s reasonable discretion;

(any such event, a “**Triggering Event Date**”), the Company shall furnish the Agent (but in the case of clause (iii) above only if the Agent reasonably determines that the information contained in such Current Report on Form 8-K of the Company is material) with a certificate as of the Triggering Event Date, in the form and substance satisfactory to the Agent and its counsel, substantially similar to the form previously provided to the Agent and its counsel, modified, as necessary, to relate to the Registration Statement and the Prospectus as amended or supplemented, (A) confirming that the representations and warranties of the Company contained in this Agreement are true and correct on the date of such certificate as if made on such date, (B) confirming that the Company has performed all of its obligations hereunder to be performed on or prior to the date of such certificate and as to the matters set forth in Section 5(a)(iii) hereof, and (C) containing any other certification that the Agent shall reasonably request. The requirement to provide a certificate under this Section 4(o) shall be waived for any Triggering Event Date occurring at a time when no Issuance Notice is pending or a suspension is in effect, which waiver shall continue until the earlier to occur of the date the Company delivers instructions for the sale of Shares hereunder (which for such calendar quarter shall be considered a Triggering Event Date) and the next occurring Triggering Event Date. Notwithstanding the foregoing, if the Company subsequently decides to sell Shares following a Triggering Event Date when a suspension was in effect and did not provide the Agent with a certificate under this Section 4(o), then before the Company delivers the instructions for the sale of Shares or the Agent sells any Shares pursuant to such instructions, the Company shall provide the Agent with a certificate in conformity with this Section 4(o) dated as of the date that the instructions for the sale of Shares are issued.

(p) Legal Opinions. On or prior to the date of the first Issuance Notice and on or prior to each Triggering Event Date with respect to which the Company is obligated to deliver a certificate pursuant to Section 4(o) for which no waiver is applicable and excluding the date of this Agreement, a negative assurance letter and the written legal opinion of Lowenstein Sandler LLP, counsel to the Company, Covington & Burling LLP, counsel to the Agent, and Lowenstein Sandler LLP, intellectual property counsel to the Company, each dated the date of delivery, in form and substance reasonably satisfactory to Agent and its counsel, substantially similar to the form previously provided to the Agent and its counsel, modified, as necessary, to relate to the Registration Statement and the Prospectus as then amended or supplemented. In lieu of such opinions for subsequent periodic filings, in the discretion of the Agent, the Company may furnish a reliance letter from such counsel to the Agent, permitting the Agent to rely on a previously delivered opinion letter, modified as appropriate for any passage of time or Triggering Event Date (except that statements in such prior opinion shall be deemed to relate to the Registration Statement and the Prospectus as amended or supplemented as of such Triggering Event Date).

(q) Comfort Letter. On or prior to the date of the first Issuance Notice and on or prior to each Triggering Event Date with respect to which the Company is obligated to deliver a certificate pursuant to Section 4(o) for which no waiver is applicable and excluding the date of this Agreement, the Company shall cause EisnerAmper LLP, the independent registered public accounting firm who has audited the financial statements included or incorporated by reference in the Registration Statement, to furnish the Agent a comfort letter, dated the date of delivery, in form and substance reasonably satisfactory to the Agent and its counsel, substantially similar to the form previously provided to the Agent and its counsel; *provided, however*, that any such comfort letter will only be required on the Triggering Event Date specified to the extent that it contains financial statements filed with the Commission under the Exchange Act and incorporated or deemed to be incorporated by reference into a Prospectus. If requested by the Agent, the Company shall also cause a comfort letter to be furnished to the Agent within ten (10) Trading Days of the date of occurrence of any material transaction or event requiring the filing of a Current Report on Form 8-K containing material amended financial information of the Company, including the restatement of the Company's financial statements. The Company shall be required to furnish no more than one comfort letter hereunder per calendar quarter.

(r) Secretary's Certificate. On or prior to the date of the first Issuance Notice and on or prior to each Triggering Event Date, the Company shall furnish the Agent a certificate executed by the Secretary of the Company, signing in such capacity, dated the date of delivery (i) certifying that attached thereto are true and complete copies of the resolutions duly adopted by the Board of Directors of the Company authorizing the execution and delivery of this Agreement and the consummation of the transactions contemplated hereby (including, without limitation, the issuance of the Shares pursuant to this Agreement), which authorization shall be in full force and effect on and as of the date of such certificate, (ii) certifying and attesting to the office, incumbency, due authority and specimen signatures of each Person who executed this Agreement for or on behalf of the Company, and (iii) containing any other certification that the Agent shall reasonably request.

(s) Agent's Own Account; Clients' Account. The Company consents to the Agent trading, in compliance with applicable law, in the Common Shares for the Agent's own account and for the account of its clients at the same time as sales of the Shares occur pursuant to this Agreement.



(t) Investment Limitation. The Company shall not invest or otherwise use the proceeds received by the Company from its sale of the Shares in such a manner as would require the Company or any of its subsidiaries to register as an investment company under the Investment Company Act.

(u) No Stabilization or Manipulation: Compliance with Regulation M. The Company will not take, and will ensure that no affiliate of the Company will take, directly or indirectly, any action designed to or that might cause or result in stabilization or manipulation of the price of the Shares or any reference security with respect to the Shares, whether to facilitate the sale or resale of the Shares or otherwise, and the Company will, and shall cause each of its Affiliates to, comply with all applicable provisions of Regulation M under the Exchange Act.

(v) Notice of Other Sale. Without the written consent of the Agent, the Company will not, directly or indirectly, offer to sell, sell, contract to sell, grant any option to sell or otherwise dispose of any Common Shares or securities convertible into or exchangeable for Common Shares (other than Shares hereunder), warrants or any rights to purchase or acquire Common Shares, during the period beginning on the third Trading Day immediately prior to the date on which any Issuance Notice is delivered to the Agent hereunder and ending on the third Trading Day immediately following the Settlement Date with respect to Shares sold pursuant to such Issuance Notice; and will not directly or indirectly enter into any other "at the market" or continuous equity transaction offer to sell, sell, contract to sell, grant any option to sell or otherwise dispose of any Common Shares (other than the Shares offered pursuant to this Agreement) or securities convertible into or exchangeable for Common Shares, warrants or any rights to purchase or acquire, Common Shares prior to the termination of this Agreement; *provided, however*, that such restrictions will not be required in connection with the Company's (i) issuance of Common Shares or options to purchase Common Shares, or issuance of Common Shares upon the exercise of options, or the grant of other equity awards pursuant to any Company Stock Plan, (ii) issuance of Common Shares upon the exercise of warrants described as outstanding in the Registration Statement and the Prospectus and (iii) issuance of Common Shares in connection with mergers or acquisitions of business, entities, property or other assets, joint ventures or strategic alliances, provided that the aggregate number of Common Shares issued under this subsection (iii) pursuant to any such arrangement shall not exceed five percent (5%) of the number of Common Shares outstanding immediately prior to giving effect to such issuance.

#### **Section 5. CONDITIONS TO DELIVERY OF ISSUANCE NOTICES AND TO SETTLEMENT**

(a) Conditions Precedent to the Right of the Company to Deliver an Issuance Notice and the Obligation of the Agent to Sell Shares The right of the Company to deliver an Issuance Notice hereunder is subject to the satisfaction, on the date of delivery of such Issuance Notice, and the obligation of the Agent to use its commercially reasonable efforts to place Shares during the applicable period set forth in the Issuance Notice is subject to the satisfaction, on each Trading Day during the applicable period set forth in the Issuance, of each of the following conditions:

- (i) Accuracy of the Company's Representations and Warranties; Performance by the Company. The Company shall have delivered the certificate required to be delivered pursuant to Section 4(o) on or before the date on which delivery of such certificate is required pursuant to Section 4(o). The Company shall have performed, satisfied and complied with all covenants, agreements and conditions required by this Agreement to be performed, satisfied or complied with by the Company at or prior to such date, including, but not limited to, the covenants contained in Section 4(p), Section 4(q) and Section 4(r).

- (ii) No Injunction. No statute, rule, regulation, executive order, decree, ruling or injunction shall have been enacted, entered, promulgated or endorsed by any court or governmental authority of competent jurisdiction or any self-regulatory organization having authority over the matters contemplated hereby that prohibits or directly and materially adversely affects any of the transactions contemplated by this Agreement, and no proceeding shall have been commenced that may have the effect of prohibiting or materially adversely affecting any of the transactions contemplated by this Agreement.
- (iii) Material Adverse Changes. Except as disclosed in the Prospectus and the Time of Sale Information, (A) in the judgment of the Agent there shall not have occurred any Material Adverse Effect; and (B) there shall not have occurred any downgrading, nor shall any notice have been given of any intended or potential downgrading or of any review for a possible change that does not indicate the direction of the possible change, in the rating accorded any securities of the Company or any of its subsidiaries by any “nationally recognized statistical rating organization” as such term is defined for purposes of Section 3(a)(62) of the Exchange Act.
- (iv) No Suspension of Trading in or Delisting of Common Shares; Other Events. The trading of the Common Shares (including without limitation the Shares) shall not have been suspended by the Commission, the Principal Market or FINRA and the Common Shares (including without limitation the Shares) shall have been approved for listing or quotation on and shall not have been delisted from the Nasdaq Stock Market, the New York Stock Exchange or any of their constituent markets. There shall not have occurred (and be continuing in the case of occurrences under clauses (A) and (B) below) any of the following: (A) trading or quotation in any of the Company’s securities shall have been suspended or limited by the Commission or by the Principal Market or trading in securities generally on either the Principal Market shall have been suspended or limited, or minimum or maximum prices shall have been generally established on any of such stock exchanges by the Commission or the FINRA; (B) a general banking moratorium shall have been declared by any of federal or New York, authorities; or (C) there shall have occurred any outbreak or escalation of national or international hostilities or any crisis or calamity, or any change in the United States or international financial markets, or any substantial change or development involving a prospective substantial change in United States’ or international political, financial or economic conditions, as in the judgment of the Agent is material and adverse and makes it impracticable to market the Shares in the manner and on the terms described in the Prospectus or to enforce contracts for the sale of securities.

(b) Documents Required to be Delivered on each Issuance Notice Date. The Agent's obligation to use its commercially reasonable efforts to place Shares hereunder shall additionally be conditioned upon the delivery to the Agent on or before the Issuance Notice Date of a certificate in form and substance reasonably satisfactory to the Agent, executed by the Chief Executive Officer, President or Chief Financial Officer of the Company, to the effect that all conditions to the delivery of such Issuance Notice shall have been satisfied as at the date of such certificate (which certificate shall not be required if the foregoing representations shall be set forth in the Issuance Notice).

(c) No Misstatement or Material Omission. Agent shall not have advised the Company that the Registration Statement, the Prospectus or the Time of Sale Information, or any amendment or supplement thereto, contains an untrue statement of fact that in the Agent's reasonable opinion is material, or omits to state a fact that in the Agent's reasonable opinion is material and is required to be stated therein or is necessary to make the statements therein not misleading.

#### **Section 6. INDEMNIFICATION AND CONTRIBUTION**

(a) Indemnification of the Agent. The Company agrees to indemnify and hold harmless the Agent, its officers and employees, and each person, if any, who controls the Agent within the meaning of the Securities Act or the Exchange Act against any loss, claim, damage, liability or expense, as incurred, to which the Agent or such officer, employee or controlling person may become subject, under the Securities Act, the Exchange Act, other federal or state statutory law or regulation, or the laws or regulations of foreign jurisdictions where Shares have been offered or sold or at common law or otherwise (including in settlement of any litigation), insofar as such loss, claim, damage, liability or expense (or actions in respect thereof as contemplated below) arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, or any amendment thereto, including any information deemed to be a part thereof pursuant to Rule 430B under the Securities Act, or the omission or alleged omission therefrom of 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 free writing prospectus that the Company has used, referred to or filed, or is required to file, pursuant to Rule 433(d) of the Securities Act or the Prospectus (or any amendment or supplement thereto), or the omission or alleged omission therefrom of a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; or (iii) any act or failure to act or any alleged act or failure to act by the Agent in connection with, or relating in any manner to, the Common Shares or the offering contemplated hereby, and which is included as part of or referred to in any loss, claim, damage, liability or action arising out of or based upon any matter covered by clause (i) or (ii) above, provided that the Company shall not be liable under this clause (iii) to the extent that a court of competent jurisdiction shall have determined by a final judgment that such loss, claim, damage, liability or action resulted directly from any such acts or failures to act undertaken or omitted to be taken by the Agent through its bad faith or willful misconduct, and to reimburse the Agent and each such officer, employee and controlling person for any and all expenses (including the fees and disbursements of counsel chosen by the Agent) as such expenses are reasonably incurred by the Agent or such officer, employee or controlling person in connection with investigating, defending, settling, compromising or paying any such loss, claim, damage, liability, expense or action; *provided, however*, that the foregoing indemnity agreement shall not apply to any loss, claim, damage, liability or expense to the extent, but only to the extent, arising out of or based upon any untrue statement or alleged untrue statement or omission or alleged omission made in reliance upon and in conformity with written information furnished to the Company by the Agent expressly for use in the Registration Statement, any such free writing prospectus or the Prospectus (or any amendment or supplement thereto), it being understood and agreed that the only such information furnished by the Agent to the Company consists of the first sentence in the ninth paragraph under the caption "Plan of Distribution" in the Prospectus. The indemnity agreement set forth in this Section 6(a) shall be in addition to any liabilities that the Company may otherwise have.

(b) Notifications and Other Indemnification Procedures. Promptly after receipt by an indemnified party under this Section 6 of notice of the commencement of any action, such indemnified party will, if a claim in respect thereof is to be made against an indemnifying party under this Section 6, notify the indemnifying party in writing of the commencement thereof, but the omission so to notify the indemnifying party will not relieve it from any liability which it may have to any indemnified party for contribution or otherwise than under the indemnity agreement contained in this Section 6 or to the extent it is not prejudiced as a proximate result of such failure. In case any such action is brought against any indemnified party and such indemnified party seeks or intends to seek indemnity from an indemnifying party, the indemnifying party will be entitled to participate in, and, to the extent that it shall elect, jointly with all other indemnifying parties similarly notified, by written notice delivered to the indemnified party promptly after receiving the aforesaid notice from such indemnified party, to assume the defense thereof with counsel reasonably satisfactory to such indemnified party; *provided, however*, if the defendants in any such action include both the indemnified party and the indemnifying party and the indemnified party shall have reasonably concluded that a conflict may arise between the positions of the indemnifying party and the indemnified party in conducting the defense of any such action or that there may be legal defenses available to it and/or other indemnified parties which are different from or additional to those available to the indemnifying party, the indemnified party or parties shall have the right to select separate counsel to assume such legal defenses and to otherwise participate in the defense of such action on behalf of such indemnified party or parties. Upon receipt of notice from the indemnifying party to such indemnified party of such indemnifying party's election so to assume the defense of such action and approval by the indemnified party of counsel, the indemnifying party will not be liable to such indemnified party under this Section 6 for any legal or other expenses subsequently incurred by such indemnified party in connection with the defense thereof unless (i) the indemnified party shall have employed separate counsel in accordance with the proviso to the preceding sentence (it being understood, however, that the indemnifying party shall not be liable for the fees and expenses of more than one separate counsel (together with local counsel), representing the indemnified parties who are parties to such action), which counsel (together with any local counsel) for the indemnified parties shall be selected by the Agent (in the case of counsel for the indemnified parties referred to in Section 6(a) above), (ii) the indemnifying party shall not have employed counsel satisfactory to the indemnified party to represent the indemnified party within a reasonable time after notice of commencement of the action or (iii) the indemnifying party has authorized in writing the employment of counsel for the indemnified party at the expense of the indemnifying party, in each of which cases the fees and expenses of counsel shall be at the expense of the indemnifying party and shall be paid as they are incurred.

(c) Settlements. The indemnifying party under this Section 6 shall not be liable for any settlement of any proceeding effected without its written consent, but if settled with such consent or if there be a final judgment for the plaintiff, the indemnifying party agrees to indemnify the indemnified party against any loss, claim, damage, liability or expense by reason of such settlement or judgment. Notwithstanding the foregoing sentence, if at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel as contemplated by Section 6(b) hereof, the indemnifying party agrees that it shall be liable for any settlement of any proceeding effected without its written consent if (i) such settlement is entered into more than 30 days after receipt by such indemnifying party of the aforesaid request; and (ii) such indemnifying party shall not have reimbursed the indemnified party in accordance with such request prior to the date of such settlement. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement, compromise or consent to the entry of judgment in any pending or threatened action, suit or proceeding in respect of which any indemnified party is or could have been a party and indemnity was or could have been sought hereunder by such indemnified party, unless such settlement, compromise or consent includes an unconditional release of such indemnified party from all liability on claims that are the subject matter of such action, suit or proceeding.

(d) Contribution. If the indemnification provided for in this Section 6 is for any reason held to be unavailable to or otherwise insufficient to hold harmless an indemnified party in respect of any losses, claims, damages, liabilities or expenses referred to therein, then each indemnifying party shall contribute to the aggregate amount paid or payable by such indemnified party, as incurred, as a result of any losses, claims, damages, liabilities or expenses referred to therein (i) in such proportion as is appropriate to reflect the relative benefits received by the Company, on the one hand, and the Agent, on the other hand, from the offering of the Shares pursuant to this Agreement; or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company, on the one hand, and the Agent, on the other hand, in connection with the statements or omissions which resulted in such losses, claims, damages, liabilities or expenses, as well as any other relevant equitable considerations. The relative benefits received by the Company, on the one hand, and the Agent, on the other hand, in connection with the offering of the Shares pursuant to this Agreement shall be deemed to be in the same respective proportions as the total gross proceeds from the offering of the Shares (before deducting expenses) received by the Company bear to the total commissions received by the Agent. The relative fault of the Company, on the one hand, and the Agent, on the other hand, shall be determined by reference to, among other things, whether any such untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company, on the one hand, or the Agent, on the other hand, and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

The amount paid or payable by a party as a result of the losses, claims, damages, liabilities and expenses referred to above shall be deemed to include, subject to the limitations set forth in Section 6(b), any legal or other fees or expenses reasonably incurred by such party in connection with investigating or defending any action or claim. The provisions set forth in Section 6(b) with respect to notice of commencement of any action shall apply if a claim for contribution is to be made under this Section 6(d); *provided, however*, that no additional notice shall be required with respect to any action for which notice has been given under Section 6(b) for purposes of indemnification.

The Company and the Agent agree that it would not be just and equitable if contribution pursuant to this Section 6(d) were determined by pro rata allocation or by any other method of allocation which does not take account of the equitable considerations referred to in this Section 6(d).

Notwithstanding the provisions of this Section 6(d), the Agent shall not be required to contribute any amount in excess of the agent fees received by the Agent in connection with the offering contemplated hereby. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. For purposes of this Section 6(d), each officer and employee of the Agent and each person, if any, who controls the Agent within the meaning of the Securities Act or the Exchange Act shall have the same rights to contribution as the Agent, and each director of the Company, each officer of the Company who signed the Registration Statement, and each person, if any, who controls the Company with the meaning of the Securities Act and the Exchange Act shall have the same rights to contribution as the Company.

#### **Section 7. TERMINATION & SURVIVAL**

(a) Term. Subject to the provisions of this Section 7, the term of this Agreement shall continue from the date of this Agreement until the end of the Agency Period, unless earlier terminated by the parties to this Agreement pursuant to this Section 7.

(b) Termination; Survival Following Termination.

- (i) Either party may terminate this Agreement prior to the end of the Agency Period, by giving written notice as required by this Agreement, upon five (5) Trading Days' notice to the other party; provided that, (A) if the Company terminates this Agreement after the Agent confirms to the Company any sale of Shares, the Company shall remain obligated to comply with Section 3(b)(v) with respect to such Shares and (B) Section 2, Section 6, Section 7 and Section 8 shall survive termination of this Agreement. If termination shall occur prior to the Settlement Date for any sale of Shares, such sale shall nevertheless settle in accordance with the terms of this Agreement.
- (ii) In addition to the survival provision of Section 7(b)(i), the respective indemnities, agreements, representations, warranties and other statements of the Company, of its officers and of the Agent set forth in or made pursuant to this Agreement will remain in full force and effect, regardless of any investigation made by or on behalf of the Agent or the Company or any of its or their partners, officers or directors or any controlling person, as the case may be, and, anything herein to the contrary notwithstanding, will survive delivery of and payment for the Shares sold hereunder and any termination of this Agreement.

## Section 8. MISCELLANEOUS

(a) Press Releases and Disclosure. The Company may issue a press release describing the material terms of the transactions contemplated hereby as soon as practicable following the date of this Agreement, and may file with the Commission a Current Report on Form 8-K, with this Agreement attached as an exhibit thereto, describing the material terms of the transactions contemplated hereby, and the Company shall consult with the Agent prior to making such disclosures, and the parties hereto shall use all commercially reasonable efforts, acting in good faith, to agree upon a text for such disclosures that is reasonably satisfactory to all parties hereto. No party hereto shall issue thereafter any press release or like public statement (including, without limitation, any disclosure required in reports filed with the Commission pursuant to the Exchange Act) related to this Agreement or any of the transactions contemplated hereby without the prior written approval of the other party hereto, except as may be necessary or appropriate in the reasonable opinion of the party seeking to make disclosure to comply with the requirements of applicable law or stock exchange rules. If any such press release or like public statement is so required, the party making such disclosure shall consult with the other party prior to making such disclosure, and the parties shall use all commercially reasonable efforts, acting in good faith, to agree upon a text for such disclosure that is reasonably satisfactory to all parties hereto.

(b) No Advisory or Fiduciary Relationship. The Company acknowledges and agrees that (i) the transactions contemplated by this Agreement, including the determination of any fees, are arm's-length commercial transactions between the Company and the Agent, (ii) when acting as a principal under this Agreement, the Agent is and has been acting solely as a principal and is not the agent or fiduciary of the Company, or its stockholders, creditors, employees or any other party, (iii) the Agent has not assumed nor will assume an advisory or fiduciary responsibility in favor of the Company with respect to the transactions contemplated hereby or the process leading thereto (irrespective of whether the Agent has advised or is currently advising the Company on other matters) and the Agent does not have any obligation to the Company with respect to the transactions contemplated hereby except the obligations expressly set forth in this Agreement, (iv) the Agent and its respective affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Company, and (v) the Agent has not provided any legal, accounting, regulatory or tax advice with respect to the transactions contemplated hereby and the Company has consulted its own legal, accounting, regulatory and tax advisors to the extent it deemed appropriate.

(c) Research Analyst Independence. The Company acknowledges that the Agent's research analysts and research departments are required to and should be independent from their respective investment banking divisions and are subject to certain regulations and internal policies, and as such the Agent's research analysts may hold views and make statements or investment recommendations and/or publish research reports with respect to the Company or the offering that differ from the views of their respective investment banking divisions. The Company understands that the Agent is a full service securities firm and as such from time to time, subject to applicable securities laws, may effect transactions for its own account or the account of its customers and hold long or short positions in debt or equity securities of the companies that may be the subject of the transactions contemplated by this Agreement.

(d) Notices. All communications hereunder shall be in writing and shall be mailed, hand delivered or telecopied and confirmed to the parties hereto as follows:

If to the Agent:

Jefferies LLC  
520 Madison Avenue  
New York, NY 10022  
Facsimile:  
Attention: General Counsel

with a copy (which shall not constitute notice) to:

Covington & Burling LLP  
620 Eighth Avenue  
New York, New York 10018  
Attention: Donald Murray.

If to the Company:

Corbus Pharmaceuticals Holdings, Inc.  
500 River Ridge Drive  
Norwood, MA 02062  
Email: smoran@corbuspharma.com  
Attention: Sean Moran  
Chief Financial Officer.

with a copy (which shall not constitute notice) to:

Lowenstein Sandler LLP  
1251 Avenue of the Americas  
New York, New York 10020  
Facsimile: (973) 507-2476  
Attention: Steven M. Skolnick

Any party hereto may change the address for receipt of communications by giving written notice to the others in accordance with this Section 8(d).

(e) Successors. This Agreement will inure to the benefit of and be binding upon the parties hereto, and to the benefit of the employees, officers and directors and controlling persons referred to in Section 6, and in each case their respective successors, and no other person will have any right or obligation hereunder. The term "successors" shall not include any purchaser of the Shares as such from the Agent merely by reason of such purchase.



(f) Partial Unenforceability. The invalidity or unenforceability of any Article, Section, paragraph or provision of this Agreement shall not affect the validity or enforceability of any other Article, Section, paragraph or provision hereof. If any Article, Section, paragraph or provision of this Agreement is for any reason determined to be invalid or unenforceable, there shall be deemed to be made such minor changes (and only such minor changes) as are necessary to make it valid and enforceable.

(g) Governing Law Provisions. This Agreement shall be governed by and construed in accordance with the internal laws of the State of New York applicable to agreements made and to be performed in such state. Any legal suit, action or proceeding arising out of or based upon this Agreement or the transactions contemplated hereby (“**Related Proceedings**”) may be instituted in the federal courts of the United States of America located in the Borough of Manhattan in the City of New York or the courts of the State of New York in each case located in the Borough of Manhattan in the City of New York (collectively, the “**Specified Courts**”), and each party irrevocably submits to the exclusive jurisdiction (except for proceedings instituted in regard to the enforcement of a judgment of any such court (a “**Related Judgment**”), as to which such jurisdiction is non-exclusive) of such courts in any such suit, action or proceeding. Service of any process, summons, notice or document by mail to such party’s address set forth above shall be effective service of process for any suit, action or other proceeding brought in any such court. The parties irrevocably and unconditionally waive any objection to the laying of venue of any suit, action or other proceeding in the Specified Courts and irrevocably and unconditionally waive and agree not to plead or claim in any such court that any such suit, action or other proceeding brought in any such court has been brought in an inconvenient forum.

(h) General Provisions. This Agreement constitutes the entire agreement of the parties to this Agreement and supersedes all prior written or oral and all contemporaneous oral agreements, understandings and negotiations with respect to the subject matter hereof. This Agreement may be executed in two or more counterparts, each one of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument, and may be delivered by facsimile transmission or by electronic delivery of a portable document format (PDF) file. This Agreement may not be amended or modified unless in writing by all of the parties hereto, and no condition herein (express or implied) may be waived unless waived in writing by each party whom the condition is meant to benefit. The Article and Section headings herein are for the convenience of the parties only and shall not affect the construction or interpretation of this Agreement.

*[Signature Page Immediately Follows]*

If the foregoing is in accordance with your understanding of our agreement, kindly sign and return to the Company the enclosed copies hereof, whereupon this instrument, along with all counterparts hereof, shall become a binding agreement in accordance with its terms

Very truly yours,

**CORBUS PHARMACEUTICALS HOLDINGS, INC.**

By: /s/ Yuval Cohen

Name: Yuval Cohen

Title: Chief Executive Officer

The foregoing Agreement is hereby confirmed and accepted by the Agent in New York, New York as of the date first above written.

**JEFFERIES LLC**

By: /s/ Dustin Tyner

Name: Dustin Tyner

Title: Managing Director

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**EXHIBIT A**

**ISSUANCE NOTICE**

[Date]

Jefferies LLC  
520 Madison Avenue  
New York, New York 10022

Attn: [\_\_\_\_\_]

Reference is made to the Open Market Sale Agreement between Corbus Pharmaceuticals Holdings, Inc. (the “**Company**”) and Jefferies LLC (the “**Agent**”) dated as of April 7, 2020. The Company confirms that all conditions to the delivery of this Issuance Notice are satisfied as of the date hereof.

Date of Delivery of Issuance Notice (determined pursuant to Section 3(b)(i)): \_\_\_\_\_

Issuance Amount (equal to the total Sales Price for such Shares):

\$ \_\_\_\_\_

Number of days in selling period:

\_\_\_\_\_

First date of selling period:

\_\_\_\_\_

Last date of selling period:

\_\_\_\_\_

Settlement Date(s) if other than standard T+2 settlement:

\_\_\_\_\_

Floor Price Limitation (in no event less than \$1.00 without the prior written consent of the Agent, which consent may be withheld in the Agent’s sole discretion): \$ \_\_\_\_ per share

Comments:

\_\_\_\_\_

By:

Name:

Title:

\_\_\_\_\_

\_\_\_\_\_

**Schedule A**

**Notice Parties**

The Company

Sean Moran

The Agent

Dustin Tyner

Mike Magarro

Don Lynaugh

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## CORBUS PHARMACEUTICALS HOLDINGS, INC., as Issuer

and

•, as Trustee

## INDENTURE

Dated as of •

## Senior Debt Securities

CROSS REFERENCE SHEET<sup>1</sup>

Between

Provisions of the Trust Indenture Act of 1939 and the Indenture to be dated as of \_\_\_\_\_, 20\_\_ between CORBUS PHARMACEUTICALS HOLDINGS, INC. and \_\_\_\_\_, as Trustee:

| Section of the Act     | Section of Indenture |
|------------------------|----------------------|
| 310(a)(1) and (2)      | 5.08                 |
| 310(a)(3) and (4)      | Inapplicable         |
| 310(b)                 | 5.09(a), (b) and (d) |
| 310(c)                 | Inapplicable         |
| 311(a)                 | Inapplicable         |
| 311(b)                 | Inapplicable         |
| 311(c)                 | Inapplicable         |
| 312(a)                 | 3.05                 |
| 312(b)                 | 3.05                 |
| 312(c)                 | 4.02(c)              |
| 313(a)                 | 5.12                 |
| 313(b)(1)              | 5.12                 |
| 313(b)(2)              | 5.12                 |
| 313(c)                 | 5.12                 |
| 313(d)                 | 5.12                 |
| 314(a)                 | 3.06                 |
| 314(b)                 | Inapplicable         |
| 314(c)(1) and (2)      | 10.05                |
| 314(c)(3)              | Inapplicable         |
| 314(d)                 | Inapplicable         |
| 314(e)                 | 10.05                |
| 314(f)                 | Inapplicable         |
| 315(a), (c) and (d)    | 5.01                 |
| 315(b)                 | 4.11                 |
| 315(e)                 | 4.12                 |
| 316(a)(1)              | 4.09                 |
| 316(a)(2)              | Not required         |
| 316(a) (last sentence) | 6.04                 |
| 316(b)                 | 4.07                 |
| 317(a)                 | 4.02                 |
| 317(b)                 | 3.03(a) and (b)      |
| 318(a)                 | 10.07                |

<sup>1</sup> This Cross Reference Sheet is not part of the Indenture.

## TABLE OF CONTENTS

|              |   | <u>Page</u> |
|--------------|---|-------------|
| Article 1    | DEFINITIONS   | 1           |
| Section 1.01 | Certain Terms Defined                                     | 1           |
| Article 2    | SECURITIES  | 8           |
| Section 2.01 | Forms Generally   | 8           |
| Section 2.02 | Form of Trustee's Certification of Authentication         | 8           |
| Section 2.03 | Amount Unlimited; Issuable in Series                      | 9           |
| Section 2.04 | Authentication and Delivery of Securities                 | 10          |
| Section 2.05 | Execution of Securities                                   | 11          |
| Section 2.06 | Certificate of Authentication                             | 12          |
| Section 2.07 | Denomination and Date of Securities; Payments of Interest | 12          |
| Section 2.08 | Registration, Transfer and Exchange                       | 12          |
| Section 2.09 | Mutilated, Defaced, Destroyed, Lost and Stolen Securities | 15          |
| Section 2.10 | Cancellation of Securities; Destruction Thereof           | 16          |
| Section 2.11 | Temporary Securities                                      | 16          |
| Section 2.12 | Computation of Interest                                   | 16          |
| Section 2.13 | CUSIP Numbers   | 17          |
| Article 3    | COVENANTS OF THE ISSUER AND THE TRUSTEE                   | 17          |
| Section 3.01 | Payment of Principal and Interest                         | 17          |
| Section 3.02 | Offices for Payments, etc                                 | 17          |
| Section 3.03 | Paying Agents   | 18          |
| Section 3.04 | Certificate of the Issuer                                 | 19          |
| Section 3.05 | List of Securityholders                                   | 19          |
| Section 3.06 | Reports by the Issuer                                     | 19          |
| Section 3.07 | Corporate Existence                                       | 20          |
| Section 3.08 | Restrictions on Mergers, Sales and Consolidations         | 20          |
| Section 3.09 | Further Assurances  | 20          |

**TABLE OF CONTENTS**

(continued)

|              |  |    |
|--------------|--|----|
| Article 4    | REMEDIES OF THE TRUSTEE AND SECURITYHOLDERS ON EVENT OF DEFAULT                                    | 20 |
| Section 4.01 | Event of Default Defined; Acceleration of Maturity; Waiver of Default                              | 20 |
| Section 4.02 | Collection of Indebtedness by Trustee; Trustee May Prove Debt                                      | 22 |
| Section 4.03 | Application of Proceeds  | 24 |
| Section 4.04 | Suits for Enforcement  | 25 |
| Section 4.05 | Restoration of Rights on Abandonment of Proceedings  | 25 |
| Section 4.06 | Limitations on Suits by Securityholder   | 26 |
| Section 4.07 | Unconditional Right of Securityholders to Institute Certain Suits                                  | 26 |
| Section 4.08 | Powers and Remedies Cumulative; Delay or Omission Not Waiver of Default                            | 26 |
| Section 4.09 | Control by Securityholders   | 26 |
| Section 4.10 | Waiver of Past Defaults  | 27 |
| Section 4.11 | Trustee to Give Notice of Default, But May Withhold in Certain Circumstances                       | 27 |
| Section 4.12 | Right of Court to Require Filing of Undertaking to Pay Costs                                       | 27 |
| Article 5    | CONCERNING THE TRUSTEE   | 28 |
| Section 5.01 | Duties and Responsibilities of the Trustee   | 28 |
| Section 5.02 | Certain Rights of the Trustee  | 29 |
| Section 5.03 | Trustee Not Responsible for Recitals, Disposition of Securities or Application of Proceeds Thereof | 30 |
| Section 5.04 | Trustee and Agents May Hold Securities; Collections, etc   | 31 |
| Section 5.05 | Monies Held by Trustee   | 31 |
| Section 5.06 | Compensation and Indemnification of Trustee and Its Prior Claim                                    | 31 |
| Section 5.07 | Right of Trustee to Rely on Officers' Certificate, etc   | 31 |
| Section 5.08 | Persons Eligible for Appointment as Trustee  | 32 |
| Section 5.09 | Resignation and Removal; Appointment of Successor Trustee  | 32 |
| Section 5.10 | Acceptance of Appointment by Successor   | 33 |
| Section 5.11 | Merger, Conversion, Consolidation or Succession to Business of Trustee                             | 34 |
| Section 5.12 | Reports to the Trustee   | 34 |

## TABLE OF CONTENTS

(continued)

|               |  |    |
|---------------|--|----|
| Article 6     | CONCERNING THE SECURITYHOLDERS   | 35 |
| Section 6.01  | Evidence of Action Taken by Securityholders  | 35 |
| Section 6.02  | Proof of Execution of Instruments and of Holding of Securities; Record Date          | 35 |
| Section 6.03  | Holders to be Treated as Owners  | 35 |
| Section 6.04  | Securities Owned by Issuer Deemed Not Outstanding                                    | 36 |
| Section 6.05  | Right of Revocation of Action Taken  | 36 |
| Article 7     | SUPPLEMENTAL INDENTURES  | 36 |
| Section 7.01  | Supplemental Indentures Without Consent of Securityholders                           | 36 |
| Section 7.02  | Supplemental Indentures With Consent of Securityholders                              | 38 |
| Section 7.03  | Effect of Supplemental Indenture   | 39 |
| Section 7.04  | Documents to Be Given to Trustee   | 39 |
| Section 7.05  | Notation on Securities in Respect of Supplemental Indentures                         | 39 |
| Article 8     | CONSOLIDATION, MERGER, SALE OR CONVEYANCE  | 40 |
| Section 8.01  | Issuer May Consolidate, etc., on Certain Terms                                       | 40 |
| Section 8.02  | Successor Corporation Substituted  | 40 |
| Article 9     | DISCHARGE OF INDENTURE   | 41 |
| Section 9.01  | Defeasance Within One Year of Payment  | 41 |
| Section 9.02  | Defeasance   | 42 |
| Section 9.03  | Covenant Defeasance  | 42 |
| Section 9.04  | Application of Trust Money   | 43 |
| Section 9.05  | Repayment to Issuer  | 44 |
| Article 10    | MISCELLANEOUS PROVISIONS   | 44 |
| Section 10.01 | Incorporators, Stockholders, Officers and Directors Exempt from Individual Liability | 44 |
| Section 10.02 | Provisions of Indenture for the Sole Benefit of Parties and Securityholders          | 44 |
| Section 10.03 | Successors and Assigns of Issuer Bound by Indenture                                  | 44 |
| Section 10.04 | Notices and Demands on Issuer, Trustee and Securityholders                           | 44 |
| Section 10.05 | Officers' Certificates and Opinions of Counsel; Statements to be Contained Therein   | 45 |
| Section 10.06 | Payments Due on Saturdays, Sundays and Holidays                                      | 46 |
| Section 10.07 | Conflict of Any Provision of Indenture with Trust Indenture Act of 1939              | 46 |
| Section 10.08 | New York Law to Govern   | 46 |



**TABLE OF CONTENTS**

(continued)

|               |  |    |
|---------------|--|----|
| Section 10.09 | Counterparts   | 46 |
| Section 10.10 | Effect of Headings   | 46 |
| Article 11    | REDEMPTION OF SECURITIES   | 47 |
| Section 11.01 | Applicability of Article   | 47 |
| Section 11.02 | Notice of Redemption; Partial Redemptions  | 47 |
| Section 11.03 | Payment of Securities Called for Redemption                                      | 48 |
| Section 11.04 | Exclusion of Certain Securities from Eligibility for Selection for Redemption    | 49 |
| Section 11.05 | Conversion Arrangement On Call For Redemption                                    | 49 |
| Article 12    | CONVERSION OF SECURITIES   | 49 |
| Section 12.01 | Applicability of Article   | 49 |
| Section 12.02 | Right of Securityholders to Convert Securities                                   | 50 |
| Section 12.03 | Issuance of Shares of Capital Stock on Conversion                                | 50 |
| Section 12.04 | No Payment or Adjustment for Interest or Dividends                               | 51 |
| Section 12.05 | Adjustment of Conversion Rate  | 51 |
| Section 12.06 | No Fractional Shares to Be Issued  | 55 |
| Section 12.07 | Preservation of Conversion Rights Upon Consolidation, Merger, Sale or Conveyance | 55 |
| Section 12.08 | Notice to Security Holders of a Series Prior to Taking Certain Types of Action   | 56 |
| Section 12.09 | Covenant to Reserve Shares for Issuance on Conversion of Securities              | 57 |
| Section 12.10 | Compliance with Governmental Requirements  | 57 |
| Section 12.11 | Payment of Taxes Upon Certificates for Shares Issued Upon Conversion             | 57 |
| Section 12.12 | Trustee's Duties with Respect to Conversion Provisions                           | 57 |

THIS INDENTURE, dated as of \_\_\_\_\_, between CORBUS PHARMACEUTICALS HOLDINGS, INC., a Delaware corporation (the "Issuer") and \_\_\_\_\_, a corporation, as trustee (the "Trustee").

WITNESSETH:

WHEREAS, the Issuer has duly authorized the issue from time to time of its senior debentures, notes or other evidences of indebtedness to be issued in one or more series (the "Securities") up to such principal amount or amounts as may from time to time be authorized in accordance with the terms of this Indenture and to provide, among other things, for the authentication, delivery and administration thereof, the Issuer has duly authorized the execution and delivery of this Indenture; and

WHEREAS, all things necessary to make this Indenture a valid indenture and agreement according to its terms have been done;

NOW, THEREFORE:

In consideration of the premises and the purchases of the Securities by the Holders thereof, the Issuer and the Trustee mutually covenant and agree for the equal and proportionate benefit of the respective Holders from time to time of the Securities as follows:

ARTICLE 1  
DEFINITIONS

Section 1.01 *Certain Terms Defined.* The following terms (except as otherwise expressly provided or unless the context otherwise clearly requires) for all purposes of this Indenture and of any indenture supplemental hereto shall have the respective meanings specified in this Section. All other terms used in this Indenture that are defined in the Trust Indenture Act of 1939 or the definitions of which in the Securities Act of 1933 are referred to in the Trust Indenture Act of 1939, as amended, including terms defined therein by reference to the Securities Act of 1933, as amended, (except as herein otherwise expressly provided or unless the context otherwise clearly requires), shall have the meanings assigned to such terms in said Trust Indenture Act and in said Securities Act as in force at the date of this Indenture. All accounting terms used herein and not expressly defined shall have the meanings assigned to such terms in accordance with GAAP. The words "herein", "hereof" and "hereunder" and other words of similar import refer to this Indenture as a whole and not to any particular Article, Section or other subdivision. The terms defined in this Article have the meanings assigned to them in this Article and include the plural as well as the singular.

"Affiliate" of any specified Person means any other Person directly or indirectly controlling or controlled by or under direct or indirect common control with such specified Person. For the purposes of this definition, "control" when used with respect to any specified Person means the power to direct the management and policies of such Person, directly or indirectly, whether through the ownership of voting securities, by contract or otherwise; and the terms "controlling" and "controlled" have meanings correlative to the foregoing.

“**Authorized Newspaper**” means a newspaper in the English language or in an official language of the country of publication, customarily printed on each Business Day, whether or not published on Saturdays, Sundays or holidays, and of general circulation in the place in connection with which the term is used or in the financial community of such place. If, because of temporary suspension of publication or general circulation of any newspaper or for any other reason, it is impossible or impracticable to make any publication of any notice required by this Indenture in the manner herein provided, such publication or other notice in lieu thereof which is made at the written direction of the Issuer by the Trustee shall constitute a sufficient publication of such notice.

“**Board of Directors**” means either the Board of Directors of the Issuer or any committee of such Board duly authorized to act hereunder.

“**Business Day**” means, with respect to any Security, a day that in the city (or in all of the cities, if more than one) in which amounts are payable, as specified in the form of such Security, is not a day on which banking institutions are authorized by law or regulation to close.

“**Capitalized Lease**” means, as applied to any Person, any lease of any property (whether real, personal, or mixed) of which the discounted present value of the rental obligations of such Person as lessee, in conformity with GAAP, is required to be capitalized on the balance sheet of such Person; and “**Capitalized Lease Obligation**” is defined to mean the rental obligations, as aforesaid, under such lease.

“**Capital Stock**” means any and all shares, interests, participations or other equivalents (however designated, whether voting or non-voting) of the Issuer’s capital stock or other ownership interests, whether now outstanding or issued after the date of this Indenture, including, without limitation, all Common Stock and Preferred Stock.

“**Closing Price**” on any day when used with respect to any class of Capital Stock means the closing sale price per share (or if no closing sale price is reported, the average of the bid and ask prices or, if more than one in either case, the average of the average bid and the average ask prices) on that date as reported by The Nasdaq Global Select Market or, if such Capital Stock is not listed on The Nasdaq Global Select Market, then on the principal U.S. national or regional securities exchange on which such Capital Stock is then listed. If such Capital Stock is not listed on either The Nasdaq Global Select Market or on any U.S. national or regional securities exchange on the relevant date, the Closing Price will be the last quoted bid price for the Company’s Common Stock in the over-the-counter market on the relevant date as reported by the OTC Markets Group Inc. or similar organization. In the event that no such quotation is available for any day, the Board of Directors shall be entitled to determine in good faith the current market price on the basis of such quotations as it considers appropriate.

“**Commission**” means the Securities and Exchange Commission, as from time to time constituted, created under the Securities Exchange Act of 1934, or if at any time after the execution and delivery of this Indenture such Commission is not existing and performing the duties now assigned to it under the Trust Indenture Act, then the body performing such duties on such date.

“**Common Stock**” means any and all shares, interests, participations or other equivalents (however designated, whether voting or non-voting) of the Issuer’s common stock, par value \$0.001 per share, whether now outstanding or issued after the date of the Indenture, including, without limitation, all series and classes of such common stock.

“**Corporate Trust Office**” means the office of the Trustee at which the corporate trust business of the Trustee shall, at any particular time, be principally administered, which office is, at the date as of which this Indenture is dated, located at ●.

“**Currency Agreement**” means any foreign exchange contract, currency swap agreement, or other similar agreement or arrangement designed to protect against the fluctuation in currency values.

“**Default**” means any Event of Default as defined in Section 4.01 and any event that is, or after notice or passage of time or both would be, an Event of Default.

“**Depository**” means, with respect to the Securities of any series issuable or issued in the form of one or more Registered Global Securities, the Person designated as Depository by the Issuer pursuant to Section 2.03 until a successor Depository shall have become such pursuant to the applicable provisions of this Indenture, and thereafter “Depository” shall mean or include each Person who is then a Depository hereunder, and if at any time there is more than one such Person, “Depository” as used with respect to the Securities of any such series shall mean the Depository with respect to the Registered Global Securities of that series.

“**Determination Date**” has the meaning specified in Section 12.05.

“**Event of Default**” has the meaning specified in Section 4.01.

“**GAAP**” means generally accepted accounting principles in the United States of America as in effect as of the date of determination, including, without limitation, those set forth in the opinions and pronouncements of the Accounting Principles Board of the American Institute of Certified Public Accountants and statements and pronouncements of the Financial Accounting Standards Board or in such other statements by such other entity as approved by a significant segment of the accounting profession. All ratios and computations contained in this Indenture shall be computed in conformity with GAAP applied on a consistent basis.

“**Guarantee**” means any obligation, contingent or otherwise, of any Person directly or indirectly guaranteeing any Indebtedness or other obligation of any other Person and, without limiting the generality of the foregoing, any obligation, direct or indirect, contingent or otherwise, of such Person:

(i) to purchase or pay (or advance or supply funds for the purchase or payment of) such Indebtedness or other obligation of such other Person (whether arising by virtue of partnership arrangements, or by agreement to keep-well, to purchase assets, goods, securities, or services, to take-or-pay, or to maintain financial statement conditions or otherwise); or

(ii) entered into for purposes of assuring in any other manner the obligee of such Indebtedness or other obligation of the payment thereof or to protect such obligee against loss in respect thereof (in whole or in part);

*provided*, that the term “**Guarantee**” shall not include endorsements for collection or deposit in the ordinary course of business. The term “**Guarantee**” used as a verb has a corresponding meaning.

“**Holder**”, “**Securityholder**” or other similar terms mean the registered holder of any Security.

“**Indebtedness**” means, with respect to any Person at any date of determination (without duplication):

(i) all indebtedness of such Person for borrowed money;

(ii) all obligations of such Person evidenced by bonds, debentures, notes, or other similar instruments, in each case, for value received or settlement of claims;

(iii) all obligations of such Person in respect of letters of credit or other similar instruments (including reimbursement obligations with respect thereto);

(iv) all obligations of such Person to pay the deferred and unpaid purchase price of property or services (but excluding trade accounts payable or accrued liabilities arising in the ordinary course of business);

(v) all obligations of such Person as lessee under Capitalized Leases;

(vi) all Indebtedness of other Persons secured by a Lien on any asset of such Person, whether or not such Indebtedness is assumed by such Person;*provided* that the amount of such Indebtedness shall be the lesser of:

(1) the fair market value of such asset at such date of determination; and

(2) the amount of such Indebtedness;

(vii) all Indebtedness of other Persons to the extent Guaranteed by such Person; and

(viii) to the extent not otherwise included in this definition, obligations under Currency Agreements and Interest Rate Agreements.

Notwithstanding the foregoing, in no event shall the term “Indebtedness” be deemed to include letters of credit or bonds that secure performance or surety bonds or similar instruments that are issued in the ordinary course of business.

The amount of Indebtedness of any Person at any date shall be the outstanding balance at such date of all unconditional obligations as described above and, with respect to contingent obligations, the maximum liability upon the occurrence of the contingency giving rise to the obligation; *provided* that:

(x) the amount outstanding at any time of any Indebtedness issued with original issue discount is the face amount of such Indebtedness less the remaining unamortized portion of the original issue discount of such Indebtedness at such time as determined in conformity with GAAP; and

(y) Indebtedness shall not include any liability for federal, state, local, or other taxes.

**“Indenture”** means this instrument as originally executed and delivered or, if amended or supplemented as herein provided, as so amended or supplemented or both, and shall include the forms and terms of particular series of Securities established as contemplated hereunder.

**“Interest”** means, when used with respect to non-interest bearing Securities, interest payable after maturity. **“Interest Rate Agreement”** means any obligation of any Person pursuant to any interest rate swap, cap, collar or similar arrangement providing protection against fluctuations in interest rates. For purposes of the Indenture, the amount of such obligation shall be the amount determined in respect thereof as of the end of the then most recently ended fiscal quarter of such Person, based on the assumption that such obligation had terminated at the end of such fiscal quarter, and in making such determination, if any agreement relating to such obligation provides for the netting of amounts payable by and to such Person thereunder or if any such agreement provides for the simultaneous payment of amounts by and to such Person, then in each such case, the amount of such obligation shall be the net amount so determined, plus any premium due upon default by such Person.

**“Issuer”** means the Person identified as “Issuer” in the first paragraph hereof and, subject to Article 8, its successors and assigns.

**“Lien”** means, with respect to any asset, any mortgage, lien, pledge, charge, security interest or encumbrance of any kind, or any other type of preferential arrangement that has the practical effect of creating a security interest, in respect of such asset. For the purposes of this Indenture, the Issuer shall be deemed to own subject to a Lien any asset that it has acquired or holds subject to the interest of a vendor or lessor under any conditional sale agreement, capital lease or other title retention agreement relating to such asset.

**“Officers’ Certificate”** means a certificate signed by the chairman of the Issuer’s Board of Directors, its president or any vice president, and by its treasurer, any assistant treasurer, its secretary or any assistant secretary of the Issuer, and delivered to the Trustee. Each such certificate shall comply with Section 314 of the Trust Indenture Act of 1939 and include the statements provided for in Section 10.05.

**“Opinion of Counsel”** means an opinion in writing signed by legal counsel who may be an employee of or counsel to the Issuer and who shall be satisfactory to the Trustee. Each such opinion shall comply with Section 314 of the Trust Indenture Act of 1939 and include the statements provided for in Section 10.05, if and to the extent required hereby.

“**Original Issue Date**” of any Security (or portion thereof) means the earlier of (i) the date of such Security or (ii) the date of any Security (or portion thereof) for which such Security was issued (directly or indirectly) on registration of transfer, exchange or substitution.

“**Original Issue Discount Security**” means any Security that provides for an amount less than the Principal amount thereof to be due and payable upon a declaration of acceleration of the maturity thereof pursuant to Section 4.01.

“**Outstanding**”, when used with reference to Securities, shall, subject to the provisions of Section 6.04, mean, as of any particular time, all Securities authenticated and delivered by the Trustee under this Indenture, except:

(i) Securities theretofore canceled by the Trustee or delivered to the Trustee for cancellation;

(ii) Securities, or portions thereof, for the payment or redemption of which monies in the necessary amount shall have been deposited in trust with the Trustee or with any paying agent (other than the Issuer) or shall have been set aside, segregated and held in trust by the Issuer for the Holders of such Securities (if the Issuer shall act as its own paying agent), provided that if such Securities, or portions thereof, are to be redeemed prior to the maturity thereof, notice of such redemption shall have been given as herein provided, or provision satisfactory to the Trustee shall have been made for giving such notice; and

(iii) Securities in substitution for which other Securities shall have been authenticated and delivered, or which shall have been paid, pursuant to the terms of Section 2.09 (except with respect to any such Security as to which proof satisfactory to the Trustee is presented that such Security is held by a person in whose hands such Security is a legal, valid and binding obligation of the Issuer).

In determining whether the Holders of the requisite Principal amount of Outstanding Securities of any or all series have given any request, demand, authorization, direction, notice, consent or waiver hereunder, the Principal amount of an Original Issue Discount Security that shall be deemed to be Outstanding for such purposes shall be the amount of the Principal thereof that would be due and payable as of the date of such determination upon a declaration of acceleration of the maturity thereof pursuant to Section 4.01.

“**Person**” means any individual, corporation, partnership, limited liability company, joint venture, association, joint stock company, trust, unincorporated organization or government or any agency or political subdivision thereof or any other entity.

“**Preferred Stock**” means any and all shares, interests, participations or other equivalents (however designated, whether voting or non-voting) of the Issuer’s preferred stock, par value \$0.001 per share, whether now outstanding or issued after the date of the Indenture, including, without limitation, all series and classes of such preferred stock.

“**Principal**” means, with respect to the Securities or any Security or any portion thereof, the principal amount of such Securities, Security or portion thereof, and shall be deemed to include “and premium, if any”.

“**record date**” as used with respect to any interest payment date (except a date for payment of defaulted interest), has the meaning specified in Section 2.07.

“**Registered Global Security**” means a Security evidencing all or a part of a series of Registered Securities, issued to the Depository for such series in accordance with Section 2.04, and bearing the legend prescribed in Section 2.04.

“**Registered Security**” means any Security registered on the register maintained by the Issuer pursuant to Section 2.08.

“**Responsible Officer**” when used with respect to the Trustee means any officer within the corporate trust department of the Trustee, including any vice president, assistant vice president, assistant secretary, assistant treasurer, trust officer or any other officer of the Trustee who customarily performs functions similar to those performed by the Persons who at the time shall be such officers, respectively, or to whom any corporate trust matter is referred because of such person’s knowledge of and familiarity with the particular subject and who shall have direct responsibility for the administration of this Indenture.

“**Security**” or “**Securities**” has the meaning stated in the first recital of this Indenture, or, as the case may be, Securities that have been authenticated and delivered under this Indenture.

“**Subsidiary**” means, with respect to any Person, any corporation, association or other business entity of which more than 50% of all votes represented by all classes of outstanding Voting Stock is owned, directly or indirectly, by such Person and one or more other Subsidiaries of such Person.

“**Trustee**” means the Person identified as “**Trustee**” in the first paragraph hereof and, subject to the provisions of Article 5, shall also include any successor trustee.

“**Trust Indenture Act of 1939**” (except as otherwise provided in Section 7.01 and 7.02) means the Trust Indenture Act of 1939 as in force at the date as of which this Indenture was originally executed.

“**UCC**” means the Uniform Commercial Code, as in effect in each applicable jurisdiction.

“**Unregistered Security**” means any Security other than a Registered Security.

“**U.S. Government Obligations**” means securities that are (i) direct obligations of the United States of America for the payment of which its full faith and credit is pledged or (ii) obligations of an agency of instrumentality of the United States of America the payment of which is unconditionally guaranteed as a full faith and credit obligation by the United States of America, and shall also include a depository receipt issued by a bank or trust company as custodian with respect to any such U.S. Government Obligation or a specific payment of interest on or principal of any such U.S. Government Obligation held by such custodian for the account of the holder of a depository receipt; provided that (except as required by law) such custodian is not authorized to make any deduction from the amount payable to the holder of such depository receipt from any amount received by the custodian in respect of the U.S. Government Obligation or the specific payment of interest on or principal of the U.S. Government Obligation evidenced by such depository receipt.



“**Voting Stock**” means, with respect to any Person, capital stock of any class or kind ordinarily having the power to vote for the election of directors, managers or other voting members of the governing body of such Person.

“**vice president**” when used with respect to the Issuer or the Trustee, means any vice president, whether or not designated by a number or a word or words added before or after the title of “**vice president**”.

“**Wholly-Owned**” is defined to mean, with respect to any Subsidiary of any Person, such Subsidiary if all of the outstanding common stock or other similar equity ownership interests (but not including preferred stock) in such Subsidiary (other than any director’s qualifying shares or investments by foreign nationals mandated by applicable law) is owned directly or indirectly by such Person.

“**Yield to Maturity**” means the yield to maturity on a series of securities, calculated at the time of issuance of such series, or, if applicable, at the most recent redetermination of interest on such series, and calculated in accordance with accepted financial practice.

ARTICLE 2  
SECURITIES

Section 2.01 *Forms Generally*. The Securities of each series shall be substantially in such form (not inconsistent with this Indenture) as shall be established by or pursuant to a resolution of the Board of Directors or in one or more indentures supplemental hereto, in each case with such appropriate insertions, omissions, substitutions and other variations as are required or permitted by this Indenture and may have imprinted or otherwise reproduced thereon such legend or legends, not inconsistent with the provisions of this Indenture, as may be required to comply with any law or with any rules or regulations pursuant thereto, or with any rules of any securities exchange or to conform to general usage, all as may be determined by the officers executing such Securities, as evidenced by their execution of the Securities. The Issuer shall furnish any such legends to the Trustee in writing.

The definitive Securities shall be printed, lithographed or engraved on steel engraved borders or may be produced in any other manner, all as determined by the officers executing such Securities, as evidenced by their execution of such Securities.

Section 2.02 *Form of Trustee’s Certification of Authentication*. The Trustee’s certificate of authentication on all Securities shall be in substantially the following form:

This is one of the Securities of the series designated herein and referred to in the within-mentioned Indenture.

•,  
as Trustee

By: \_\_\_\_\_  
Authorized Signatory:

Section 2.03 *Amount Unlimited; Issuable in Series*. The aggregate Principal amount of Securities which may be authenticated and delivered under this Indenture is unlimited.

The Securities may be issued in one or more series. There shall be established in or pursuant to a resolution of the Board of Directors and set forth in an Officers' Certificate, or established in one or more indentures supplemental hereto, prior to the issuance of Securities of any series:

(a) the title of the Securities of the series (which shall distinguish the Securities of the series from all other Securities);

(b) any limit upon the aggregate Principal amount of the Securities of the series that may be authenticated and delivered under this Indenture (except for Securities authenticated and delivered upon registration of transfer of, or in exchange for, or in lieu of, other Securities of the series pursuant to Section 2.08, 2.09, 2.11 or Section 12.03);

(c) the date or dates on which the Principal of the Securities of the series is payable;

(d) the rate or rates at which the Securities of the series shall bear interest, if any, or the method by which such rate shall be determined, the date or dates from which such interest shall accrue, the interest payment dates on which such interest shall be payable and the record dates for the determination of Holders to whom interest is payable;

(e) the place or places where the Principal of and any interest on Securities of the series shall be payable (if other than as provided in Section 3.02);

(f) the price or prices at which, the period or periods within which and the terms and conditions upon which Securities of the series may be redeemed, in whole or in part, at the option of the Issuer;

(g) the obligation, if any, of the Issuer to redeem, purchase or repay Securities of the series at the option of a Holder thereof and the price or prices at which, the period or periods within which and the terms and conditions upon which Securities of the series shall be redeemed, purchased or repaid, in whole or in part, pursuant to such obligation;

(h) the obligation, if any, of the Issuer to permit the conversion of the Securities of such series into Capital Stock, and the terms and conditions upon which such conversion shall be effected (including, without limitation, the initial conversion price or rate, the conversion period and any other provision in addition to or in lieu of those set forth in this Indenture relative to such obligation);

(i) if other than denominations of \$1,000 and any multiple thereof, the denominations in which Securities of the series shall be issuable;

(j) if other than the Principal amount thereof, the portion of the Principal amount of Securities of the series which shall be payable upon declaration of acceleration of the maturity thereof pursuant to Section 4.01 or provable in bankruptcy pursuant to Section 4.02;

(k) if the Securities of the series are issuable in whole or in part as one or more Registered Global Securities, the identity of the Depositary for such Registered Global Security or Securities;

(l) any other terms of the series (which terms shall not be inconsistent with the provisions of this Indenture); and

(m) any trustees, authenticating or paying agents, transfer agents or registrar or any other agents with respect to the Securities of such series.

All Securities of any one series shall be substantially identical except as to denomination and except as may otherwise be provided in or pursuant to such resolution of the Board of Directors or in any such indenture supplemental hereto.

Section 2.04 *Authentication and Delivery of Securities*. At any time and from time to time after the execution and delivery of this Indenture, the Issuer may deliver Securities of any series executed by the Issuer to the Trustee for authentication, and the Trustee shall thereupon authenticate and deliver such Securities to or upon the written order of the Issuer, such order to be signed by both (a) the chairman of its Board of Directors, its president or any vice president and by its treasurer, any assistant treasurer, its secretary or any assistant secretary, without any further action by the Issuer. In authenticating such Securities and accepting the additional responsibilities under this Indenture in relation to such Securities the Trustee shall receive, and (subject to Section 5.01) shall be fully protected in relying upon:

(a) a certified copy of any resolution or resolutions of the Board of Directors authorizing the action taken pursuant to the resolution or resolutions delivered under clause (b) below;

(b) a copy of any resolution or resolutions of the Board of Directors relating to such series, in each case certified by the secretary or an assistant secretary of the Issuer;

(c) an executed supplemental indenture, if any, and the documentation required to be delivered pursuant to Section 7.04;

(d) an Officers' Certificate setting forth the form and terms of the Securities as required pursuant to Section 2.01 and 2.03, respectively and prepared in accordance with Section 10.05;

(e) an Opinion of Counsel, prepared in accordance with Section 10.05, to the effect:

(i) that the form or forms and terms of such Securities have been established by or pursuant to a resolution of the Board of Directors or by a supplemental indenture as permitted by Section 2.01 and 2.03 in conformity with the provisions of this Indenture; and

(ii) that such Securities, when authenticated and delivered by the Trustee and issued by the Issuer in the manner and subject to any conditions specified in such Opinion of Counsel, will constitute valid and binding obligations of the Issuer enforceable against the Issuer in accordance with their terms, except to the extent that enforcement thereof may be limited by bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or similar laws now or hereafter in effect relating to creditors' rights generally, and general principles of equity (regardless of whether enforceability is considered in a proceeding in equity or at law).

The Trustee shall have the right to decline to authenticate and deliver any Securities under this section if the Trustee, being advised by counsel, determines that such action may not lawfully be taken by the Issuer or if the Trustee in good faith by its board of directors or board of trustees, executive committee, or a trust committee of directors or trustees or Responsible Officers shall determine that such action would expose the Trustee to personal liability.

If the Issuer shall establish pursuant to Section 2.03 that the Securities of a series or a portion thereof are to be issued in the form of one or more Registered Global Securities, then the Issuer shall execute (in accordance with Section 2.05) and the Trustee shall authenticate and make available for delivery one or more Registered Global Securities that (i) shall represent and shall be denominated in an amount equal to the aggregate Principal amount of all of the Securities of such series issued in such form and not yet canceled, (ii) shall be registered in the name of the Depository for such Registered Global Security or Securities or the nominee of such Depository, (iii) shall be delivered by the Trustee to such Depository or its custodian or pursuant to such Depository's instructions and (iv) shall bear a legend substantially to the following effect: "Unless and until it is exchanged in whole or in part for Securities in definitive registered form, this Security may not be transferred except as a whole by the Depository to a nominee of the Depository or by a nominee of the Depository to the Depository or another nominee of the Depository or by the Depository or any such nominee to a successor Depository or a nominee of such successor Depository."

Section 2.05 *Execution of Securities*. The Securities shall be signed on behalf of the Issuer by the chairman of its Board of Directors, its president, any vice president, its treasurer or any assistant treasurer, under its corporate seal and attested by its secretary or any assistant secretary. Such signatures may be the manual or facsimile signatures of the present or any future such officers. The seal of the Issuer may be in the form of a facsimile thereof and may be impressed, affixed, imprinted or otherwise reproduced on the Securities. Typographical and other minor errors or defects in any such reproduction of the seal or any such signature shall not affect the validity or enforceability of any Security that has been duly authenticated and delivered by the Trustee.

In case any officer of the Issuer who shall have signed any of the Securities shall cease to be such officer before the Security so signed shall be authenticated and delivered by the Trustee or disposed of by the Issuer, such Security nevertheless may be authenticated and delivered or disposed of as though the person who signed such Security had not ceased to be such officer of the Issuer; and any Security may be signed on behalf of the Issuer by such persons as, at the actual date of the execution of such Security, shall be the proper officers of the Issuer, although at the date of the execution and delivery of this Indenture any such person was not such an officer.

Section 2.06 *Certificate of Authentication*. Only such Securities as shall bear thereon a certificate of authentication substantially in the form hereinbefore recited, executed by the Trustee by the manual signature of one of its authorized signatories, shall be entitled to the benefits of this Indenture or be valid or obligatory for any purpose. Such certificate by the Trustee upon any Security executed by the Issuer shall be conclusive evidence that the Security so authenticated has been duly authenticated and delivered hereunder and that the Holder is entitled to the benefits of this Indenture.

Section 2.07 *Denomination and Date of Securities; Payments of Interest*. The Securities shall be issuable as registered securities without coupons and in denominations as shall be specified as contemplated by Section 2.03. In the absence of any such specification with respect to the Securities of any series, the Securities of such series shall be issuable in denominations of \$1,000 and any multiple thereof. The Securities shall be numbered, lettered, or otherwise distinguished in such manner or in accordance with such plan as the officers of the Issuer executing the same may determine as evidenced by the execution and authentication thereof.

Each Security shall be dated the date of its authentication, shall bear interest, if any, from the date and shall be payable on the dates, in each case, which shall be specified as contemplated by Section 2.03.

The person in whose name any Security of any series is registered at the close of business on any record date applicable to a particular series with respect to any interest payment date for such series shall be entitled to receive the interest, if any, payable on such interest payment date notwithstanding any transfer or exchange of such Security subsequent to the record date and prior to such interest payment date, except if and to the extent the Issuer shall default in the payment of the interest due on such interest payment date for such series, in which case such defaulted interest shall be paid to the persons in whose names Outstanding Securities for such series are registered at the close of business on a subsequent record date (which shall be not less than five Business Days prior to the date of payment of such defaulted interest) established by notice given by mail by or on behalf of the Issuer to the Holders of Securities not less than 15 days preceding such subsequent record date. The term “**record date**” as used with respect to any interest payment date (except a date for payment of defaulted interest) shall mean the date specified as such in the terms of the Securities of any particular series, or, if no such date is so specified, if such interest payment date is the first day of a calendar month, the fifteenth day of the next preceding calendar month or, if such interest payment date is the fifteenth day of a calendar month, the first day of such calendar month, whether or not such record date is a Business Day.

Section 2.08 *Registration, Transfer and Exchange*. The Issuer will keep or cause to be kept at each office or agency to be maintained for the purpose as provided in Section 3.02 a register or registers in which, subject to such reasonable regulations as it may prescribe, it will register, and will register the transfer of, Securities as in this Article provided. Such register shall be in written form in the English language or in any other form capable of being converted into such form within a reasonable time. At all reasonable times such register or registers shall be open for inspection by the Trustee.

At the option of the Holder thereof, Registered Securities of any series (other than a Registered Global Security, except as set forth below) may be exchanged for a Registered Security or Registered Securities of such series and tenor having authorized denominations and an equal aggregate Principal amount, upon surrender of such Registered Securities to be exchanged at the agency of the Issuer that shall be maintained for such purpose in accordance with Section 3.02 and upon payment, if the Issuer shall so require, of the charges hereinafter provided. If the Securities of any series are issued in both registered and unregistered form, except as otherwise established pursuant to Section 2.03, at the option of the Holder thereof, Unregistered Securities of any series may be exchanged for Registered Securities of such series and tenor having authorized denominations and an equal aggregate Principal amount, upon surrender of such Unregistered Securities to be exchanged at the agency of the Issuer that shall be maintained for such purpose in accordance with Section 3.02 and upon payment, if the Issuer shall so require, of the charges hereinafter provided. At the option of the Holder thereof, if Unregistered Securities of any series, maturity date, interest rate and Original Issue Date are issued in more than one authorized denomination, except as otherwise established pursuant to Section 2.03, such Unregistered Securities may be exchanged for Unregistered Securities of such series and tenor having authorized denominations and an equal aggregate Principal amount, upon surrender of such Unregistered Securities to be exchanged at the agency of the Issuer that shall be maintained for such purpose in accordance with Section 3.02 and upon payment, if the Issuer shall so require, of the charges hereinafter provided. Registered Securities of any series may not be exchanged for Unregistered Securities of such series. Whenever any Securities are so surrendered for exchange, the Issuer shall execute, and the Trustee shall authenticate and make available for delivery, the Securities which the Holder making the exchange is entitled to receive.

All Registered Securities presented for registration of transfer, exchange, redemption, conversion or payment shall be duly endorsed by, or be accompanied by a written instrument or instruments of transfer in form satisfactory to the Issuer and the Trustee duly executed by, the Holder or his attorney duly authorized in writing.

The Issuer may require payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in connection with any exchange or registration of transfer of Securities. No service charge shall be made for any such transaction.

Notwithstanding any other provision of this Section 2.08, unless and until it is exchanged in whole or in part for Securities in definitive registered form, a Registered Global Security representing all or a portion of the Securities of a series may not be transferred except as a whole by the Depositary for such series to a nominee of such Depositary or by a nominee of such Depositary to such Depositary or another nominee of such Depositary or by such Depositary or any such nominee to a successor Depositary for such series or a nominee of such successor Depositary.

If at any time the Depositary for any Registered Global Securities of any series notifies the Issuer that it is unwilling or unable to continue as Depositary for such Registered Global Securities or if at any time the Depositary for such Registered Global Securities shall no longer be eligible under applicable law, the Issuer shall appoint a successor Depositary eligible under applicable law with respect to such Registered Global Securities. If a successor Depositary eligible under applicable law for such Registered Global Securities is not appointed by the Issuer within 90 days after the Issuer receives such notice or becomes aware of such ineligibility, the Issuer will execute, and the Trustee, upon receipt of the Issuer's order for the authentication and delivery of definitive Registered Securities of such series and tenor, will authenticate and make available for delivery Registered Securities of such series and tenor, in any authorized denominations, in an aggregate Principal amount equal to the Principal amount of such Registered Global Securities, in exchange for such Registered Global Securities.

The Issuer may at any time and in its sole discretion determine that any Registered Global Securities of any series shall no longer be maintained in global form. In such event, or in the event that there shall have occurred and be continuing an Event of Default with respect to a series of Securities, the Issuer will, upon the request of any Holder, execute, and the Trustee, upon receipt of the Issuer's order for the authentication and delivery of definitive Registered Securities of such series and tenor, will authenticate and make available for delivery, Registered Securities of such series and tenor in any authorized denominations, in an aggregate Principal amount equal to the Principal amount of such Registered Global Securities, in exchange for such Registered Global Securities.

Any time the Registered Securities of any series are not in the form of Registered Global Securities pursuant to the preceding two paragraphs, the Issuer agrees to supply the Trustee with a reasonable supply of certificated Registered Securities without the legend required by Section 2.04 and the Trustee agrees to hold such Registered Securities in safekeeping until authenticated and delivered pursuant to the terms of this Indenture.

If established by the Issuer pursuant to Section 2.03 with respect to any Registered Global Security, the Depositary for such Registered Global Security may surrender such Registered Global Security in exchange in whole or in part for Registered Securities of the same series and tenor in definitive registered form on such terms as are acceptable to the Issuer and such Depositary. Thereupon, the Issuer shall execute, and the Trustee shall authenticate and make available for delivery, without service charge,

(i) to the Person specified by such Depositary new Registered Securities of the same series and tenor, of any authorized denominations as requested by such Person, in an aggregate Principal amount equal to and in exchange for such Person's beneficial interest in the Registered Global Security; and

(ii) to such Depositary a new Registered Global Security in a denomination equal to the difference, if any, between the Principal amount of the surrendered Registered Global Security and the aggregate Principal amount of Registered Securities authenticated and delivered pursuant to clause (i) above.

Registered Securities issued in exchange for a Registered Global Security pursuant to this Section 2.08 shall be registered in such names and in such authorized denominations as the Depositary for such Registered Global Security, pursuant to instructions from its direct or indirect participants or otherwise, shall instruct the Trustee or an agent of the Issuer or the Trustee. The Trustee or such agent shall deliver such Securities to or as directed by the Persons in whose names such Securities are so registered.

All Securities issued upon any transfer or exchange of Securities shall be valid obligations of the Issuer, evidencing the same debt, and entitled to the same benefits under this Indenture, as the Securities surrendered upon such transfer or exchange.

Notwithstanding anything herein or in the forms or terms of any Securities to the contrary, none of the Issuer, the Trustee or any agent of the Issuer or the Trustee shall be required to exchange any Unregistered Security for a Registered Security if such exchange would result in adverse Federal income tax consequences to the Issuer (such as, for example, the inability of the Issuer to deduct from its income, as computed for Federal income tax purposes, the interest payable on the Unregistered Securities) under then applicable United States Federal income tax laws. The Trustee and any such agent shall be entitled to rely on an Officers' Certificate or an Opinion of Counsel in determining such result.

Neither the Registrar nor the Issuer shall be required (i) to issue, authenticate, register the transfer of or exchange Securities of any series for a period of 15 days before the mailing of a notice of redemption of such Securities to be redeemed or (ii) to register the transfer of or exchange any Security selected for redemption in whole or in part.

Section 2.09 *Mutilated, Defaced, Destroyed, Lost and Stolen Securities*. In case any temporary or definitive Security shall become mutilated or defaced and shall be surrendered to the Trustee, the Issuer shall execute, and the Trustee shall authenticate and deliver, a new Security of the same series, bearing a number not contemporaneously outstanding, in exchange and substitution for the mutilated or defaced Security. If the Holder of any Security claims that the Security has been lost, destroyed or wrongfully taken, the Issuer shall execute, and the Trustee shall authenticate and deliver, a new Security of the same series, bearing a number not contemporaneously outstanding, in exchange and substitution for the lost, destroyed or wrongfully taken Security, if the applicant so requests before the Issuer has notice that the Security has been acquired by a protected purchaser, and the applicant furnishes to the Issuer and to the Trustee and any agent of the Issuer or the Trustee such security or indemnity as may be required by them to indemnify and defend and to save each of them harmless and the applicant satisfies other reasonable requirements imposed by the Issuer.

Upon the issuance of any substitute Security, the Issuer may require the payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in relation thereto and any other expenses (including the fees and expenses of the Trustee and its counsel) connected therewith. In case any Security which has matured or is about to mature or has been called for redemption in full shall become mutilated or defaced or be destroyed, lost or stolen, the Issuer may instead of issuing a substitute Security, pay or authorize the payment of the same (without surrender thereof except in the case of a mutilated or defaced Security), if the applicant for such payment shall furnish to the Issuer and to the Trustee and any agent of the Issuer or the Trustee such security or taking, the applicant shall also furnish to the Issuer and the Trustee and any agent of the Issuer or the Trustee evidence to their satisfaction of the destruction, loss or wrongful taking of such Security and of the ownership thereof.



Every substitute Security of any series issued pursuant to the provisions of this section by virtue of the fact that any such Security is destroyed, lost or stolen shall constitute an additional contractual obligation of the Issuer, whether or not the destroyed, lost or wrongfully taken Security shall be at any time enforceable by anyone and shall be entitled to all the benefits of (but shall be subject to all the limitations of rights set forth in) this Indenture equally and proportionately with any and all other Securities of such series duly authenticated and delivered hereunder. All Securities shall be held and owned upon the express condition that, to the extent permitted by law, the foregoing provisions are exclusive with respect to the replacement or payment of mutilated, defaced or destroyed, lost or wrongfully taken Securities and shall preclude any and all other rights or remedies.

Section 2.10 *Cancellation of Securities; Destruction Thereof*. All Securities surrendered for payment, redemption, repurchase, conversion, registration of transfer or exchange, if surrendered to the Issuer or any agent of the Issuer or the Trustee, shall be delivered to the Trustee for cancellation or, if surrendered to the Trustee, shall be canceled by it; and no Securities shall be issued in lieu thereof except as expressly permitted by any of the provisions of this Indenture. The Trustee shall dispose of canceled Securities held by it in accordance with the record retention policies of the Trustee in effect from time to time and, if such canceled certificates are destroyed, shall deliver a certificate of destruction to the Issuer. If the Issuer shall acquire any of the Securities, such acquisition shall not operate as a redemption or satisfaction of the indebtedness represented by such Securities unless and until the same are delivered to the Trustee for cancellation.

Section 2.11 *Temporary Securities*. Pending the preparation of definitive Securities for any series, the Issuer may execute and the Trustee shall authenticate and deliver temporary Securities for such series (printed, lithographed, typewritten or otherwise reproduced, in each case in form satisfactory to the Trustee). Temporary Securities of any series shall be issuable as registered Securities without coupons, of any authorized denomination, and substantially in the form of the definitive Securities of such series but with such omissions, insertions and variations as may be appropriate for temporary Securities, all as may be determined by the Issuer with the concurrence of the Trustee. Temporary Securities may contain such reference to any provisions of this Indenture as may be appropriate. Every temporary Security shall be executed by the Issuer and be authenticated by the Trustee upon the same conditions and in substantially the same manner, and with like effect, as the definitive Securities. Without unreasonable delay the Issuer shall execute and shall furnish definitive Securities of such series and thereupon temporary Securities of such series may be surrendered in exchange therefor without charge at each office or agency to be maintained by the Issuer for that purpose pursuant to Section 3.02, and the Trustee shall authenticate and deliver in exchange for such temporary Securities of such series a like aggregate Principal amount of definitive Securities of the same series of authorized denominations. Until so exchanged, the temporary Securities of any series shall be entitled to the same benefits under this Indenture as definitive Securities of such series.

Section 2.12 *Computation of Interest*. Except as otherwise specified in the Securities of a series, interest shall be computed on the basis of a 360-day year of twelve 30-day months.

Section 2.13 *CUSIP Numbers*. The Issuer in issuing the Securities may use “CUSIP” numbers (if then generally in use), and, if so, the Trustee shall use “CUSIP” numbers in notices of redemption as a convenience to Holders; provided that any such notice may state that no representation is made as to the correctness of such numbers either as printed on the Securities or as contained in any notice of a redemption and that reliance may be placed only on the other identification numbers printed on the Securities, and any such redemption shall not be affected by any defect in or omission of such numbers. The Issuer will notify the Trustee of any change in the “CUSIP” numbers.

ARTICLE 3  
COVENANTS OF THE ISSUER AND THE TRUSTEE

Section 3.01 *Payment of Principal and Interest*. The Issuer covenants and agrees for the benefit of each series of Securities that it will duly and punctually pay or cause to be paid the Principal of, and interest on, each of the Securities of such series at the place or places, at the respective times and in the manner provided in such Securities. Each installment of interest on the Securities of any series may be paid by mailing checks for such interest payable to or upon the written order of the Holders of Securities entitled thereto as they shall appear on the registry books of the Issuer.

Notwithstanding any provisions of this Indenture and the Securities of any series to the contrary, if the Issuer and a Holder of any Registered Security so agree or if expressly provided pursuant to Section 2.03, payments of interest on, and any portion of the Principal of, such Holder’s Registered Security shall be made by the paying agent, upon receipt from the Issuer of immediately available funds by 11:00 a.m., New York City time (or such other time as may be agreed to between the Issuer and the paying agent) or the Issuer, directly to the Holder of such Security (by wire transfer of Federal funds or immediately available funds or otherwise) if the Holder has delivered written instructions to the Trustee 15 days prior to such payment date requesting that such payment will be so made and designating the bank account to which such payments shall be so made and, in the case of payments of Principal, surrenders the same to the Trustee. The Trustee shall be entitled to rely on the last instruction delivered by the Holder pursuant to this Section 3.01 unless a new instruction is delivered 15 days prior to a payment date. The Issuer will indemnify and hold each of the Trustee and any paying agent harmless against any loss, liability or expense (including attorneys’ fees and expenses) resulting from any act or omission to act on the part of the Issuer or any such Holder in connection with any such agreement or from making any payment in accordance with any such agreement.

Section 3.02 *Offices for Payments, etc*. So long as any of the Securities remain outstanding, the Issuer will maintain in the Borough of Manhattan, The City of New York an office or agency (n) where the Securities may be presented for payment, (o) where the Securities may be presented for registration of transfer and for exchange as in this Indenture provided, (p) where notices and demands to or upon the Issuer in respect of the Securities or of this Indenture may be served and (q) for Securities of each series that is convertible, where such Securities may be presented for conversion. The Issuer will give to the Trustee written notice of the location of any such office or agency and of any change of location thereof. Unless otherwise specified in accordance with Section 2.03, the Issuer hereby initially designates the Corporate Trust Office of Trustee as the office to be maintained by it for each such purpose. In case the Issuer shall fail to so designate or maintain any such office or agency or shall fail to give such notice of the location or of any change in the location thereof, presentations and demands may be made and notices may be served at the Corporate Trust Office.

Section 3.03 *Paying Agents*. Whenever the Issuer shall appoint a paying agent other than the Trustee with respect to the Securities of any series, it will cause such paying agent to execute and deliver to the Trustee an instrument in which such agent shall agree with the Trustee, subject to the provisions of this Section:

(a) that it will hold all sums received by it as such agent for the payment of the Principal of or interest on the Securities of such series (whether such sums have been paid to it by the Issuer or by any other obligor on the Securities of such series) in trust for the benefit of the Holders of the Securities of such series or of the Trustee;

(b) that it will give the Trustee notice of any failure by the Issuer (or by any other obligor on the Securities of such series) to make any payment of the Principal of or interest on the Securities of such series when the same shall be due and payable; and during the continuance of the failure referred to in clause Section 3.03(b) above.

The Issuer will, on or prior to each due date of the Principal of or interest on the Securities of such series, deposit with the paying agent a sum sufficient to pay such Principal or interest so becoming due, and (unless such paying agent is the Trustee) the Issuer will promptly notify the Trustee of any failure to take such action.

If the Issuer shall act as its own paying agent with respect to the Securities of any Series, it will, on or before each due date of the Principal of or interest on the Securities of such series, set aside, segregate and hold in trust for the benefit of the Holders of the Securities of such series a sum sufficient to pay such Principal or interest so becoming due. The Issuer will promptly notify the Trustee of any failure to take such action.

Whenever the Issuer shall have one or more paying agents for any series of Securities, it will, on or before each due date of the Principal of or interest on any Securities of such series, deposit with the paying agent or agents for the Securities of such series a sum, by 11:00 a.m. New York City time in immediately available funds on the payment date, sufficient to pay the Principal or interest so becoming due with respect to the Securities of such series, and (unless such paying agent is the Trustee) the Issuer will promptly notify the Trustee in writing of any failure so to act.

Anything in this section to the contrary notwithstanding, the Issuer may at any time, for the purpose of obtaining a satisfaction and discharge with respect to one or more or all series of Securities hereunder, or for any other reason, pay or cause to be paid to the Trustee all sums held in trust for any such series by the Issuer or any paying agent hereunder, as required by this Section, such sums to be held by the Trustee upon the trusts herein contained.

Anything in this Section 3.03 to the contrary notwithstanding, the agreement to hold sums in trust as provided in this Section 3.03 is subject to the provisions of Section 9.05.

Section 3.04 *Certificate of the Issuer*. Within 120 days after the close of the fiscal year ended ●, and within 120 days after the close of each fiscal year thereafter, the Issuer will furnish to the Trustee a brief certificate (which need not comply with Section 10.05) from the principal executive, financial or accounting officer of the Issuer as to his or her knowledge of the Issuer's compliance with all conditions and covenants under the Indenture (such compliance to be determined without regard to any period of grace or requirement of notice provided under the Indenture).

At the time such certificate is filed, the Issuer will also file with the Trustee a letter or statement of the independent accountants who shall have certified the financial statements of the Issuer for its preceding fiscal year to the effect that, in making the examination necessary for certification of such financial statements, they have obtained no knowledge of any default by the Issuer in the performance or fulfillment of any covenant, agreement or condition contained in this Indenture, which default remains uncured at the date of such letter or statement, or, if they shall have obtained knowledge of any such uncured default, specifying in such letter or statement such default or defaults and the nature and status thereof, it being understood that such accountants shall not be liable directly or indirectly for failure to obtain knowledge of any such default or defaults, and that nothing contained in this Section 3.04 shall be construed to require such accountants to make any investigation beyond the scope required in connection with such examination.

Section 3.05 *List of Securityholders*. If and so long as the Trustee shall not be the Security registrar for the Securities of any series, the Issuer will furnish or cause to be furnished to the Trustee a list in such form as the Trustee may reasonably require of the names and addresses of the Holders of the Securities of such series pursuant to Section 312 of the Trust Indenture Act of 1939 (a) semi-annually not more than 10 days after each record date for the payment of interest on such Securities, as hereinabove specified, as of such record date and on dates to be determined pursuant to Section 2.03 for non-interest bearing Securities in each year and (b) at such other times as the Trustee may request in writing, within 30 days after receipt by the Issuer of any such request as of a date not more than 10 days prior to the time such information is furnished.

Section 3.06 *Reports by the Issuer*. The Issuer covenants to:

(a) file, whether or not required to do so under applicable law, with the Trustee, within 15 days after the Issuer files the same with the Commission:

(i) copies of the annual reports and of the information, documents, and other reports which the Issuer files with the Commission pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934; and

(ii) such additional information, documents and reports with respect to compliance by the Issuer with the conditions and covenants provided for in this Indenture as the Issuer may from time to time file with the Commission; and

(b) transmit to the Securityholders, in the manner and to the extent provided in Section 10.04, such summaries of any information, documents and reports required to be filed with the Trustee pursuant to the provisions of subdivision (a) of this Section 3.06 as may be required by the rules and regulations of the Commission.

Delivery of such reports, information and documents to the Trustee is for informational purposes only and the Trustee's receipt of such shall not constitute constructive notice of any information contained therein or determinable from information contained therein, including the Issuer's compliance with any of its covenants hereunder (as to which the Trustee is entitled to rely exclusively on Officers' Certificates).

Section 3.07 *Corporate Existence*. So long as any of the Securities remain unpaid, the Issuer will at all times (except as otherwise provided or permitted elsewhere in this Indenture) do or cause to be done all things necessary to preserve and keep in full force and effect its corporate existence.

Section 3.08 *Restrictions on Mergers, Sales and Consolidations*. So long as any of the Securities remain unpaid, the Issuer will not consolidate or merge with or sell, convey or lease all or substantially all of its property to any other corporation except as permitted in Article 8 hereof.

Section 3.09 *Further Assurances*. From time to time whenever requested by the Trustee, the Issuer will execute and deliver such further instruments and assurances and do such further acts as may be reasonably necessary or proper to carry out more effectually the purposes of this Indenture or to secure the rights and remedies hereunder of the Holders of the Securities of any series.

#### ARTICLE 4 REMEDIES OF THE TRUSTEE AND SECURITYHOLDERS ON EVENT OF DEFAULT

Section 4.01 *Event of Default Defined; Acceleration of Maturity; Waiver of Default* "**Event of Default**" with respect to Securities of any series wherever used herein, means any one of the following events which shall have occurred and be continuing (whatever the reason for such Event of Default and whether it shall be voluntary or involuntary or be 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):

(a) default by the Issuer in the payment of any installment of interest upon any of the Securities of such series as and when the same shall become due and payable, and continuance of such default for a period of 30 days;

(b) default by the Issuer in the payment of all or any part of the Principal on any of the Securities of such series as and when the same shall become due and payable either at maturity, upon redemption, by declaration or otherwise, and continuance of such default for a period of five days;

(c) default by the Issuer in the performance, or breach by the Issuer, of any of its covenants or agreements in respect of the Securities of such series (other than a covenant or agreement in respect of the Securities of such series a default in whose performance or whose breach is elsewhere in this section specifically dealt with), and continuance of such default or breach for a period of 30 consecutive days after there has been given, by registered or certified mail, to the Issuer by the Trustee or to the Issuer and the Trustee by the Holders of at least 25% in Principal amount of the Outstanding Securities of all series affected thereby, a written notice specifying such default or breach and requiring it to be remedied and stating that such notice is a notice of default hereunder;

(d) the entry by a court having jurisdiction in the premises of a decree or order for relief in respect of the Issuer in an involuntary case under any applicable bankruptcy, insolvency or other similar law now or hereafter in effect, or the appointment of a receiver, liquidator, assignee, custodian, trustee or sequestrator (or similar official) of the Issuer or for any substantial part of the Issuer's property and assets or the ordering of the winding up or liquidation of the Issuer's affairs, and the continuance of any such decree or order unstayed and in effect for a period of 90 consecutive days;

(e) the commencement by the Issuer of a voluntary case under any applicable bankruptcy, insolvency or other similar law now or hereafter in effect, or the consent by the Issuer to the entry of an order for relief in an involuntary case under any such law, or the consent by the Issuer to the appointment of or taking possession by a receiver, liquidator, assignee, custodian, trustee or sequestrator (or similar official) of the Issuer or for any substantial part of the Issuer's property, or the making of any general assignment by the Issuer for the benefit of creditors; or

(f) any other Event of Default provided in the supplemental indenture or resolution of the Board of Directors under which such series of Securities is issued or in the form of Security for such series.

If an Event of Default described in clauses 4.01(a), 4.01(b), 4.01(c) or 4.01(f) occurs and is continuing, then, and in each and every such case, unless the Principal of all of the Securities of such series shall have already become due and payable, either the Trustee or the Holders of not less than 25% in aggregate Principal amount of the Securities of any affected series then Outstanding hereunder (each such series voting as a separate class) by notice in writing to the Issuer (and to the Trustee if given by Securityholders), may declare the entire Principal (or, if the Securities of such series are Original Issue Discount Securities, such portion of the Principal amount as may be specified in the terms of such series) of all Securities of such series and the interest accrued thereon, if any, to be due and payable immediately, and upon any such declaration the same shall become immediately due and payable. If an Event of Default described in clauses Section 4.01(d) or Section 4.01(e) occurs and is continuing, then the Principal amount of all the Securities then Outstanding and interest accrued thereon, if any, shall be and become immediately due and payable, without any notice or other action by any Holder or the Trustee, to the full extent permitted by applicable law.

The foregoing provisions, however, are subject to the condition that if, at any time after the Principal (or, if the Securities are Original Issue Discount Securities, such portion of the Principal as may be specified in the terms thereof) of the Securities of any series (or of all the Securities, as the case may be) shall have been so declared due and payable, and before any judgment or decree for the payment of the monies due shall have been obtained or entered as hereinafter provided, the Issuer shall pay or shall deposit with the Trustee a sum sufficient to pay all matured installments of interest upon all the Securities of such series (or of all the Securities, as the case may be) and the Principal of any and all Securities of such series (or of all the Securities, as the case may be) which shall have become due otherwise than by acceleration (with interest upon such Principal and, to the extent that payment of such interest is enforceable under applicable law, on overdue installments of interest, at the same rate as the rate of interest or Yield to Maturity (in the case of Original Issue Discount Securities) specified in the Securities of such series (or at the respective rates of interest or Yields to Maturity of all the Securities, as the case may be) to the date of such payment or deposit) and such amount as shall be sufficient to cover reasonable compensation to the Trustee, its agents, attorneys and counsel, and all other expenses and liabilities incurred, and all advances made, by the Trustee except as a result of negligence or bad faith, and if any and all Events of Default under the Indenture, other than the non-payment of the Principal of Securities which shall have become due by acceleration, shall have been cured, waived or otherwise remedied as provided herein, then and in every such case the Holders of a majority in aggregate Principal amount of all the then Outstanding Securities of all such series that have been accelerated, each such series voting as a separate class, by written notice to the Issuer and to the Trustee, may waive all defaults with respect to such series (or with respect to all the Securities, as the case may be) and rescind and annul such declaration and its consequences, but no such waiver or rescission and annulment shall extend to or shall affect any subsequent default or shall impair any right consequent thereon.

For all purposes under this Indenture, if a portion of the Principal of any Original Issue Discount Securities shall have been accelerated and declared due and payable pursuant to the provisions hereof, then, from and after such declaration, unless such declaration has been rescinded and annulled, the Principal amount of such Original Issue Discount Securities shall be deemed, for all purposes hereunder, to be such Portion of the Principal thereof as shall be due and payable as a result of such acceleration, and payment of such portion of the Principal thereof as shall be due and payable as a result of such acceleration, together with interest, if any, thereon and all other amounts owing thereunder, shall constitute payment in full of such Original Issue Discount Securities.

Section 4.02 *Collection of Indebtedness by Trustee; Trustee May Prove Debt*. The Issuer covenants that (h) in case default shall be made in the payment of any installment of interest on any of the Securities of any series when such interest shall have become due and payable, and such default shall have continued for a period of 30 days or (i) in case default shall be made in the payment of all or any part of the Principal of any of the Securities of any series when the same shall have become due and payable, whether upon maturity of the Securities of such series or upon any redemption or by declaration or otherwise, then in each case upon demand of the Trustee, the Issuer will pay to the Trustee for the benefit of the Holders of the Securities of such series (x) the whole amount that then shall have become due and payable on all Securities of such series for Principal or interest, as the case may be (with interest to the date of such payment upon the overdue Principal and, to the extent that payment of such interest is enforceable under applicable law, on overdue installments of interest at the same rate as the rate of interest or Yield to Maturity (in the case of Original Issue Discount Securities) specified in the Securities of such series) and (y) in addition thereto, such further amount as shall be sufficient to cover the costs and expenses of collection, including reasonable compensation to the Trustee and each predecessor Trustee, their respective agents and counsel, and any expenses and liabilities incurred, and all advances made, by the Trustee and each predecessor Trustee except as a result of its negligence or bad faith.

Until such demand is made by the Trustee, the Issuer may pay the Principal of and interest on the Securities of any series to the registered Holders, whether or not the Principal of and interest on the Securities of such series be overdue.

In case the Issuer shall fail forthwith to pay such amounts upon such demand, the Trustee, in its own name and as trustee of an express trust, shall be entitled and empowered to institute any action or proceedings at law or in equity for the collection of the sums so due and unpaid, and may prosecute any such action or proceedings to judgment or final decree, and may enforce any such judgment or final decree against the Issuer or other obligor upon such Securities and collect in the manner provided by law out of the property of the Issuer or other obligor upon such Securities, wherever situated, the monies adjudged or decreed to be payable.

In case there shall be pending proceedings relative to the Issuer or any other obligor upon the Securities under Title 11 of the United States Code or any other applicable Federal or state bankruptcy, insolvency or other similar law, or in case a receiver, assignee or trustee in bankruptcy or reorganization, liquidator, sequestrator or similar official shall have been appointed for or taken possession of the Issuer or its property or such other obligor, or in case of any other comparable judicial proceedings relative to the Issuer or other obligor upon the Securities of any series, or to the creditors or property of the Issuer or such other obligor, the Trustee, irrespective of whether the Principal of any Securities shall then be due and payable as therein expressed or by declaration or otherwise and irrespective of whether the Trustee shall have made any demand pursuant to the provisions of this Section, shall be entitled and empowered, by intervention in such proceedings or otherwise:

(a) to file and prove a claim or claims for the whole amount of Principal and interest (or, if the Securities of any series are Original Issue Discount Securities, such portion of the Principal amount as may be specified in the terms of such series) owing and unpaid in respect of the Securities of any series, and to file such other papers or documents as may be necessary or advisable in order to have the claims of the Trustee (including any claim for reasonable compensation to the Trustee and each predecessor Trustee, and their respective agents, attorneys and counsel, and for reimbursement of all expenses and liabilities incurred, and all advances made, by the Trustee and each predecessor Trustee, except as a result of negligence or bad faith) and of the Securityholders allowed in any judicial proceedings relative to the Issuer or other obligor upon the Securities of any series, or to the creditors or property of the Issuer or such other obligor;

(b) unless prohibited by applicable law and regulations, to vote on behalf of the Holders of the Securities of any series in any election of a trustee or a standby trustee in arrangement, reorganization, liquidation or other bankruptcy or insolvency proceedings or person performing similar functions in comparable proceedings; and

(c) to collect and receive any monies or other property payable or deliverable on any such claims, and to distribute all amounts received with respect to the claims of the Securityholders and of the Trustee on their behalf; and any trustee, receiver, or liquidator, custodian or other similar official is hereby authorized by each of the Securityholders to make payments to the Trustee, and, in the event that the Trustee shall consent to the making of payments directly to the Securityholders, to pay to the Trustee such amounts as shall be sufficient to cover reasonable compensation to the Trustee, each predecessor Trustee and their respective agents, attorneys and counsel, and all other expenses and liabilities incurred, and all advances made, by the Trustee and each predecessor Trustee except as a result of negligence or bad faith and all other amounts due to the Trustee or any predecessor Trustee pursuant to Section 5.06.



Nothing herein contained shall be deemed to authorize the Trustee to authorize or consent to or vote for or accept or adopt on behalf of any Securityholder any plan of reorganization, arrangement, adjustment or composition affecting the Securities of any series or the rights of any Holder thereof, or to authorize the Trustee to vote in respect of the claim of any Securityholder in any such proceeding except, as aforesaid, to vote for the election of a trustee in bankruptcy or similar person.

All rights of action and of asserting claims under this Indenture, or under any of the Securities, may be enforced by the Trustee without the possession of any of the Securities or the production thereof on any trial or other proceedings relative thereto, and any such action or proceedings instituted by the Trustee shall be brought in its own name as trustee of an express trust, and any recovery of judgment, subject to the payment of the expenses, disbursements and compensation of the Trustee, each predecessor Trustee and their respective agents and attorneys, shall be for the ratable benefit of the Holders of the Securities in respect of which such action was taken.

In any proceedings brought by the Trustee (and also any proceedings involving the interpretation of any provision of this Indenture to which the Trustee shall be a party) the Trustee shall be held to represent all the Holders of the Securities in respect to which such action was taken, and it shall not be necessary to make any Holders of such Securities parties to any such proceedings.

Section 4.03 *Application of Proceeds*. Any monies collected by the Trustee pursuant to this Article in respect of any series shall be applied in the following order at the date or dates fixed by the Trustee and, in case of the distribution of such monies on account of Principal or interest, upon presentation of the several Securities in respect of which monies have been collected and stamping (or otherwise noting) thereon the payment, or issuing Securities of such series in reduced Principal amounts in exchange for the presented Securities of like series if only partially paid, or upon surrender thereof if fully paid:

FIRST: To the payment of costs and expenses applicable to such series in respect of which monies have been collected, including reasonable compensation to the Trustee and each predecessor Trustee and their respective agents and attorneys and of all expenses and liabilities incurred, and all advances made, by the Trustee and each predecessor Trustee except as a result of negligence or bad faith, and all other amounts due to the Trustee or any predecessor Trustee pursuant to Section 5.06;

SECOND: In case the Principal of the Securities of such series in respect of which monies have been collected shall not have become and be then due and payable, to the payment of interest on the Securities of such series in default in the order of the maturity of the installments of such interest, with interest (to the extent that such interest has been collected by the Trustee) upon the overdue installments of interest at the same rate as the rate of interest or Yield to Maturity (in the case of Original Issue Discount Securities) specified in such Securities, such payments to be made ratably to the persons entitled thereto, without discrimination or preference;

THIRD: In case the Principal of the Securities of such series in respect of which monies have been collected shall have become and shall be then due and payable, to the payment of the whole amount then owing and unpaid upon all the Securities of such series for Principal and interest, with interest upon the overdue Principal, and (to the extent that such interest has been collected by the Trustee) upon overdue installments of interest at the same rate as the rate of interest or Yield to Maturity (in the case of Original Issue Discount Securities) specified in the Securities of such series; and in case such monies shall be insufficient to pay in full the whole amount so due and unpaid upon the Securities of such series, then to the payment of such Principal and interest or yield to maturity, without preference or priority of Principal over interest or yield to maturity, or of interest or yield to maturity over Principal, or of any installment of interest over any other installment of interest, or of any Security of such series over any other Security of such series, ratably to the aggregate of such Principal and accrued and unpaid interest or yield to maturity; and

FOURTH: To the payment of the remainder, if any, to the Issuer or any other person lawfully entitled thereto.

Section 4.04 *Suits for Enforcement*. In case an Event of Default has occurred, has not been waived and is continuing, the Trustee may proceed to protect and enforce the rights vested in it by this Indenture, either at law or in equity or in bankruptcy or otherwise, whether for the specific enforcement of any covenant or agreement contained in this Indenture or in aid of the exercise of any power granted in this Indenture or to enforce any other legal or equitable right vested in the Trustee by this Indenture or by law.

Section 4.05 *Restoration of Rights on Abandonment of Proceedings*. In case the Trustee shall have proceeded to enforce any right under this Indenture and such proceedings shall have been discontinued or abandoned for any reason, or shall have been determined adversely to the Trustee, then and in every such case the Issuer and the Trustee shall be restored respectively to their former positions and rights hereunder, and all rights, remedies and powers of the Issuer, the Trustee and the Securityholders shall continue as though no such proceedings had been taken.

Section 4.06 *Limitations on Suits by Securityholder*. No Holder of any Security of any series shall have any right by virtue or by availing of any provision of this Indenture to institute any action or proceeding at law or in equity or in bankruptcy or otherwise upon or under or with respect to this Indenture, or for the appointment of a trustee, receiver, liquidator, custodian or other similar official or for any other remedy hereunder, unless such Holder previously shall have given to the Trustee written notice of an Event of Default and of the continuance thereof, as hereinbefore provided, and unless also the Holders of not less than 25% in aggregate Principal amount of the Securities of such series then outstanding shall have made written request upon the Trustee to institute such action or proceedings in respect of such Event of Default in its own name as trustee hereunder and shall have offered to the Trustee indemnity satisfactory to the Trustee against the costs, expenses and liabilities to be incurred therein or thereby and the Trustee for 60 days after its receipt of such notice, request and offer of indemnity shall have failed to institute any such action or proceeding and no direction inconsistent with such written request shall have been given to the Trustee pursuant to Section 4.09; it being understood and intended, and being expressly covenanted by the Holder of every Security with every other Holder and the Trustee, that no one or more Holders of Securities of any series shall have any right in any manner whatever by virtue or by availing of any provision of this Indenture to affect, disturb or prejudice the rights of any other such Holder of Securities, or to obtain or seek to obtain priority over or preference to any other such Holder or to enforce any right under this Indenture, except in the manner herein provided and for the equal, ratable and common benefit of all Holders of Securities of the applicable series. For the protection and enforcement of the provisions of this Section, each and every Securityholder and the Trustee shall be entitled to such relief as can be given either at law or in equity.

Section 4.07 *Unconditional Right of Securityholders to Institute Certain Suits*. Notwithstanding any other provision in this Indenture and any provision of any Security, the right of any Holder of any Security to receive payment of the Principal of or interest on such Security on or after the respective due dates expressed in such Security, or to institute suit for the enforcement of any such payment on or after such respective dates, shall not be impaired or affected without the consent of such Holder.

Section 4.08 *Powers and Remedies Cumulative; Delay or Omission Not Waiver of Default*. Except as provided in Section 4.06, no right or remedy herein conferred upon or reserved to the Trustee or to the Securityholders is intended to be exclusive of any other right or remedy, and every right and remedy shall, to the extent permitted by law, be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other appropriate right or remedy.

No delay or omission of the Trustee or of any Securityholder to exercise any right or power accruing upon any Event of Default occurring and continuing as aforesaid shall impair any such right or power or shall be construed to be a waiver of any such Event of Default or an acquiescence therein; and, subject to Section 4.06, every power and remedy given by this Indenture or by law to the Trustee or to the Securityholders may be exercised from time to time, and as often as shall be deemed expedient, by the Trustee or by the Securityholders.

Section 4.09 *Control by Securityholders*. The Holders of a majority in aggregate Principal amount of the Securities of each series affected (with each series voting as a separate class) at the time outstanding shall have the right to direct the time, method, and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred on the Trustee with respect to the Securities of such series by this Indenture; provided that such direction shall not be otherwise than in accordance with law and the provisions of this Indenture and provided further that (subject to the provisions of Section 5.01) the Trustee shall have the right to decline to follow any such direction if the Trustee, being advised by counsel, shall determine that the action or proceeding so directed may not lawfully be taken or if the Trustee in good faith by its board of directors, the executive committee, or a trust committee of directors or Responsible Officers of the Trustee shall determine that the action or proceedings so directed would subject the Trustee to personal liability or if the Trustee in good faith shall so determine that the actions or forbearances specified in or pursuant to such direction would be unduly prejudicial to the interests of Holders of the Securities of all series so affected not joining in the giving of said direction.

Nothing in this Indenture shall impair the right of the Trustee to take any action which is not inconsistent with such direction or directions by Securityholders.

Section 4.10 *Waiver of Past Defaults*. Prior to a declaration of the acceleration of the maturity of the Securities of any series as provided in Section 4.01, the Holders of a majority in aggregate Principal amount of the Securities of such series at the time Outstanding (each such series voting as a separate class) may on behalf of the Holders of all the Securities of such series waive an existing default or Event of Default, except a default in the payment of Principal of or interest on any Security as specified in clauses (a) or (b) of Section 4.01 or in respect of a covenant or provision hereof which cannot be modified or amended without the consent of each Holder affected as provided in Section 7.02. In the case of any such waiver, the Issuer, the Trustee and the Holders of the Securities of each series affected shall be restored to their former positions and rights hereunder, respectively.

Upon any such waiver, such default shall cease to exist and be deemed to have been cured and not to have occurred, and any Event of Default arising therefrom shall be deemed to have been cured, and not to have occurred for every purpose of this Indenture; but no such waiver shall extend to any subsequent or other default or Event of Default or impair any right consequent thereon.

Section 4.11 *Trustee to Give Notice of Default, But May Withhold in Certain Circumstances*. The Trustee shall give to the Securityholders of any series, as the names and addresses of such Holders appear on the registry books, notice by mail of all defaults known to Responsible Officers of the Trustee which have occurred with respect to such series, such notice to be transmitted within 90 days after the occurrence thereof, unless such defaults shall have been cured before the giving of such notice (the term "default" or "defaults" for the purposes of this section being hereby defined to mean any event or condition which is, or with notice or lapse of time or both would become, an Event of Default); *provided* that, except in the case of default in the payment of the Principal of or interest on any of the Securities of such series, the Trustee shall be protected in withholding such notice if and so long as the board of directors, the executive committee, or a trust committee of directors or trustees and/or Responsible Officers of the Trustee in good faith determines that the withholding of such notice is in the interests of the Securityholders of such series.

Section 4.12 *Right of Court to Require Filing of Undertaking to Pay Costs* All parties to this Indenture agree, and each Holder of any Security by his acceptance thereof shall be deemed to have agreed, that any court may in its discretion require, in any suit for the enforcement of any right or remedy under this Indenture or in any suit against the Trustee for any action taken, suffered or omitted by it as Trustee, the filing by any party litigant in such suit of an undertaking to pay the costs of such suit, and that such court may in its discretion assess reasonable costs, including reasonable attorneys' fees and expenses, against any party litigant in such suit, having due regard to the merits and good faith of the claims or defenses made by such party litigant; *provided* that the provisions of this Section 4.12 shall not apply to (i) any suit instituted by the Trustee, (ii) any suit instituted by any Securityholder or group of Securityholders of any series holding in the aggregate more than 10% in aggregate Principal amount of the Securities of such series or (iii) any suit instituted by a Holder pursuant to Section 4.07.

ARTICLE 5  
CONCERNING THE TRUSTEE

Section 5.01 *Duties and Responsibilities of the Trustee*. With respect to the Holders of any series of Securities issued hereunder, the Trustee, prior to the occurrence of an Event of Default with respect to the Securities of a particular series and after the curing or waiving of all Events of Default which may have occurred with respect to such series, undertakes to perform such duties and only such duties as are specifically set forth in this Indenture. In case an Event of Default with respect to the Securities of a series has occurred (which has not been cured or waived) the Trustee shall exercise such of the rights and powers vested in it by this Indenture, and use the same degree of care and skill in their exercise, as a prudent person would exercise or use under the circumstances in the conduct of such person's own affairs.

(a) Prior to the occurrence of an Event of Default with respect to the Securities of any series and after the curing or waiving of all such Events of Default with respect to such series which may have occurred:

(i) the duties and obligations of the Trustee with respect to the Securities of any Series shall be determined solely by the express provisions of this Indenture, and the Trustee shall not be liable except for the performance of such duties and obligations as are specifically set forth in this Indenture, and no implied covenants or obligations shall be read into this Indenture against the Trustee; and

(ii) in the absence of bad faith on the part of the Trustee, the Trustee may conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon any statements, certificates or opinions furnished to the Trustee and conforming to the requirements of this Indenture; but in the case of any such statements, certificates or opinions which by any provision hereof are specifically required to be furnished to the Trustee, the Trustee shall be under a duty to examine the same to determine whether or not they conform to the requirements of this Indenture.

(b) No provision of this Indenture shall be construed to relieve the Trustee from liability for its own negligent action, its own negligent failure to act or its own willful misconduct, except that:

(i) this subsection (b) shall not be construed to limit the effect of subsection (a) of this Section 5.01;

(ii) the Trustee shall not be liable for any error of judgment made in good faith by a Responsible Officer or Responsible Officers of the Trustee, unless it shall be proved that the Trustee was negligent in ascertaining the pertinent facts; and

(iii) the Trustee shall not be liable with respect to any action taken, suffered or omitted to be taken by it in good faith in accordance with the direction of the Holders relating to the time, method and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred upon the Trustee, under this Indenture.

None of the provisions contained in this Indenture shall require the Trustee to expend or risk its own funds or otherwise incur personal financial liability in the performance of any of its duties or in the exercise of any of its rights or powers, if there shall be reasonable ground for believing that the repayment of such funds or adequate indemnity against such liability is not reasonably assured to it.

The provisions of this Section 5.01 are in furtherance of and subject to Sections 315 and 316 of the Trust Indenture Act of 1939.

Whether or not therein expressly provided, every provision of this Indenture relating to the conduct of, affecting the liability of or affording protection to the Trustee shall be subject to the provisions of this Section 5.01.

Section 5.02 *Certain Rights of the Trustee*. In furtherance of and subject to the Trust Indenture Act of 1939, and subject to Section 5.01:

(a) In the absence of bad faith on its part, the Trustee may conclusively rely and shall be protected in acting or refraining from acting upon any resolution, Officers' Certificate or any other certificate, statement, instrument, opinion, report, notice, request, direction, consent, order, bond, debenture, note, coupon, security or other paper or document believed by it to be genuine and to have been signed or presented by the proper party or parties;

(b) any request, direction, order or demand of the Issuer mentioned herein shall be sufficiently evidenced by an Officers' Certificate (unless other evidence in respect thereof be herein specifically prescribed); and any resolution of the Board of Directors may be evidenced to the Trustee by a copy thereof certified by the secretary or an assistant secretary of the Issuer;

(c) the Trustee may consult with counsel of its selection and any advice or Opinion of Counsel shall be full and complete authorization and protection in respect of any action taken, suffered or omitted to be taken by it hereunder in good faith and in accordance with such advice or Opinion of Counsel;

(d) the Trustee shall be under no obligation to exercise any of the trusts or powers vested in it by this Indenture at the request, order or direction of any of the Securityholders pursuant to the provisions of this Indenture, unless such Securityholders shall have offered to the Trustee reasonable security or indemnity against the costs, expenses and liabilities which might be incurred by it in connection with such request, order or direction;

(e) the Trustee shall not be liable for any action taken or omitted by it in good faith and believed by it to be authorized or within the discretion, rights or powers conferred upon it by this Indenture;

(f) prior to the occurrence of an Event of Default hereunder and after the curing or waiving of all Events of Default, the Trustee shall not be bound to make any investigation into the facts or matters stated in any resolution, certificate, statement, instrument, opinion, report, notice, request, consent, order, approval, appraisal, bond, debenture, note, coupon, security, or other paper or document unless requested in writing so to do by the Holders of not less than a majority in aggregate Principal amount of the Securities of all series affected then outstanding; provided that, if the payment within a reasonable time to the Trustee of the costs, expenses or liabilities likely to be incurred by it in the making of such investigation is, in the opinion of the Trustee, not reasonably assured to the Trustee by the security afforded to it by the terms of this Indenture, the Trustee may require indemnity satisfactory to it against such expenses or liabilities as a condition to proceeding, and the reasonable expenses of every such investigation shall be paid by the Issuer or, if paid by the Trustee or any predecessor trustee, shall be repaid by the Issuer upon demand;

(g) the Trustee may execute any of the trusts or powers hereunder or perform any duties hereunder either directly or by or through agents or attorneys not regularly in its employ and the Trustee shall not be responsible for any misconduct or negligence on the part of any such agent or attorney appointed with due care by it hereunder;

(h) the Trustee shall not be liable for any action taken, suffered or omitted in good faith and believed by it to be authorized or within the discretion, rights or powers conferred upon it by this Indenture;

(i) the Trustee shall not be deemed to have notice of any Default or Event of Default unless a Responsible Officer of the Trustee has actual knowledge thereof or unless written notice of any event which is in fact such a default is received by the Trustee at the Corporate Trust Office of the Trustee, and such notice references the Securities and this Indenture;

(j) the rights, privileges, protections, immunities and benefits given to the Trustee, including, without limitation, its right to be indemnified, are extended to, and shall be enforceable by, the Trustee in each of its capacities hereunder, and each agent, custodian and other Person employed to act hereunder; and

(k) the Trustee may request that the Issuer deliver an Officers' Certificate setting forth the names of individuals and/or titles of officers authorized at such time to take specified actions pursuant to this Indenture, which Officers' Certificate may be signed by any person authorized to sign an Officers' Certificate, including any person specified as so authorized in any such certificate previously delivered and not superseded.

Section 5.03 *Trustee Not Responsible for Recitals, Disposition of Securities or Application of Proceeds Thereof*. The recitals contained herein and in the Securities, except the Trustee's certificates of authentication, shall be taken as the statements of the Issuer, and the Trustee assumes no responsibility for the correctness of the same. The Trustee makes no representation as to the validity or sufficiency of this Indenture or the Securities. The Trustee shall not be accountable for the use or application by the Issuer of any of the Securities or of the proceeds thereof.

Section 5.04 *Trustee and Agents May Hold Securities; Collections, etc.* The Trustee or any agent of the Issuer or the Trustee, in its individual or any other capacity, may become the owner or pledgee of Securities with the same rights it would have if it were not the Trustee or such agent and may otherwise deal with the Issuer and receive, collect, hold and retain collections from the Issuer with the same rights it would have if it were not the Trustee or such agent.

Section 5.05 *Monies Held by Trustee.* All monies received by the Trustee in trust hereunder need not be segregated from other funds except to the extent required by mandatory provisions of law. Neither the Trustee nor any agent of the Issuer or the Trustee shall be under any liability for interest on any monies received by it hereunder.

Section 5.06 *Compensation and Indemnification of Trustee and Its Prior Claim.* The Issuer covenants and agrees to pay to the Trustee from time to time, and the Trustee shall be entitled to, such compensation as shall be agreed in writing from time to time by the Issuer and the Trustee (which shall not be limited by any provision of law in regard to the compensation of a trustee of an express trust) and the Issuer covenants and agrees to pay or reimburse the Trustee and each predecessor Trustee upon its request for all reasonable expenses, disbursements and advances incurred or made by or on behalf of it in accordance with any of the provisions of this Indenture (including the reasonable compensation and the expenses and disbursements of its counsel and of all agents and other persons not regularly in its employ) except to the extent any such expense, disbursement or advance may arise from its negligence or bad faith. The Issuer also covenants and agrees to indemnify the Trustee and each predecessor Trustee for, and to hold it harmless against, any loss, liability or expense arising out of or in connection with the acceptance or administration of this Indenture or the trusts hereunder and the performance of its duties hereunder, including the costs and expenses of defending itself against or investigating any claim of liability (whether asserted by the Issuer, a Holder or any other Person) in the premises, except to the extent such loss, liability or expense is due to the negligence or bad faith of the Trustee or such predecessor Trustee. The obligations of the Issuer under this section to compensate and indemnify the Trustee and each predecessor Trustee and to pay or reimburse the Trustee and each predecessor Trustee for expenses, disbursements and advances shall constitute additional indebtedness hereunder and shall survive the satisfaction and discharge of this Indenture or the resignation or removal of the Trustee. Such additional indebtedness shall be a senior claim and lien to that of the Securities upon all property and funds held or collected by the Trustee as such, except funds held in trust for the benefit of the Holders of particular Securities, and the Securities are hereby subordinated to such senior claim. The parties agree that if the Trustee renders services following an Event of Default under Section 4.01(d) or 4.01(e), compensation for such services is intended to constitute administrative expense under any bankruptcy law.



Section 5.07 *Right of Trustee to Rely on Officers' Certificate, etc.* Subject to Section 5.01 and 5.02, whenever in the administration of the trusts of this Indenture the Trustee shall deem it necessary or desirable that a matter be proved or established prior to taking or suffering or omitting any action hereunder, such matter (unless other evidence in respect thereof be herein specifically prescribed) may, in the absence of negligence or bad faith on the part of the Trustee, be deemed to be conclusively proved and established by an Officers' Certificate delivered to the Trustee, and such certificate, in the absence of negligence or bad faith on the part of the Trustee, shall be full warrant to the Trustee for any action taken, suffered or omitted by it under the provisions of this Indenture upon the faith thereof.

Section 5.08 *Persons Eligible for Appointment as Trustee.* The Trustee for each series of Securities hereunder shall at all times be a corporation which is eligible in accordance with the provisions of Section 310(a) of the Trust Indenture Act of 1939 and which has (or which is a Wholly-Owned Subsidiary, directly or indirectly, of a bank holding company which has) a combined capital and surplus of \$50,000,000. If such corporation or holding company publishes reports of condition at least annually, pursuant to law or to the requirements of a Federal, State or District of Columbia supervising or examining authority, then for the purposes of this Section, the combined capital and surplus of such corporation or holding company shall be deemed to be its combined capital and surplus as set forth in its most recent report of condition so published.

Section 5.09 *Resignation and Removal; Appointment of Successor Trustee.* (a) The Trustee, or any trustee or trustees hereafter appointed, may at any time resign with respect to one or more or all series of Securities by giving written notice of resignation to the Issuer. Upon receiving such notice of resignation, the Issuer shall promptly appoint a successor trustee or trustees with respect to the applicable series by written instrument in duplicate, executed by authority of the Board of Directors, one copy of which instrument shall be delivered to the resigning Trustee and one copy to the successor trustee or trustees. If no successor Trustee shall have been so appointed with respect to any series and have accepted appointment within 30 days after the mailing of such notice of resignation, the resigning Trustee may petition, at the expense of the Issuer, any court of competent jurisdiction for the appointment of a successor Trustee, or any Securityholder who has been a bona fide Holder of a Security or Securities of the applicable series for at least six months may, subject to the provisions of Section 4.12, on behalf of himself and all others similarly situated, petition any such court for the appointment of a successor Trustee. Such court may thereupon, after such notice, if any, as it may deem proper and prescribe, appoint a successor Trustee.

(b) In case at any time any of the following shall occur:

(i) the Trustee shall fail to comply with the provisions of Section 310(b) of the Trust Indenture Act of 1939 with respect to any series of Securities after written request therefor by the Issuer or by any Securityholder who has been a bona fide Holder of a Security or Securities of such series for at least six months;

(ii) the Trustee shall cease to be eligible in accordance with the provisions of Section 310(a) of the Trust Indenture Act of 1939 and shall fail to resign after written request therefor by the Issuer or by any Securityholder; or

(iii) the Trustee shall become incapable of acting with respect to any series of Securities, or shall be adjudged a bankrupt or insolvent, or a receiver or liquidator of the Trustee or of its property shall be appointed, or any public officer shall take charge or control of the Trustee or of its property or affairs for the purpose of rehabilitation, conservation or liquidation; then, in any such case, the Issuer may remove the Trustee with respect to the applicable series of Securities and appoint a successor trustee for such series by written instrument, in duplicate, executed by order of the Board of Directors of the Issuer, one copy of which instrument shall be delivered to the Trustee so removed and one copy to the successor Trustee, or, subject to Section 315(e) of the Trust Indenture Act of 1939, any Securityholder who has been a bona fide Holder of a Security or Securities of such series for at least six months may on behalf of himself and all others similarly situated, petition any court of competent jurisdiction for the removal of the Trustee and the appointment of a successor trustee with respect to such series. Such court may thereupon, after such notice, if any, as it may deem proper and prescribe, remove the Trustee and appoint a successor trustee.

(c) The Holders of a majority in aggregate Principal amount of the Securities of each series at the time outstanding may at any time remove the Trustee with respect to Securities of such series and appoint a successor Trustee with respect to the Securities of such series by delivering to the Trustee so removed, to the successor Trustee so appointed and to the Issuer the evidence provided in Section 6.01 of the action in that regard taken by the Securityholders.

(d) Any resignation or removal of the Trustee with respect to any series and any appointment of a successor trustee with respect to such series pursuant to any of the provisions of this Section 5.09 shall become effective upon acceptance of appointment by the successor trustee as provided in Section 5.10.

Section 5.10 *Acceptance of Appointment by Successor.* Any successor Trustee appointed as provided in Section 5.09 shall execute and deliver to the Issuer and to its predecessor Trustee an instrument accepting such appointment hereunder, and thereupon the resignation or removal of the predecessor Trustee with respect to all or any applicable series shall become effective and such successor Trustee, without any further act, deed or conveyance, shall become vested with all rights, powers, duties and obligations with respect to such series of its predecessor hereunder, with like effect as if originally named as Trustee for such series hereunder. On the written request of the Issuer or of the successor Trustee, upon payment of its charges then unpaid, the Trustee ceasing to act shall, subject to Section 5.06, pay over to the successor Trustee all monies at the time held by it hereunder and shall execute and deliver an instrument transferring to such successor Trustee all such rights, powers, duties and obligations. Upon request of any such successor Trustee, the Issuer shall execute any and all instruments in writing for more fully and certainly vesting in and confirming to such successor Trustee all such rights and powers. Any Trustee ceasing to act shall, nevertheless, retain a prior claim upon all property or funds held or collected by such Trustee to secure any amounts then due it pursuant to the provisions of Section 5.06.

If a successor Trustee is appointed with respect to the Securities of one or more (but not all) series, the Issuer, the predecessor Trustee and each successor Trustee with respect to the Securities of any applicable series shall execute and deliver an indenture supplemental hereto which shall contain such provisions as shall be deemed necessary or desirable to confirm that all the rights, powers, trusts and duties of the predecessor Trustee with respect to the Securities of any series as to which the predecessor Trustee is not retiring shall continue to be vested in the predecessor Trustee, and shall add to or change any of the provisions of this Indenture as shall be necessary to provide for or facilitate the administration of the trusts hereunder by more than one Trustee, it being understood that nothing herein or in such supplemental indenture shall constitute such Trustees co-trustees of the same trust and that each such Trustee shall be Trustee of a trust or trusts under separate indentures.

Upon acceptance of appointment by any successor Trustee as provided in this Section 5.10, the Issuer shall mail notice thereof by first-class mail to the Holders of Securities of any series for which such successor Trustee is acting as Trustee at their last addresses as they shall appear in the Security register. If the acceptance of appointment is substantially contemporaneous with the resignation, then the notice called for by the preceding sentence may be combined with the notice called for by Section 5.09. If the Issuer fails to mail such notice within 10 days after acceptance of appointment by the successor Trustee, the successor Trustee shall cause such notice to be mailed at the expense of the Issuer.

Section 5.11 *Merger, Conversion, Consolidation or Succession to Business of Trustee.* Any corporation into which the Trustee may be merged or converted or with which it may be consolidated, or any corporation resulting from any merger, conversion or consolidation to which the Trustee shall be a party, or any corporation succeeding to all or substantially all the corporate trust business of the Trustee, shall be the successor of the Trustee hereunder, provided that such corporation shall be eligible under the provisions of Section 5.08, without the execution or filing of any paper or any further act on the part of any of the parties hereto, anything herein to the contrary notwithstanding.

In case at the time such successor to the Trustee shall succeed to the trusts created by this Indenture any of the Securities of any series shall have been authenticated but not delivered, any such successor to the Trustee may adopt the certificate of authentication of any predecessor Trustee and deliver such Securities so authenticated; and, in case at that time any of the Securities of any series shall not have been authenticated, any successor to the Trustee may authenticate such Securities either in the name of any predecessor hereunder or in the name of the successor Trustee; and in all such cases such certificate shall have the full force which it is anywhere in the Securities of such series or in this Indenture provided that the certificate of the Trustee shall have; provided, that the right to adopt the certificate of authentication of any predecessor Trustee or to authenticate Securities of any series in the name of any predecessor Trustee shall apply only to its successor or successors by merger, conversion or consolidation.

Section 5.12 *Reports to the Trustee.* The Trustee shall transmit to Holders such reports concerning the Trustee and its actions under this Indenture as may be required pursuant to the Trust Indenture Act at the times and in the manner provided pursuant thereto. If required by Section 313(a) of the Trust Indenture Act, the Trustee shall, within sixty days after each May 15 following the date of the initial issuance of Securities under this Indenture deliver to Holders a brief report, dated as of such May 15, which complies with the provisions of such Section 313(a).

A copy of each such report shall, at the time of such transmission to Holders, be filed by the Trustee with each stock exchange, if any, upon which the Securities are listed, with the Commission and with the Issuer. The Issuer will promptly notify the Trustee when the Securities are listed on any stock exchange and of any delisting thereof.

ARTICLE 6  
CONCERNING THE SECURITYHOLDERS

Section 6.01 *Evidence of Action Taken by Securityholders.* Any request, demand, authorization, direction, notice, consent, waiver or other action provided by this Indenture to be given or taken by a specified percentage in Principal amount of the Securityholders of any or all series may be embodied in and evidenced by one or more instruments of substantially similar tenor signed by such specified percentage of Securityholders in person or by agent duly appointed in writing; and, except as herein otherwise expressly provided, such action shall become effective when such instrument or instruments are delivered to the Trustee. Proof of execution of any instrument or of a writing appointing any such agent shall be sufficient for any purpose of this Indenture and (subject to Section 5.01 and 5.02) conclusive in favor of the Trustee and the Issuer, if made in the manner provided in this Article.

Section 6.02 *Proof of Execution of Instruments and of Holding of Securities; Record Date.* Subject to Section 5.01 and 5.02, the execution of any instrument by a Securityholder or his agent or proxy may be proved by the certificate of any notary public or other officer authorized to take acknowledgment of deeds, that the Person executing such instrument acknowledged to such notary public or other such officer the execution thereof, or by an affidavit of a witness to such execution sworn to before any such notary public or other officer. Where such execution is by an officer of a corporation or association or a member of a partnership on behalf of such corporation, association or partnership, as the case may be, or by any other Person acting in a representative capacity, such certificate or affidavit shall also constitute sufficient proof of such Person's authority. The holding of Securities shall be proved by the Security register or by a certificate of the registrar thereof. The Issuer may set a record date for purposes of determining the identity of Holders of Securities of any series entitled to vote or consent to any action referred to in Section 6.01, which record date may be set at any time or from time to time by notice to the Trustee, for any date or dates (in the case of any adjournment or reconsideration) not more than 60 days nor less than five days prior to the proposed date of such vote or consent, and thereafter, notwithstanding any other provisions hereof, only Holders of Securities of such series of record on such record date shall be entitled to so vote or give such consent or revoke such vote or consent.

Section 6.03 *Holders to be Treated as Owners.* Prior to due presentment of a Security for registration of transfer, the Issuer, the Trustee and any agent of the Issuer or the Trustee may deem and treat the person in whose name any Security shall be registered upon the Security register for such series as the absolute owner of such Security (whether or not such Security shall be overdue and notwithstanding any notation of ownership or other writing thereon) for the purpose of receiving payment of or on account of the Principal of and, subject to the provisions of this Indenture, interest on such Security and for all other purposes, and neither the Issuer nor the Trustee nor any agent of the Issuer or the Trustee shall be affected by any notice to the contrary. All such payments so made to any such person, or upon his order, shall be valid, and, to the extent of the sum or sums so paid, effectual to satisfy and discharge the liability for monies payable upon any such Security.

Section 6.04 *Securities Owned by Issuer Deemed Not Outstanding*. In determining whether the Holders of the requisite aggregate Principal amount of Outstanding Securities of any or all series have concurred in any direction, consent or waiver under this Indenture, Securities which are owned by the Issuer or any other obligor on the Securities with respect to which such determination is being made or by any person directly or indirectly controlling or controlled by or under direct or indirect common control with the Issuer or any other obligor on the Securities with respect to which such determination is being made shall be disregarded and deemed not to be Outstanding for the purpose of any such determination, except that for the purpose of determining whether the Trustee shall be protected in relying on any such direction, consent or waiver only Securities as to which the Trustee has received written notice are so owned shall be so disregarded. Securities so owned which have been pledged in good faith may be regarded as Outstanding if the pledgee establishes to the satisfaction of the Trustee the pledgee's right so to act with respect to such Securities and that the pledgee is not the Issuer or any other obligor upon the Securities or any person directly or indirectly controlling or controlled by or under direct or indirect common control with the Issuer or any other obligor on the Securities. In case of a dispute as to such right, the advice of counsel shall be full protection in respect of any decision made by the Trustee in accordance with such advice. Upon request of the Trustee, the Issuer shall furnish to the Trustee promptly an Officers' Certificate listing and identifying all Securities, if any, known by the Issuer to be owned or held by or for the account of any of the above-described persons; and, subject to Section 5.01 and 5.02, the Trustee shall be entitled to accept such Officers' Certificate as conclusive evidence of the facts therein set forth and of the fact that all Securities not listed therein are Outstanding for the purpose of any such determination.

Section 6.05 *Right of Revocation of Action Taken*. At any time prior to (but not after) the evidencing to the Trustee, as provided in Section 6.01, of the taking of any action by the Holders of the percentage in aggregate Principal amount of the Securities of any or all series, as the case may be, specified in this Indenture in connection with such action, any Holder of a Security the serial number of which is shown by the evidence to be included among the serial numbers of the Securities the Holders of which have consented to such action may, by filing written notice at the Corporate Trust Office and upon proof of holding as provided in this Article, revoke such action so far as concerns such Security. Except as aforesaid any such action taken by the Holder of any Security shall be conclusive and binding upon such Holder and upon all future Holders and owners of such Security and of any Securities issued in exchange or substitution therefor, irrespective of whether or not any notation in regard thereto is made upon any such Security. Any action taken by the Holders of the percentage in aggregate Principal amount of the Securities of any or all series, as the case may be, specified in this Indenture in connection with such action shall be conclusively binding upon the Issuer, the Trustee and the Holders of all the Securities affected by such action.

ARTICLE 7  
SUPPLEMENTAL INDENTURES

Section 7.01 *Supplemental Indentures Without Consent of Securityholders*. The Issuer, when authorized by a resolution of its Board of Directors certified to the Trustee, and the Trustee may from time to time and at any time enter into an indenture or indentures supplemental hereto for one or more of the following purposes:

(a) to evidence the succession of another corporation to the Issuer, or successive successions, and the assumption by the successor corporation of the covenants, agreements and obligations of the Issuer pursuant to Article 8;

(b) (i) to cure any ambiguity or to correct or supplement any provision contained herein or in any supplemental indenture which may be defective or inconsistent with any other provision contained herein or in any supplemental indenture, (ii) to conform the terms of Securities to the description thereof in the prospectus and prospectus supplement (or similar offering document) offering such Securities or (iii) to make such other provisions in regard to matters or questions arising under this Indenture or under any supplemental indenture as the Board of Directors may deem necessary or desirable and which shall not adversely affect the interests of the Holders of the Securities in any material respect;

(c) to establish the form or terms of Securities of any series as permitted by Section 2.01 and 2.03;

(d) to evidence and provide for the acceptance of appointment hereunder by a successor trustee with respect to the Securities of one or more series and to add to or change any of the provisions of this Indenture as shall be necessary to provide for or facilitate the administration of the trusts hereunder by more than one trustee, pursuant to the requirements of Section 5.10;

(e) to comply with any requirements of the Commission in connection with the qualification of this Indenture under the Trust Indenture Act of 1939;

(f) to provide for uncertificated or Unregistered Securities and to make all appropriate changes for such purpose;

(g) to make any change that would not reasonably be expected to adversely affect the rights of any Holder in any material respect;

(h) to add to the covenants of the Issuer such new covenants, restrictions, conditions or provisions as its Board of Directors shall consider to be for the protection of the Holders of Securities, and with respect to which the Trustee has received an Opinion of Counsel to a similar effect, and to make the occurrence, or the occurrence and continuance, of a default in any such additional covenants, restrictions, conditions or provisions an Event of Default; provided, that in respect of any such additional covenant, restriction, condition or provision such supplemental indenture may provide for a particular period of grace after default (which period may be shorter or longer than that allowed in the case of other defaults) or may provide for an immediate enforcement upon such an Event of Default or may limit the remedies available to the Trustee upon such an Event of Default or may limit the right of the Holders of a majority in aggregate Principal amount of the Securities of such series to waive such an Event of Default; or

(i) to make any change so long as no Securities are Outstanding.

The Trustee is hereby authorized to join with the Issuer in the execution of any such supplemental indenture, to make any further appropriate agreements and stipulations which may be therein contained and to accept the conveyance, transfer, assignment, mortgage or pledge of any property thereunder, but the Trustee shall not be obligated to enter into any such supplemental indenture which affects the Trustee's own rights, duties or immunities under this Indenture or otherwise.

Any supplemental indenture authorized by the provisions of this section may be executed without the consent of the Holders of any of the Securities at the time outstanding, notwithstanding any of the provisions of Section 7.02.

Section 7.02 *Supplemental Indentures With Consent of Securityholders*. With the consent (evidenced as provided in Article 6) of the Holders of not less than a majority in aggregate Principal amount of the Securities at the time Outstanding of all series affected by such supplemental indenture (voting as one class), the Issuer, when authorized by a resolution of its Board of Directors, and the Trustee may, from time to time and at any time, enter into an indenture or indentures supplemental hereto for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of this Indenture or of any supplemental indenture or of modifying in any manner the rights of the Holders of the Securities of each such series; provided, that no such supplemental indenture shall without the consent of each Holder affected thereby:

- (a) change the stated maturity of the Principal of, or the time of payment of any installment of interest on, such Holder's Security;
- (b) reduce the Principal thereof or the rate of interest thereon, or any premium payable with respect thereto;
- (c) change any place of payment where, or the currency in which, any Security or any premium or the interest thereon is payable;
- (d) change the provisions for calculating any redemption or repurchase price, including the definitions relating thereto;
- (e) make any change to Section 4.07 or Section 4.10 (except to include other provisions subject to Section 4.10);
- (f) reduce the percentage in Principal amount of outstanding Securities of the relevant series the consent of whose Holders is required for any such supplemental indenture, for any waiver of compliance with any provisions of this Indenture or any defaults and their consequences provided for in this Indenture;
- (g) alter or impair the right to convert any Security at the rate and upon the terms provided in Article 12;
- (h) waive a default in the payment of Principal of or interest on any Security of such Holder (except pursuant to a rescission of acceleration pursuant to Section 4.01);
- (i) adversely affect the rights of such Holder under any mandatory redemption or repurchase provision or any right of redemption or repurchase at the option of such Holder;

(j) modify any of the provisions of this Section 7.02, except to increase any such percentage or to provide that certain other provisions of this Indenture cannot be modified or waived without the consent of the Holder of each outstanding Security affected thereby; or

(k) change or waive any provision that, pursuant to a board resolution or indenture supplemental hereto establishing the terms of one or more series of Securities, is prohibited to be so changed or waived.

Upon the written request of the Issuer, accompanied by a copy of a resolution of the Board of Directors certified by the secretary or an assistant secretary of the Issuer authorizing the execution of any such supplemental indenture, and upon the filing with the Trustee of evidence of the consent of Securityholders as aforesaid and other documents, if any, required by Section 6.01, the Trustee shall join with the Issuer in the execution of such supplemental indenture unless such supplemental indenture affects the Trustee's own rights, duties or immunities under this Indenture or otherwise, in which case the Trustee may in its discretion, but shall not be obligated to, enter into such supplemental indenture.

It shall not be necessary for the consent of the Securityholders under this section to approve the particular form of any proposed supplemental indenture, but it shall be sufficient if such consent shall approve the substance thereof.

Promptly after the execution by the Issuer and the Trustee of any supplemental indenture pursuant to the provisions of this Section, the Issuer shall mail a notice thereof by first class mail to the Holders of Securities of each series affected thereby at their addresses as they shall appear on the registry books of the Issuer, setting forth in general terms the substance of such supplemental indenture. Any failure of the Issuer to mail such notice, or any defect therein, shall not, however, in any way impair or affect the validity of any such supplemental indenture.

*Section 7.03 Effect of Supplemental Indenture.* Upon the execution of any supplemental indenture pursuant to the provisions hereof, this Indenture shall be and be deemed to be modified and amended in accordance therewith and the respective rights, limitations of rights, obligations, duties and immunities under this Indenture of the Trustee, the Issuer and the Holders of Securities of each series affected thereby shall thereafter be determined, exercised and enforced hereunder subject in all respects to such modifications and amendments, and all the terms and conditions of any such supplemental indenture shall be and be deemed to be part of the terms and conditions of this Indenture for any and all purposes.

*Section 7.04 Documents to Be Given to Trustee.* The Trustee, subject to the provisions of Section 5.01 and 5.02, may receive an Officers' Certificate and an Opinion of Counsel as conclusive evidence that any supplemental indenture executed pursuant to this Article 7 complies with the applicable provisions of this Indenture.

*Section 7.05 Notation on Securities in Respect of Supplemental Indentures.* Securities of any series authenticated and delivered after the execution of any supplemental indenture pursuant to the provisions of this Article may bear a notation in form approved by the Trustee for such series as to any matter provided for by such supplemental indenture or as to any action taken at any such meeting. If the Issuer or the Trustee shall so determine, new Securities of any series so modified as to conform, in the opinion of the Trustee and the Board of Directors, to any modification of this Indenture contained in any such supplemental indenture may be prepared by the Issuer, authenticated by the Trustee and delivered in exchange for the Securities of such series then outstanding.



ARTICLE 8  
CONSOLIDATION, MERGER, SALE OR CONVEYANCE

Section 8.01 *Issuer May Consolidate, etc., on Certain Terms.* The Issuer covenants that it will not merge or consolidate with any other Person or sell, convey, transfer, lease or otherwise dispose of all or substantially all of its property and assets to any Person (other than a consolidation with or merger with or into or a sale, conveyance, transfer, lease or other disposition to a Wholly-Owned Subsidiary with a positive net worth; *provided* that, in connection with any such merger of the Issuer with a Wholly-Owned Subsidiary, no consideration (other than common stock) in the surviving person or the Issuer shall be issued or distributed to the stockholders of the Issuer), unless (xiv) either (x) the Issuer shall be the continuing corporation, or the successor corporation or (y) the Person formed by such consolidation or into which the Issuer is merged or that acquires by sale or conveyance substantially all the assets of the Issuer (if other than the Issuer) shall be a corporation or limited liability company organized and validly existing under the laws of the United States of America or any jurisdiction thereof and shall expressly assume the due and punctual payment of the Principal of and interest on all the Securities, according to their tenor, and the due and punctual performance and observance of all of the covenants and conditions of this Indenture to be performed or observed by the Issuer, by supplemental indenture satisfactory to the Trustee, executed and delivered to the Trustee by such Person, (xv) immediately after giving effect to such transaction, no default or Event of Default shall have occurred and be continuing and (xvi) the Issuer delivers to the Trustee an Officers' Certificate and Opinion of Counsel, in each case stating that such consolidation, merger or transfer and such supplemental indenture complies with this Section 8.01 and that all conditions precedent provided for herein relating to such transaction have been complied with; *provided, however*, that the foregoing limitations shall not apply if, in the good faith determination of the Board of Directors, whose determination shall be evidenced by a board resolution certified to the Trustee, the principal purpose of such transaction is to change the state of incorporation of the Issuer; and *provided further* that any such transaction shall not have as one of its purposes the evasion of the foregoing limitations.

Section 8.02 *Successor Corporation Substituted.* In case of any such consolidation, merger, sale, conveyance, transfer, lease or other disposition, and following such an assumption by the successor Person, such successor Person shall succeed to and be substituted for the Issuer, with the same effect as if it had been named herein. Such successor Person may cause to be signed, and may issue either in its own name or in the name of the Issuer prior to such succession any or all of the Securities issuable hereunder which theretofore shall not have been signed by the Issuer and delivered to the Trustee; and, upon the order of such successor Person instead of the Issuer and subject to all the terms, conditions and limitations in this Indenture prescribed, the Trustee, pursuant to the terms hereof, shall authenticate and shall deliver any Securities which previously shall have been signed and delivered by the officers of the Issuer to the Trustee for authentication, and any Securities which such successor Person thereafter shall cause to be signed and delivered to the Trustee for that purpose. All of the Securities so issued shall in all respects have the same legal rank and benefit under this Indenture as the Securities theretofore or thereafter issued in accordance with the terms of this Indenture as though all of such Securities had been issued at the date of the execution hereof.

In case of any such consolidation, merger, sale, conveyance, transfer, lease or other disposition, such changes in phraseology and form (but not in substance) may be made in the Securities thereafter to be issued as may be appropriate.

Upon the assumption by the successor Person in the manner described in this Article, the Issuer shall be discharged from all obligations and covenants under this Indenture and the Securities.

ARTICLE 9  
DISCHARGE OF INDENTURE

Section 9.01 *Defeasance Within One Year of Payment*. Except as otherwise provided in this Section 9.01, the Issuer may terminate its obligations under the Securities of any series and this Indenture with respect to Securities of such series if:

(a) all Securities of such series previously authenticated and delivered (other than destroyed, lost or wrongfully taken Securities of such series that have been replaced or Securities of such series for whose payment money or securities have theretofore been held in trust and thereafter repaid to the Issuer, as provided in Section 9.05) have been delivered to the Trustee for cancellation and the Issuer has paid all sums payable by it hereunder; or

(b) (xviii) (A) the Securities of such series mature within one year or all of them are to be called for redemption within one year under arrangements satisfactory to the Trustee for giving the notice of redemption, (B) the Issuer irrevocably deposits in trust with the Trustee, as trust funds solely for the benefit of the Holders of such Securities for that purpose, money or U.S. Government Obligations or a combination thereof sufficient (unless such funds consist solely of money, in the opinion of a nationally recognized firm of independent public accountants expressed in a written certification thereof delivered to the Trustee), without consideration of any reinvestment and after payment of all Federal, state and local taxes or other charges and assessments in respect thereof payable by the Trustee, to pay Principal of and interest on the Securities of such series to maturity or redemption, as the case may be, and to pay all other sums payable by it hereunder and (C) the Issuer delivers to the Trustee an Officers' Certificate and an Opinion of Counsel, in each case stating that all conditions precedent provided for herein relating to the satisfaction and discharge of this Indenture with respect to the Securities of such series have been complied with.

With respect to the foregoing clause (i), only the Issuer's obligations under Sections 5.06 and 9.05 in respect of the Securities of such series shall survive. With respect to the foregoing clause (ii), only the Issuer's obligations in Section 2.03 through 2.11, 3.02, 5.06, 5.09 and 9.05 in respect of the Securities of such series shall survive until such Securities of such series are no longer outstanding. Thereafter, only the Issuer's obligations in Section 5.06 and 9.05 in respect of the Securities of such series shall survive. After any such irrevocable deposit, the Trustee shall acknowledge in writing the discharge of the Issuer's obligations under the Securities of such series and this Indenture with respect to the Securities of such series except for those surviving obligations specified above.

Section 9.02 *Defeasance*. Except as provided below, the Issuer will be deemed to have paid and will be discharged from any and all obligations in respect of the Securities of any series and the provisions of this Indenture will no longer be in effect with respect to the Securities of such series (and the Trustee, at the expense of the Issuer, shall execute instruments in form and substance satisfactory to the Issuer and the Trustee acknowledging the same) if the following conditions shall have been satisfied:

(a) the Issuer has irrevocably deposited in trust with the Trustee as trust funds specifically pledged as security for, and dedicated solely to, Holders of the Securities of such series, for payment of the Principal of and interest on the Securities of such series, money or U.S. Government Obligations or a combination thereof sufficient (unless such funds consist solely of money, in the opinion of a nationally recognized firm of independent public accountants expressed in a written certification thereof delivered to the Trustee) without consideration of any reinvestment and after payment of all federal, state and local taxes or other charges and assessments in respect thereof payable by the Trustee, to pay and discharge the Principal of and accrued interest on the outstanding Securities of such series to maturity or earlier redemption (irrevocably provided for under arrangements satisfactory to the Trustee), as the case may be;

(b) such deposit will not result in a breach or violation of, or constitute a default under, this Indenture or any other material agreement or instrument to which the Issuer is a party or by which it is bound;

(c) no default or Event of Default with respect to the Securities of such series shall have occurred and be continuing on the date of such deposit;

(d) the Issuer shall have delivered to the Trustee (1) either (x) a ruling directed to the Trustee received from the Internal Revenue Service to the effect that the Holders of the Securities of such series will not recognize income, gain or loss for Federal income tax purposes as a result of the Issuer's exercise of its option under this Section 9.02 and will be subject to federal income tax on the same amount and in the same manner and at the same times as would have been the case if such deposit and defeasance had not occurred or (y) an Opinion of Counsel to the same effect as the ruling described in clause (x) above and based upon a change in law and (2) an Opinion of Counsel to the effect that the Holders of the Securities of such series have a valid security interest in the trust funds subject to no prior liens under the UCC; and

(e) the Issuer has delivered to the Trustee an Officers' Certificate and an Opinion of Counsel, in each case stating that all conditions precedent provided for herein relating to the defeasance contemplated by this Section 9.02 of the Securities of such series have been complied with.

The Issuer's obligations in Section 2.03 through 2.11, 3.02, 5.06, 5.09 and 9.05 with respect to the Securities of such series shall survive until such Securities are no longer outstanding. Thereafter, only the Issuer's obligations in Section 5.06 and 9.05 shall survive.

Section 9.03 *Covenant Defeasance*. The Issuer may omit to comply with any term, provision or condition set forth in Section 3.04, 3.06 or 3.08 (or any other specific covenant relating to the Securities of any series provided for in a Board Resolution or supplemental indenture pursuant to Section 2.03 which may by its terms be defeased pursuant to this Section 9.03), and such omission shall be deemed not to be an Event of Default under clause (c) of Section 4.01, with respect to the outstanding Securities of such series if:

(a) the Issuer has irrevocably deposited in trust with the Trustee as trust funds solely for the benefit of the Holders of the Securities of such series, for payment of the Principal of and interest, if any, on the Securities of such series, money or U.S. Government Obligations or a combination thereof in an amount sufficient (unless such funds consist solely of money, in the opinion of a nationally recognized firm of independent public accountants expressed in a written certification thereof delivered to the Trustee) without consideration of any reinvestment and after payment of all Federal, state and local taxes or other charges and assessments in respect thereof payable by the Trustee, to pay and discharge the Principal of and interest on the outstanding Securities of such series to maturity or earlier redemption (irrevocably provided for under arrangements satisfactory to the Trustee), as the case may be;

(b) such deposit will not result in a breach or violation of, or constitute a default under, this Indenture or any other material agreement or instrument to which the Issuer is a party or by which it is bound;

(c) no default or Event of Default with respect to the Securities of such series shall have occurred and be continuing on the date of such deposit;

(d) the Issuer has delivered to the Trustee an Opinion of Counsel to the effect that (A) the Holders of the Securities of such series have a valid security interest in the trust funds subject to no prior liens under the UCC and (B) such Holders will not recognize income, gain or loss for Federal income tax purposes as a result of such deposit and covenant defeasance and will be subject to federal income tax on the same amount and in the same manner and at the same times as would have been the case if such deposit and defeasance had not occurred; and

(e) the Issuer has delivered to the Trustee an Officers' Certificate and an Opinion of Counsel, in each case stating that all conditions precedent provided for herein relating to the covenant defeasance contemplated by this Section 9.03 of the Securities of such series have been complied with.

Section 9.04 *Application of Trust Money*. Subject to Section 9.05, the Trustee or Paying Agent shall hold in trust money or U.S. Government Obligations deposited with it pursuant to 9.01, 9.02, or 9.03, as the case may be, in respect of the Securities of any series and shall apply the deposited money and the proceeds from deposited U.S. Government Obligations in accordance with the Securities of such series and this Indenture to the payment of Principal of and interest on the Securities of such series; provided that such money need not be segregated from other funds except to the extent required by law. The Issuer shall pay and indemnify the Trustee against any tax, fee or other charge imposed on or assessed against the U.S. Government Obligations deposited pursuant to 9.01, 9.02, or 9.03, as the case may be, or the Principal and interest received in respect thereof, other than any such tax, fee or other charge that by law is for the account of the Holders.

Section 9.05 *Repayment to Issuer*. Subject to Section 5.06, 9.01, the Trustee and the Paying Agent shall promptly pay to the Issuer upon request set forth in an Officers' Certificate any money held by them at any time and not required to make payments hereunder and thereupon shall be relieved from all liability with respect to such money. Subject to applicable escheat or abandoned property laws, the Trustee and the Paying Agent shall pay to the Issuer upon written request any money held by them and required to make payments hereunder under this Indenture that remains unclaimed for two years; *provided* that the Trustee or such Paying Agent before being required to make any payment shall cause to be published at the expense of the Issuer once in an Authorized Newspaper or mail to each Holder entitled to such money at such Holder's address (as set forth in the register) notice that such money remains unclaimed and that after a date specified therein (which shall be at least 30 days from the date of such publication or mailing) any unclaimed balance of such money then remaining will be repaid to the Issuer. After payment to the Issuer, Holders entitled to such money must look to the Issuer for payment as general creditors unless an abandoned property law designates another Person, and all liability of the Trustee and such Paying Agent with respect to such money shall cease.

ARTICLE 10  
MISCELLANEOUS PROVISIONS

Section 10.01 *Incorporators, Stockholders, Officers and Directors Exempt from Individual Liability*. No recourse under or upon any obligation, covenant or agreement contained in this Indenture or in any Security, or because of any indebtedness evidenced thereby, shall be had against any incorporator, as such, or against any past, present or future stockholder, officer, director or employee, as such, of the Issuer or of any successor Person thereof, either directly or through the Issuer or any successor Person thereof, under any rule of law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise, all such liability being expressly waived and released by the acceptance of the Securities by the Holders thereof and as part of the consideration for the issue of the Securities.

Section 10.02 *Provisions of Indenture for the Sole Benefit of Parties and Securityholders*. Nothing in this Indenture or in the Securities, expressed or implied, shall give or be construed to give to any person, firm or corporation, other than the parties hereto and their successors and the Holders of the Securities, any legal or equitable right, remedy or claim under this Indenture or under any covenant or provision herein contained, all such covenants and provisions being for the sole benefit of the parties hereto and their successors and of the Holders of the Securities.

Section 10.03 *Successors and Assigns of Issuer Bound by Indenture*. All the covenants, stipulations, promises and agreements contained in this Indenture by or on behalf of the Issuer shall bind its successors and assigns, whether so expressed or not.

Section 10.04 *Notices and Demands on Issuer, Trustee and Securityholders*. Any notice or demand which by any provision of this Indenture is required or permitted to be given or served by the Trustee or by the Holders of Securities to or on the Issuer may be given or served by being deposited postage prepaid, first-class mail (except as otherwise specifically provided herein) addressed (until another address of the Issuer is filed by the Issuer with the Trustee) to Corbus Pharmaceuticals Holdings, Inc. at 100 River Ridge Drive, Norwood MA, 02062, Attention: Chief Financial Officer. Any notice, direction, request or demand by the Issuer or any Securityholder to or upon the Trustee shall be deemed to have been sufficiently given or made, for all purposes, if given or made at the Corporate Trust Office.

Where this Indenture provides for notice to Holders, such notice shall be sufficiently given (unless otherwise herein expressly provided) if in writing and mailed, first-class postage prepaid, to each Holder entitled thereto, at such Holder's last address as it appears in the Security register. In any case where notice to Holders is given by mail, neither the failure to mail such notice, nor any defect in any notice so mailed, to any particular Holder shall affect the sufficiency of such notice with respect to other Holders. Where this Indenture provides for notice in any manner, such notice may be waived in writing by the person entitled to receive such notice, either before or after the event, and such waiver shall be the equivalent of such notice. Waivers of notice by Holders shall be filed with the Trustee, but such filing shall not be a condition precedent to the validity of any action taken in reliance upon such waiver.

In case, by reason of the suspension of or irregularities in regular mail service, it shall be impracticable to mail notice to the Issuer and Securityholders when such notice is required to be given pursuant to any provision of this Indenture, then any manner of giving such notice as shall be satisfactory to the Trustee shall be deemed to be a sufficient giving of such notice.

Section 10.05 *Officers' Certificates and Opinions of Counsel; Statements to be Contained Therein*. Upon any application or demand by the Issuer to the Trustee to take any action under any of the provisions of this Indenture, the Issuer shall furnish to the Trustee an Officers' Certificate stating that all conditions precedent provided for in this Indenture relating to the proposed action have been complied with and an Opinion of Counsel stating that in the opinion of such counsel all such conditions precedent have been complied with, except that in the case of any such application or demand as to which the furnishing of such documents is specifically required by any provision of this Indenture relating to such particular application or demand, no additional certificate or opinion need be furnished.

Each certificate or opinion provided for in this Indenture and delivered to the Trustee with respect to compliance with a condition or covenant provided for in this Indenture shall include (a) a statement that the person making such certificate or opinion has read such covenant or condition, (b) a brief statement as to the nature and scope of the examination or investigation upon which the statements or opinions contained in such certificate or opinion are based, (c) a statement that, in the opinion of such person, he has made such examination or investigation as is necessary to enable him to express an informed opinion as to whether or not such covenant or condition has been complied with and (d) a statement as to whether or not, in the opinion of such person, such condition or covenant has been complied with.

Any certificate, statement or opinion of an officer of the Issuer may be based, insofar as it relates to legal matters, upon a certificate or opinion of or representations by counsel, unless such officer knows that the certificate or opinion or representations with respect to the matters upon which his certificate, statement or opinion may be based as aforesaid are erroneous, or in the exercise of reasonable care should know that the same are erroneous. Any certificate, statement or opinion of counsel may be based, insofar as it relates to factual matters, information with respect to which is in the possession of the Issuer, upon the certificate, statement or opinion of or representations by an officer or officers of the Issuer, unless such counsel knows that the certificate, statement or opinion or representations with respect to the matters upon which his certificate, statement or opinion may be based as aforesaid are erroneous, or in the exercise of reasonable care should know that the same are erroneous.

Any certificate, statement or opinion of an officer of the Issuer or of counsel may be based, insofar as it relates to accounting matters, upon a certificate or opinion of or representations by an accountant or firm of accountants in the employ of the Issuer, unless such officer or counsel, as the case may be, knows that the certificate or opinion or representations with respect to the accounting matters upon which his certificate, statement or opinion may be based as aforesaid are erroneous, or in the exercise of reasonable care should know that the same are erroneous.

Any certificate or opinion of any independent firm of public accountants filed with the Trustee shall contain a statement that such firm is independent.

Section 10.06 *Payments Due on Saturdays, Sundays and Holidays*. If the date of maturity of interest on or Principal of the Securities of any series or the date fixed for redemption or repayment of any such Security shall not be a Business Day, then payment of interest or Principal need not be made on such date, but may be made on the next succeeding Business Day with the same force and effect as if made on the date of maturity or the date fixed for redemption, and no interest shall accrue for the period after such date.

Section 10.07 *Conflict of Any Provision of Indenture with Trust Indenture Act of 1939*. If and to the extent that any provision of this Indenture limits, qualifies or conflicts with another provision incorporated in this Indenture by operation of Sections 310 to 317, inclusive, of the Trust Indenture Act of 1939, such incorporated provision shall control.

Section 10.08 *New York Law to Govern*. This Indenture and each Security shall be deemed to be a contract under the laws of the State of New York, and for all purposes shall be construed in accordance with the laws of such State.

Section 10.09 *Counterparts*. This Indenture may be executed in any number of counterparts, each of which shall be an original; but such counterparts shall together constitute but one and the same instrument.

Section 10.10 *Effect of Headings*. The Article and Section headings herein and the Table of Contents are for convenience only and shall not affect the construction hereof.

ARTICLE 11  
REDEMPTION OF SECURITIES

Section 11.01 *Applicability of Article*. The provisions of this Article shall be applicable to the Securities of any series which are redeemable before their maturity except as otherwise specified as contemplated by Section 2.03 for Securities of such series.

Section 11.02 *Notice of Redemption; Partial Redemptions*. Notice of redemption to the Holders of Securities of any series to be redeemed as a whole or in part at the option of the Issuer shall be given by mailing notice of such redemption by first class mail, postage prepaid, at least 30 days and not more than 60 days prior to the date fixed for redemption to such Holders of Securities of such series at their last addresses as they shall appear upon the registry books. Any notice which is mailed in the manner herein provided shall be conclusively presumed to have been duly given, whether or not the Holder receives the notice. Failure to give notice by mail, or any defect in the notice to the Holder of any Security of a series designated for redemption as a whole or in part shall not affect the validity of the proceedings for the redemption of any other Security of such series.

The notice of redemption to each such Holder shall specify the CUSIP numbers of such Securities to be redeemed, the Principal amount of each Security of such series held by such Holder to be redeemed, the date fixed for redemption, the redemption price, the place or places of payment, that payment will be made upon presentation and surrender of such Securities, that interest accrued to the date fixed for redemption will be paid as specified in such notice and that on and after said date interest thereon or on the portions thereof to be redeemed will cease to accrue. In case any Security of a series is to be redeemed in part only the notice of redemption shall state the portion of the Principal amount thereof to be redeemed, the method the Trustee shall use to determine such Securities to be redeemed as specified in the last paragraph of this Section 11.02, if applicable, and shall state that on and after the date fixed for redemption, upon surrender of such Security, a new Security or Securities of such series in Principal amount equal to the unredeemed portion thereof will be issued.

The notice of redemption of Securities of any series to be redeemed at the option of the Issuer shall be given by the Issuer or, at the Issuer's written request, by the Trustee in the name and at the expense of the Issuer.

By 11:00 a.m. (New York City time) on the redemption date specified in the notice of redemption given as provided in this Section, the Issuer will deposit with the Trustee or with one or more paying agents (or, if the Issuer is acting as its own paying agent, set aside, segregate and hold in trust as provided in Section 3.03) an amount of money sufficient to redeem on the redemption date all the Securities of such series so called for redemption at the appropriate redemption price, together with accrued interest to the date fixed for redemption. If less than all the outstanding Securities of a series are to be redeemed, the Issuer will deliver to the Trustee at least 70 days (unless a shorter period shall be satisfactory to the Trustee) prior to the date fixed for redemption an Officers' Certificate stating the aggregate Principal amount of Securities to be redeemed.



In the case of the redemption of all of the Securities of a series outstanding, the Issuer shall notify the Trustee in writing of the redemption date 45 days (unless a shorter period shall be satisfactory to the Trustee) prior to the redemption date.

If less than all the Securities of a series are to be redeemed, the Trustee shall select, pro rata or by lot or in such manner as it shall deem appropriate and fair, Securities of such series to be redeemed in whole or in part. Securities of a series may be redeemed in part in multiples equal to the minimum authorized denomination for Securities of such series or any multiple thereof. The Trustee shall promptly notify the Issuer in writing of the Securities of such series selected for redemption and, in the case of any Securities of such series selected for partial redemption, the Principal amount thereof to be redeemed. For all purposes of this Indenture, unless the context otherwise requires, all provisions relating to the redemption of Securities of any series shall relate, in the case of any Security redeemed or to be redeemed only in part, to the portion of the Principal amount of such Security which has been or is to be redeemed.

Section 11.03 *Payment of Securities Called for Redemption*. If notice of redemption has been given as above provided, the Securities or portions of Securities specified in such notice shall become due and payable on the date and at the place stated in such notice at the applicable redemption price, together with interest accrued to the date fixed for redemption, and on and after said date (unless the Issuer shall default in the payment of such Securities at the redemption price, together with interest accrued to said date) interest on the Securities or portions of Securities so called for redemption shall cease to accrue and, except as provided in Section 5.05 and 9.04, such Securities shall cease from and after the date fixed for redemption to be entitled to any benefit or security under this Indenture, and the Holders thereof shall have no right in respect of such Securities except the right to receive the redemption price thereof and unpaid interest to the date fixed for redemption. On presentation and surrender of such Securities at a place of payment specified in said notice, said Securities or the specified portions thereof shall be paid and redeemed by the Issuer at the applicable redemption price, together with interest accrued thereon to the date fixed for redemption; provided that any semiannual payment of interest becoming due on the date fixed for redemption shall be payable to the Holders of such Securities registered as such on the relevant record date subject to the terms and provisions of Section 2.07 hereof.

If any Security called for redemption shall not be so paid upon surrender thereof for redemption, the Principal shall, until paid or duly provided for, bear interest from the date fixed for redemption at the rate of interest or Yield to Maturity (in the case of an Original Issue Discount Security) borne by the Security.

Upon presentation of any Security redeemed in part only, the Issuer shall execute and the Trustee shall authenticate and deliver to or on the order of the Holder thereof, at the expense of the Issuer, a new Security or Securities of such series, of authorized denominations, in Principal amount equal to the unredeemed portion of the Security so presented, pursuant to Section 2.04, 2.05 and 2.06.

Section 11.04 *Exclusion of Certain Securities from Eligibility for Selection for Redemption*. Securities shall be excluded from eligibility for selection for redemption if they are identified by registration and certificate number in a written statement signed by an authorized officer of the Issuer and delivered to the Trustee at least 40 days prior to the last date on which notice of redemption may be given as being owned of record and beneficially by, and not pledged or hypothecated by either (a) the Issuer or (b) an entity specifically identified in such written statement directly or indirectly controlling or controlled by or under direct or indirect common control with the Issuer.

Section 11.05 *Conversion Arrangement On Call For Redemption*. In connection with any redemption of Securities, the Issuer shall deposit the amount due in connection with such redemption as required by Section 11.02 or it may arrange for the purchase and conversion of any Securities called for redemption by an agreement with one or more investment bankers or other purchasers to purchase such Securities and to make the deposit required of it by Section 11.02 on its behalf by paying to the Trustee or the Paying Agent in trust for the Securityholders, on or before 10:00 a.m. New York time on the redemption date, an amount no less than the redemption price, together with interest, if any, accrued to the redemption date of such Securities, in immediately available funds. Notwithstanding anything to the contrary contained in this Article 11, the obligation of the Issuer to pay the redemption price of such Securities, including all accrued interest, if any, shall be deemed to be satisfied and discharged to the extent such amount is so paid by such purchasers. If such an agreement is entered into, any Securities not duly surrendered for conversion by the Holders thereof may, at the option of the Issuer, be deemed, to the fullest extent permitted by law, acquired by such purchasers from such Holders and (notwithstanding anything to the contrary contained in Article 12) surrendered by such purchasers for conversion, all as of immediately prior to the close of business on the last day on which Securities of such series called for redemption may be converted in accordance with this Indenture and the terms of such Securities, subject to payment of the above amount aforesaid. The Trustee or the Paying Agent shall hold and pay to the Securityholders whose Securities are selected for redemption any such amount paid to it in the same manner as it would monies deposited with it by the Issuer for the redemption of Securities. Without the Trustee's and the Paying Agent's prior written consent, no arrangement between the Issuer and such purchasers for the purchase and conversion of any Securities shall increase or otherwise affect any of the powers, duties, responsibilities or obligations of the Trustee as set forth in this Indenture, and the Issuer agrees to indemnify the Trustee from, and hold it harmless against, any loss, liability or expense arising out of or in connection with any such arrangement for the purchase and conversion of any Securities between the Issuer and such purchasers, including the costs and expenses incurred by the Trustee and the Paying Agent in the defense of any claim or liability arising out of or in connection with the exercise or performance of any of its powers, duties, responsibilities or obligations under this Indenture.

## ARTICLE 12 CONVERSION OF SECURITIES

Section 12.01 *Applicability of Article*. Securities of any series which are convertible into Capital Stock at the option of the Securityholder shall be convertible in accordance with their terms and (unless otherwise specified as contemplated by Section 2.03 for Securities of any series) in accordance with this Article. Each reference in this Article 12 to "a Security" or "the Securities" refers to the Securities of the particular series that is convertible into Capital Stock. Each reference in this Article to "Capital Stock" into which Securities of any series are convertible refers to the class of Capital Stock into which the Securities of such series are convertible in accordance with their terms (as specified as contemplated by Section 2.03). If more than one series of Securities with conversion privileges are outstanding at any time, the provisions of this Article 12 shall be applied separately to each such series.

Section 12.02 *Right of Securityholders to Convert Securities*. Subject to and upon compliance with the terms of the Securities and the provisions of Section 11.05 and this Article 12, at the option of the Holder thereof, any Security of any series of any authorized denomination, or any portion of the Principal amount thereof which is \$1,000 or any integral multiple of \$1,000, may, at any time during the period specified in the Securities of such series, or in case such Security or portion thereof shall have been called for redemption, then in respect of such Security or portion thereof until and including, but not after (unless the Issuer shall default in payment due upon the redemption thereof) the close of business on the Business Day prior to the date fixed for redemption except that in the case of redemption at the option of the Securityholder, if specified in the terms of such Securities, such right shall terminate upon receipt of written notice of the exercise of such option, be converted into duly authorized, validly issued, fully paid and nonassessable shares of Capital Stock, as specified in such Security, at the conversion rate for each \$1,000 Principal amount of Securities (such initial conversion rate reflecting an initial conversion price specified in such Security) in effect on the conversion date, or, in case an adjustment in the conversion rate has taken place pursuant to the provisions of Section 12.05, then at the applicable conversion rate as so adjusted, upon surrender of the Security or Securities, the Principal amount of which is so to be converted, to the Issuer at any time during usual business hours at the office or agency to be maintained by it in accordance with the provisions of Section 3.02, accompanied by a written notice of election to convert as provided in Section 12.03 and, if so required by the Issuer and the Trustee, by a written instrument or instruments of transfer in form satisfactory to the Issuer and the Trustee duly executed by the registered Holder or his attorney duly authorized in writing. All Securities surrendered for conversion shall, if surrendered to the Issuer or any conversion agent, be delivered to the Trustee for cancellation and cancelled by it, or shall, if surrendered to the Trustee, be cancelled by it, as provided in Section 2.10.

The initial conversion price or conversion rate in respect of a series of Securities shall be as specified in the Securities of such series. The conversion price or conversion rate will be subject to adjustment on the terms set forth in Section 12.05 or such other or different terms, if any, as may be specified by Section 2.03 for Securities of such series. Provisions of this Indenture that apply to conversion of all of a Security also apply to conversion of a portion of it.

Section 12.03 *Issuance of Shares of Capital Stock on Conversion* As promptly as practicable after the surrender, as herein provided, of any Security or Securities for conversion, the Issuer shall deliver or cause to be delivered at its said office or agency to or upon the written order of the Holder of the Security or Securities so surrendered a certificate or certificates representing the number of duly authorized, validly issued, fully paid and nonassessable shares of Capital Stock into which such Security or Securities may be converted in accordance with the terms thereof and the provisions of this Article 12. Prior to delivery of such certificate or certificates, the Issuer shall require a written notice at its said office or agency from the Holder of the Security or Securities so surrendered stating that the Holder irrevocably elects to convert such Security or Securities, or, if less than the entire Principal amount thereof is to be converted, stating the portion thereof to be converted. Such notice shall also state the name or names (with address and social security or other taxpayer identification number) in which said certificate or certificates are to be issued. Such conversion shall be deemed to have been made at the time that such Security or Securities shall have been surrendered for conversion and such notice shall have been received by the Issuer or the Trustee, the rights of the Holder of such Security or Securities as a Securityholder shall cease at such time, the person or persons entitled to receive the shares of Capital Stock upon conversion of such Security or Securities shall be treated for all purposes as having become the record holder or holders of such shares of Capital Stock at such time and such conversion shall be at the conversion rate in effect at such time. In the case of any Security of any series which is converted in part only, upon such conversion, the Issuer shall execute and the Trustee shall authenticate and deliver to the Holder thereof, as requested by such Holder, a new Security or Securities of such series of authorized denominations in aggregate Principal amount equal to the unconverted portion of such Security.

If the last day on which a Security may be converted is not a Business Day in a place where a conversion agent is located, the Security may be surrendered to that conversion agent on the next succeeding day that is a Business Day.

The Issuer will not be required to deliver certificates for shares of Capital Stock upon conversion while its stock transfer books are closed for a meeting of shareholders or for the payment of dividends or for any other purpose, but certificates for shares of Capital Stock shall be delivered as soon as the stock transfer books shall again be opened.

Section 12.04 *No Payment or Adjustment for Interest or Dividends.* Unless otherwise specified as contemplated by Section 2.03 for Securities of such series, Securities surrendered for conversion during the period from the close of business on any regular record date (or special record date for payment of defaulted interest) next preceding any interest payment date to the opening of business on such interest payment date (except Securities called for redemption on a redemption date within such period) when surrendered for conversion must be accompanied by payment of an amount equal to the interest thereon which the registered Holder is to receive on such interest payment date. Payment of interest shall be made, as of such interest payment date or such date, as the case may be, to the Holder of record of the Securities as of such regular, or special record date, as applicable. Except where Securities surrendered for conversion must be accompanied by payment as described above, no interest on converted Securities will be payable by the Issuer on any interest payment date subsequent to the date of conversion. No other payment or adjustment for interest or dividends is to be made upon conversion. Notwithstanding the foregoing, upon conversion of any Original Issue Discount Security, the fixed number of shares of Capital Stock into which such Security is convertible delivered by the Issuer to the Holder thereof shall be applied, first, to pay the accrued original issue discount attributable to the period from the date of issuance to the date of conversion of such Security, and, second, to pay the balance of the Principal amount of such Security.

Section 12.05 *Adjustment of Conversion Rate.* Unless otherwise specified as contemplated by Section 2.03 for Securities of such series, the conversion rate for Securities in effect at any time shall be subject to adjustment as follows:

(a) In case the Issuer shall (i) declare a dividend or make a distribution on the class of Capital Stock into which Securities of such series are convertible in shares of its Capital Stock, (ii) subdivide the outstanding shares of the class of Capital Stock into which Securities of such series are convertible into a greater number of shares, (iii) combine the outstanding shares of the class of Capital Stock into which Securities of such series are convertible into a smaller number of shares or (iv) issue by reclassification of the shares of the class of Capital Stock into which Securities of such series are convertible (including any such reclassification in connection with a consolidation or merger in which the Issuer is the continuing corporation) any shares, the conversion rate for the Securities of such series in effect at the time of the record subdivision, combination or reclassification, shall be proportionately adjusted so that the Holder of any Security of such series surrendered for conversion after such time shall be entitled to receive the number and kind of shares which he would have owned or have been entitled to receive had such Security been converted immediately prior to such time. Similar adjustments shall be made whenever any event listed above shall occur.

(b) In case the Issuer shall fix a record date for the issuance of rights or warrants to all holders of the class of Capital Stock into which Securities of such series are convertible entitling them (for a period expiring within 45 days after such record date) to subscribe for or purchase shares of such class of Capital Stock (or securities convertible into shares of such class of Capital Stock) at a price per share (or, in the case of a right or warrant to purchase securities convertible into such class of Capital Stock, having a conversion price per share, after adding thereto the exercise price, computed on the basis of the maximum number of shares of such class of Capital Stock issuable upon conversion of such convertible securities, per share of such class of Capital Stock, so issuable) less than the current market price per share of such class of Capital Stock (as defined in subsection (e) below) on the date on which such issuance was declared or otherwise announced by the Issuer (the "**Determination Date**"), the number of shares of such class of Capital Stock into which each \$1,000 Principal amount of Securities shall be convertible after such record date shall be determined by multiplying the number of shares of such class of Capital Stock into which such Principal amount of Securities was convertible immediately prior to such record date by a fraction, of which the numerator shall be the number of shares of such class of Capital Stock outstanding on the Determination Date plus the number of additional shares of such class of Capital Stock offered for subscription or purchase (or in the case of a right or warrant to purchase securities convertible into such class of Capital Stock, the aggregate number of additional shares of such class of Capital Stock into which the convertible securities so offered are initially convertible), and of which the denominator shall be the number of shares of such class of Capital Stock outstanding on the Determination Date plus the number of shares of such class of Capital Stock obtained by dividing the aggregate offering price of the total number of shares so offered (or, in the case of a right or warrant to purchase securities convertible into such class of Capital Stock, the aggregate initial conversion price of the convertible securities so offered, after adding thereto the aggregate exercise price of such rights or warrants computed on the basis of the maximum number of shares of such class of Capital Stock issuable upon conversion of such convertible securities) by such current market price. Shares of such class of Capital Stock of the Issuer owned by or held for the account of the Issuer shall not be deemed outstanding for the purpose of any such computation. Such adjustment shall be made successively whenever such a record date is fixed; and to the extent that shares of such class of Capital Stock are not delivered (or securities convertible into shares of such class of Capital Stock are not delivered) after the expiration of such rights or warrants (or, in the case of rights or warrants to purchase securities convertible into such class of Capital Stock once exercised, the expiration of the conversion right of such securities) the conversion rate shall be readjusted to the conversion rate which would then be in effect had the adjustments made upon the issuance of such rights or warrants (or securities convertible into shares) been made upon the basis of delivery of only the number of shares actually delivered. In the event that such rights or warrants are not so issued, the conversion rate shall again be adjusted to be the conversion rate which would then be in effect if such record date had not been fixed.

(c) In case the Issuer shall fix a record date for the making of a distribution to all holders of the class of Capital Stock into which Securities of such series are convertible (including any such distribution made in connection with a consolidation or merger in which the Issuer is the continuing corporation) of evidences of its indebtedness or assets (excluding any cash dividends paid from retained earnings and dividends payable in Capital Stock for which adjustment is made pursuant to subsection (a) above or (d) below) or subscription rights or warrants (excluding subscription rights or warrants to purchase the class of Capital Stock into which Securities of such series are convertible), the number of shares of such class of Capital Stock into which each \$1,000 Principal amount of Securities of such series shall be convertible after such record date shall be determined by multiplying the number of shares of such class of Capital Stock into which such Principal amount of Securities was convertible immediately prior to such record date by a fraction, of which the numerator shall be the fair market value of the assets of the Issuer, after deducting therefrom all liabilities of the Issuer and all preferences (including accrued but unpaid dividends) in respect of classes of Capital Stock having a preference with respect to the assets of the Issuer over such class of Capital Stock (all as determined by the Board of Directors, whose determination shall be conclusive, and described in a certificate signed by chairman of the Issuer's Board of Directors, its president, any vice president, its treasurer, any assistant treasurer, its secretary or any assistant secretary, filed with the Trustee and each conversion agent) on such record date, and of which the denominator shall be such fair market value after deducting therefrom such liabilities and preferences, less the fair market value (as determined by the Board of Directors, whose determination shall be conclusive, and described in a statement filed with the Trustee and each conversion agent) of the assets or evidences of indebtedness, so distributed or of such subscription rights or warrants applicable, so distributed. Such adjustment shall be made successively whenever such a record date is fixed; and in the event that such distribution is not so made, the conversion rate shall again be adjusted to the conversion rate which would then be in effect if such record date had not been fixed.

(d) In case the Issuer shall, by dividend or otherwise, distribute to all holders of its Capital Stock cash (excluding any dividend or distribution in connection with the liquidation, dissolution or winding up of the Issuer, whether voluntary or involuntary), then, in such case, unless the Issuer elects to reserve such cash for distribution to the Holders of the Securities upon the conversion of the Securities so that any such Holder converting Securities will receive upon such conversion, in addition to the shares of Capital Stock to which such Holder is entitled, the amount of cash which such Holder would have received if such Holder had, immediately prior to the record date for such distribution of cash, converted its Securities into Capital Stock, the conversion rate shall be adjusted so that the same shall equal the rate determined by multiplying the conversion rate in effect immediately prior to the record date by a fraction of which the denominator shall be the current market price of the Capital Stock (determined as provided in Section 12.05(e) on the record date less the amount of cash so distributed (and not excluded as provided above) applicable to one share of Capital Stock and the numerator shall be such current market price of the Capital Stock (determined as provided in Section 12.05(e)), such adjustment to be effective immediately prior to the opening of business on the day following the record date; provided, however, that in the event the portion of the cash so distributed applicable to one share of Capital Stock is equal to or greater than the current market price of the Capital Stock (determined as provided in Section 12.05(e) on the record date, in lieu of the foregoing adjustment, adequate provision shall be made so that each Securityholder shall have the right to receive upon conversion the amount of cash such Holder would have received had such Holder converted each Security on the record date. If such dividend or distribution is not so paid or made, the conversion rate shall again be adjusted to be the conversion rate which would then be in effect if such dividend or distribution had not been declared.

(e) For the purpose of any computation under subsections (b) and (d) above and Section 12.06, the current market price per share of the Capital Stock on any date as of which such price is to be computed shall mean the average of the Closing Prices for the 30 consecutive Business Days commencing 45 Business Days before such date.

(f) No adjustment in the conversion rate shall be required unless such adjustment would require a cumulative increase or decrease of at least 1% in such rate *provided, however*, that any adjustments which by reason of this subsection (f) are not required to be made shall be carried forward and taken into account in any subsequent adjustment; and *provided further*, that adjustments shall be required and made in accordance with the provisions of this Article 12 (other than this subsection (f)) not later than such time as may be required in order to preserve the tax-free nature of a States income tax purposes to the Holders of Securities or the class of Capital Stock into which such Securities are convertible. All calculations under this Article 12 shall be made to the nearest cent or to the nearest one-thousandth of a share, as the case may be. Anything in this Section 12.05 to the contrary notwithstanding, the Issuer shall be entitled to make such adjustments in the conversion rate, in addition to those required by this Section 12.05, as it in its discretion shall determine to be advisable in order that any stock dividend, subdivision of shares, distribution of rights to purchase stock or securities, or distribution of securities convertible into or exchangeable for stock hereafter made by the Issuer to its shareholders shall not be taxable for United States income tax purposes.

(g) Whenever the conversion rate is adjusted, as herein provided, the Issuer shall promptly file with the Trustee and with the office or agency maintained by the Issuer for the conversion of Securities of such series pursuant to Section 3.02, a certificate of a firm of independent public accountants of recognized national standing selected by the Board of Directors (who may be the regular accountants employed by the Issuer) setting forth the conversion rate after such adjustment and setting forth a brief statement of the facts requiring such adjustment and a computation thereof. Such certificate shall be conclusive evidence of the correctness of such adjustment. Neither the Trustee nor any conversion agent shall be under any duty or responsibility with respect to any such certificate or any facts or computations set forth therein, except to exhibit said certificate from time to time to any Securityholder of such series desiring to inspect the same. The Issuer shall promptly cause a notice setting forth the adjusted conversion rate to be mailed to the Holders of Securities of such series, as their names and addresses appear upon the register of the Issuer.

(h) In the event that at any time, as a result of shares of any other class of Capital Stock becoming issuable in exchange or substitution for or in lieu of shares of the class of Capital Stock into which such Securities are convertible or as a result of an adjustment made pursuant to subsection (a) above, the Holder of any Security of such series thereafter surrendered for conversion shall become entitled to receive any shares of the Issuer other than shares of the class of Capital Stock into which the Issuer of such series are convertible, thereafter the number of such other shares so receivable upon conversion of any Security shall be subject to adjustment from time to time in a manner and on terms as nearly equivalent as practicable to the provisions with respect to the class of Capital Stock into which the Securities of such series are convertible contained in subsections (a) to (f), inclusive, above, and the provisions of this Article 12 with respect to the class of Capital Stock into which the Securities of such series are convertible shall apply on like terms to any such other shares.

(i) The conversion rate with respect to any Original Issue Discount Security, the terms of which provide for convertibility, shall not be adjusted during the term of such Original Issue Discount Security for accrued original issue discount.

(j) In the event that the Securities of any series are convertible into more than one class of Capital Stock, the provisions of this Section 12.05 shall apply separately to events affecting each such class.

Section 12.06 *No Fractional Shares to Be Issued*. No fractional shares of Capital Stock shall be issued upon conversions of Securities. If more than one Security of any series shall be surrendered for conversion at one time by the same Holder, the number of full shares which shall be issuable upon conversion thereof shall be computed on the basis of the aggregate Principal amount of the Securities of such series (or specified portions thereof to the extent permitted hereby) so surrendered. Instead of a fraction of a share of Capital Stock which would otherwise be issuable upon conversion of any Security or Securities (or specified portions thereof), the Issuer shall pay a cash adjustment in respect of such fraction of a share in an amount equal to the same fractional interest of the current market price (as defined in Section 12.05) per share of Capital Stock on the Business Day next preceding the day of conversion.

Section 12.07 *Preservation of Conversion Rights Upon Consolidation, Merger, Sale or Conveyance*. In case of any consolidation of the Issuer with, or merger of the Issuer into, any other corporation (other than a consolidation or merger in which the Issuer is the continuing corporation), or in the case of any sale or transfer of all or substantially all of the assets of the Issuer, the corporation formed by such consolidation or the corporation into which the Issuer shall have been merged or the corporation which shall have acquired such assets, as the case may be, shall execute and deliver to the Trustee, a supplemental indenture, subject to the provisions of Article 7 and 8 as they relate to supplemental indentures, providing that the Holder of each Security then Outstanding of a series which was convertible into Capital Stock shall have the right thereafter to convert such Security into the kind and amount of shares of stock and other securities and property, including cash, receivable upon such consolidation, merger, sale or transfer by a holder of the number of shares of Capital Stock of the Issuer into which such Securities might have been converted immediately prior to such consolidation, merger, sale or transfer. Such supplemental indenture shall conform to the provisions of the Trust Indenture Act of 1939 as then in effect and shall provide for adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Article 12. Neither the Trustee nor any conversion agent shall be under any responsibility to determine the correctness of any provision contained in any such supplemental indenture relating either to the kind or amount of shares of stock or other securities or property receivable by Securityholders upon the conversion of their Securities after any such consolidation, merger, sale or transfer, or to any adjustment to be made with respect thereto and, subject to the provisions of Article 5, may accept as conclusive evidence of the correctness of any such provisions, and shall be protected in relying upon, an Opinion of Counsel with respect thereto. If in the case of any such consolidation, merger, sale or transfer, the stock or other securities and property receivable by a Holder of the Securities includes stock or other securities and property of a corporation other than the successor or purchasing corporation, then such supplemental indenture shall also be executed by such other corporation and shall contain such additional provisions to protect the interests of the Holders of the Securities as the Board of Directors shall reasonably consider necessary. The above provisions of this Section 12.07 shall similarly apply to successive consolidations, mergers, sales or transfers.



Section 12.08 *Notice to Security Holders of a Series Prior to Taking Certain Types of Action* With respect to the Securities of any series, in case:

(a) the Issuer shall authorize the issuance to all holders of the class of Capital Stock into which Securities of such series are convertible of rights or warrants to subscribe for or purchase shares of its Capital Stock or of any other right;

(b) the Issuer shall authorize the distribution to all holders of the class of Capital Stock into which Securities of such series are convertible of evidences of its indebtedness or assets (except for the exclusions with respect to certain dividends set forth in Section 12.05(c));

(c) of any subdivision, combination or reclassification of the class of Capital Stock into which Securities of such series are convertible or of any consolidation or merger to which the Issuer is a party and for which approval by the shareholders of the Issuer is required, or of the sale or transfer of all or substantially all of the assets of the Issuer; or

(d) of the voluntary or involuntary dissolution, liquidation or winding up of the Issuer;

then the Issuer shall cause to be filed with the Trustee and at the office or agency maintained for the purpose of conversion of Securities of such series pursuant to Section 3.02, and shall cause to be mailed to the Holders of Securities of such series, at their last addresses as they shall appear upon the register of the Issuer, at least 10 days prior to the applicable record date hereinafter specified, a notice stating (i) the date as of which the holders of such class of Capital Stock to be entitled to receive any such rights, warrants or distribution are to be determined, or (ii) the date on which any such subdivision, combination, reclassification, consolidation, merger, sale, transfer, dissolution, liquidation, winding up or other action is expected to become effective, and the date as of which it is expected that holders of record of such class of Capital Stock shall be entitled to exchange their Capital Stock of such class for securities or other property, if any, deliverable upon such subdivision, combination, reclassification, consolidation, merger, sale, transfer, dissolution, liquidation, winding up or other action. The failure to give the notice required by this Section 12.08 or any defect therein shall not affect the legality or validity of any distribution, right, warrant, subdivision, combination, reclassification, consolidation, merger, sale, transfer, dissolution, liquidation, winding up or other action, or the vote upon any of the foregoing. Such notice shall also be published by and at the expense of the Issuer not later than the aforesaid filing date at least once in an Authorized Newspaper.

Section 12.09 *Covenant to Reserve Shares for Issuance on Conversion of Securities* The Issuer covenants that at all times it will reserve and keep available out of each class of its authorized Capital Stock, free from preemptive rights, solely for the purpose of issue upon conversion of Securities of any series as herein provided, such number of shares of Capital Stock of such class as shall then be issuable upon the conversion of all Outstanding Securities of such series. The Issuer covenants that an shares of Capital Stock which shall be so issuable shall, when issued or delivered, be duly and validly issued shares of the class of authorized Capital Stock into which Securities of such series are convertible, and shall be fully paid and nonassessable, free of all liens and charges and not subject to preemptive rights and that, upon conversion, the appropriate capital stock accounts of the Issuer will be duly credited.

Section 12.10 *Compliance with Governmental Requirements*. The Issuer covenants that if any shares of Capital Stock required to be reserved for purposes of conversion of Securities hereunder require registration or listing with or approval of any governmental authority under any Federal or State law, pursuant to the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, or any national or regional securities exchange on which such Capital Stock is listed at the time of delivery of any shares of such Capital Stock, before such shares may be issued upon conversion, the Issuer will use reasonable efforts to cause such shares to be duly registered, listed or approved, as the case may be.

Section 12.11 *Payment of Taxes Upon Certificates for Shares Issued Upon Conversion*. The issuance of certificates for shares of Capital Stock upon the conversion of Securities shall be made without charge to the converting Securityholders for any tax (including, without limitation, all documentary and stamp taxes) in respect of the issuance and delivery of such certificates, and such certificates shall be issued in the respective names of, or in such names as may be directed by, the Holders of the Securities converted; provided, however, that the Issuer shall not be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of any such certificate in a name other than that of the Holder of the Security converted, and the Issuer 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 the Issuer the amount of such tax or shall have established to the satisfaction of the Issuer that such tax has been paid.

Section 12.12 *Trustee's Duties with Respect to Conversion Provisions*. The Trustee and any conversion agent shall not at any time be under any duty or responsibility to any Securityholder to determine whether any facts exist which may require any adjustment of the conversion rate or conversion price, or with respect to the nature or extent of any such adjustment when made, or with respect to the method employed, or herein or in any supplemental indenture provided to be employed, in making the same. Neither the Trustee nor any conversion agent shall be accountable with respect to the registration under securities laws, listing, validity or value (or the kind or amount) of any shares of Capital Stock, or of any other securities or property, which may at any time be issued or delivered upon the conversion of any Security; and neither the Trustee nor any conversion agent makes any representation with respect thereto. Neither the Trustee nor any conversion agent shall be responsible for any failure of the Issuer to make any cash payment or to issue, transfer or deliver any shares of stock or stock certificates or other securities or property upon the surrender of any Security for the purpose of conversion; and the Trustee, subject to the provisions of Article 5, and any conversion agent shall not be responsible for any failure of the Issuer to comply with any of the covenants of the Issuer contained in this Article 12.

IN WITNESS WHEREOF, the parties hereto have caused this Indenture to be duly executed, as of the first date written above.

CORBUS PHARMACEUTICALS HOLDINGS, INC., as Issuer

By: \_\_\_\_\_  
Name:  
Title:

●, as Trustee

By: \_\_\_\_\_  
Name:  
Title:

**FORM OF NOTE**

UNLESS AND UNTIL IT IS EXCHANGED IN WHOLE OR IN PART FOR SECURITIES IN DEFINITIVE REGISTERED FORM, THIS SECURITY MAY NOT BE TRANSFERRED EXCEPT AS A WHOLE BY THE DEPOSITARY TO A NOMINEE OF THE DEPOSITARY OR BY A NOMINEE OF THE DEPOSITARY TO THE DEPOSITARY OR ANOTHER NOMINEE OF THE DEPOSITARY OR BY THE DEPOSITARY OR ANY SUCH NOMINEE TO A SUCCESSOR DEPOSITARY OR A NOMINEE OF SUCH SUCCESSOR DEPOSITARY. UNLESS THIS SECURITY IS PRESENTED BY AN AUTHORIZED REPRESENTATIVE OF THE DEPOSITARY TRUST COMPANY, A NEW YORK CORPORATION (“**DTC**”), TO THE COMPANY OR ITS AGENT FOR REGISTRATION OF TRANSFER, EXCHANGE OR PAYMENT, AND ANY SECURITY ISSUED IS REGISTERED IN THE NAME OF CEDE & CO. OR IN SUCH OTHER NAME AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC (AND ANY PAYMENT IS MADE TO CEDE & CO. OR TO SUCH OTHER ENTITY AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC), ANY TRANSFER, PLEDGE OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL INASMUCH AS THE REGISTERED OWNER HEREOF, CEDE & CO., HAS AN INTEREST HEREIN.

**CORBUS PHARMACEUTICALS HOLDINGS, INC.**  
**• % Senior Note Due •**

No. • CUSIP No.: •  
\$ •

CORBUS PHARMACEUTICALS HOLDINGS, INC., a Delaware corporation (“**Issuer**”, which term includes any successor corporation), for value received promises to pay to CEDE & CO. or its registered assigns, the principal sum of • on •.

Interest Payment Dates: • and • (each, an “**Interest Payment Date**”), commencing on •. Interest Record Dates: • and • (each, an “**Interest Record Date**”).

Reference is made to the further provisions of this Security contained herein, which will for all purposes have the same effect as if set forth at this place.

IN WITNESS WHEREOF, the Issuer has caused this Security to be signed manually or by facsimile by its duly authorized officer.

CORBUS PHARMACEUTICALS HOLDINGS, INC.

By: \_\_\_\_\_  
Name:  
Title:

This is one of the series designated herein and referred to in the within-mentioned Indenture.

●, as Trustee

By: \_\_\_\_\_  
Authorized Signatory

**(REVERSE OF SECURITY)**  
**CORBUS PHARMACEUTICALS HOLDINGS, INC.**  
**●% Senior Note Due ●**

1. Interest.

CORBUS PHARMACEUTICALS HOLDINGS, INC., a Delaware corporation (the “Issuer”), promises to pay interest on the Principal amount of this Security at the rate per annum shown above. Cash interest on the Securities will accrue from the most recent date to which interest has been paid or, if no interest has been paid, from ●. The Issuer will pay interest semi-annually in arrears on each Interest Payment Date, commencing ●. Interest will be computed on the basis of a 360-day year of twelve 30-day months.

The Issuer shall pay interest on overdue Principal from time to time on demand at the rate borne by the Securities and on overdue installments of interest (without regard to any applicable grace periods) to the extent lawful.

2. Method of Payment.

The Issuer shall pay interest on the Securities (except defaulted interest) to the persons who are the registered Holders at the close of business on the Interest Record Date immediately preceding the Interest Payment Date notwithstanding any transfer or exchange of such Security subsequent to such Interest Record Date and prior to such Interest Payment Date. Holders must surrender Securities to the Trustee to collect Principal payments. The Issuer shall pay Principal and interest in money of the United States that at the time of payment is legal tender for payment of public and private debts (“**U.S. Legal Tender**”). However, the payments of interest, and any portion of the Principal (other than interest payable at maturity or on any redemption or repayment date or the final payment of Principal) shall be made by the Paying Agent, upon receipt from the Issuer of immediately available funds by 11:00 a.m., New York City time (or such other time as may be agreed to between the Issuer and the Paying Agent or the Issuer), directly to a Holder (by Federal funds wire transfer or otherwise) if the Holder has delivered written instructions to the Trustee 15 days prior to such payment date requesting that such payment will be so made and designating the bank account to which such payments shall be so made and in the case of payments of Principal surrenders the same to the Trustee in exchange for a Security or Securities aggregating the same principal amount as the unredeemed Principal amount of the Securities surrendered.

3. Paying Agent.

Initially, ● (the “**Trustee**”) will act as Paying Agent. The Issuer may change any Paying Agent without notice to the Holders.



#### 4. Indenture.

The Issuer issued the Securities under an Indenture, dated as of ● (the “**Indenture**”), between the Issuer and the Trustee. Capitalized terms herein are used as defined in the Indenture unless otherwise defined herein. The terms of the Securities include those stated in the Indenture and those made part of the Indenture by reference to the Trust Indenture Act of 1939 (15 U.S.C. Sections 77aaa-77bbb) (the “**TIA**”), as in effect on the date of the Indenture until such time as the Indenture is qualified under the TIA, and thereafter as in effect on the date on which the Indenture is qualified under the TIA. Notwithstanding anything to the contrary herein, the Securities are subject to all such terms, and Holders of Securities are referred to the Indenture and the TIA for a statement of them. To the extent the terms of the Indenture and this Security are inconsistent, the terms of the Indenture shall govern.

#### 5. Denominations; Transfer; Exchange.

The Securities are in registered form, without coupons, in denominations of \$1,000 and multiples of \$1,000. A Holder shall register the transfer of or exchange Securities in accordance with the Indenture. The Issuer may require a Holder, among other things, to furnish appropriate endorsements and transfer documents and to pay certain transfer taxes or similar governmental charges payable in connection therewith as permitted by the Indenture. The Issuer need not issue, authenticate, register the transfer of or exchange any Securities or portions thereof for a period of fifteen (15) days before such series is selected for redemption, nor need the Issuer register the transfer or exchange of any security selected for redemption in whole or in part.

#### 6. Persons Deemed Owners.

The registered Holder of a Security shall be treated as the owner of it for all purposes.

#### 7. Unclaimed Funds.

If funds for the payment of Principal or interest remain unclaimed for two years, the Trustee and the Paying Agent will repay the funds to the Issuer at its written request. After that, all liability of the Trustee and such Paying Agent with respect to such funds shall cease.

#### 8. Legal Defeasance and Covenant Defeasance.

The Issuer may be discharged from its obligations under the Securities and under the Indenture with respect to the Securities except for certain provisions thereof, and may be discharged from obligations to comply with certain covenants contained in the Securities and in the Indenture with respect to the Securities, in each case upon satisfaction of certain conditions specified in the Indenture.

#### 9. Amendment; Supplement; Waiver.

Subject to certain exceptions, the Securities and the provisions of the Indenture relating to the Securities may be amended or supplemented with the written consent of the Holders of at least a majority in aggregate Principal amount of the Securities then outstanding, and any existing Default or Event of Default or compliance with certain provisions may be waived with the consent of the Holders of a majority in aggregate Principal amount of the Securities then outstanding. Without notice to or consent of any Holder, the parties thereto may amend or supplement the Indenture and the Securities to, among other things, cure any ambiguity, defect or inconsistency, provide for uncertificated Securities in addition to or in place of certificated Securities or comply with any requirements of the Commission in connection with the qualification of the Indenture under the Trust Indenture Act, or make any other change that does not adversely affect the rights of any Holder of a Security.

#### 10. Defaults and Remedies.

If an Event of Default (other than certain bankruptcy Events of Default with respect to the Issuer) occurs and is continuing, the Trustee or the Holders of at least 25% in aggregate Principal amount of Securities then outstanding may declare all of the Securities to be due and payable immediately in the manner and with the effect provided in the Indenture. If a bankruptcy Event of Default with respect to the Issuer occurs and is continuing, all the Securities shall be immediately due and payable immediately in the manner and with the effect provided in the Indenture without any notice or other action on the part of the Trustee or any Holder. Holders of Securities may not enforce the Indenture or the Securities except as provided in the Indenture. The Trustee is not obligated to enforce the Indenture or the Securities unless it has received indemnity satisfactory to it. The Indenture permits, subject to certain limitations therein provided, Holders of a majority in aggregate Principal amount of the Securities then outstanding to direct the Trustee in its exercise of any trust or power. The Trustee may withhold from Holders of Securities notice of certain continuing Defaults or Events of Default if it determines that withholding notice is in their interest.

#### 11. Conversion.

Reference is made to the Indenture, including, without limitation, provisions giving the Holder of this Security the right to convert this Security into Capital Stock of the Issuer on the terms and subject to the limitations as more fully specified in the Indenture. The initial conversion rate for this Security is ●. This conversion rate is subject to modification as provided in the Indenture. Such further provisions shall for all purposes have the same effect as though fully set forth at this place.

#### 12. Trustee Dealings with Issuer.

The Trustee under the Indenture, in its individual or any other capacity, may become the owner or pledgee of Securities and may otherwise deal with the Issuer as if it were not the Trustee.

#### 13. No Recourse Against Others.

No stockholder, director, officer, employee or incorporator, as such, of the Issuer or any successor Person thereof shall have any liability for any obligation under the Securities or the Indenture or for any claim based on, in respect of or by reason of, such obligations or their creation. Each Holder of a Security by accepting a Security waives and releases all such liability. The waiver and release are part of the consideration for the issuance of the Securities.

14. Authentication.

This Security shall not be valid until the Trustee manually signs the certificate of authentication on this Security.

15. Abbreviations and Defined Terms.

Customary abbreviations may be used in the name of a Holder of a Security or an assignee, such as: TEN COM (= tenants in common), TEN ENT (= tenants by the entireties), JT TEN (= joint tenants with right of survivorship and not as tenants in common), CUST (= Custodian), and U/G/M/A (= Uniform Gifts to Minors Act).

16. CUSIP Numbers.

Pursuant to a recommendation promulgated by the Committee on Uniform Security Identification Procedures, the Issuer has caused CUSIP numbers to be printed on the Securities as a convenience to the Holders of the Securities. No representation is made as to the accuracy of such numbers as printed on the Securities and reliance may be placed only on the other identification numbers printed hereon.

17. Governing Law.

The laws of the State of New York shall govern the Indenture and this Security thereof.

**ASSIGNMENT FORM**

I or we assign and transfer this Security to

\_\_\_\_\_ (Print or type name, address and zip code of assignee or transferee)

\_\_\_\_\_ (Insert Social Security or other identifying number of assignee or transferee)

and irrevocably appoint \_\_\_\_\_ agent to transfer this Security on the books of the Issuer. The agent may substitute another to act for him.

Dated: \_\_\_\_\_

Signed: \_\_\_\_\_

(Signed exactly as name appears on the other side of this Security)

Signature Guarantee:

\_\_\_\_\_  
Participant in a recognized Signature Guarantee Medallion Program (or other signature guarantor program reasonably acceptable to the Trustee)

## CORBUS PHARMACEUTICALS HOLDINGS, INC., as Issuer

and

•, as Trustee

## INDENTURE

Dated as of •

## Subordinated Debt Securities

CROSS REFERENCE SHEET<sup>1</sup>

Between

Provisions of the Trust Indenture Act of 1939 and the Indenture to be dated as of \_\_\_\_\_, 20\_\_ between CORBUS PHARMACEUTICALS HOLDINGS, INC. and \_\_\_\_\_, as Trustee:

| Section of the Act     | Section of Indenture |
|------------------------|----------------------|
| 310(a)(1) and (2)      | 5.08                 |
| 310(a)(3) and (4)      | Inapplicable         |
| 310(b)                 | 5.09(a), (b) and (d) |
| 310(c)                 | Inapplicable         |
| 311(a)                 | Inapplicable         |
| 311(b)                 | Inapplicable         |
| 311(c)                 | Inapplicable         |
| 312(a)                 | 3.05                 |
| 312(b)                 | 3.05                 |
| 312(c)                 | 4.02(c)              |
| 313(a)                 | 5.12                 |
| 313(b)(1)              | 5.12                 |
| 313(b)(2)              | 5.12                 |
| 313(c)                 | 5.12                 |
| 313(d)                 | 5.12                 |
| 314(a)                 | 3.06                 |
| 314(b)                 | Inapplicable         |
| 314(c)(1) and (2)      | 10.05                |
| 314(c)(3)              | Inapplicable         |
| 314(d)                 | Inapplicable         |
| 314(e)                 | 10.05                |
| 314(f)                 | Inapplicable         |
| 315(a), (c) and (d)    | 5.01                 |
| 315(b)                 | 4.11                 |
| 315(e)                 | 4.12                 |
| 316(a)(1)              | 4.09                 |
| 316(a)(2)              | Not required         |
| 316(a) (last sentence) | 6.04                 |
| 316(b)                 | 4.07                 |
| 317(a)                 | 4.02                 |
| 317(b)                 | 3.03(a) and (b)      |
| 318(a)                 | 10.07                |

<sup>1</sup> This Cross Reference Sheet is not part of the Indenture.

Table of Contents  
(continued)

|   | <u>Page</u> |
|---|-------------|
| ARTICLE 1 DEFINITIONS   | 1           |
| Section 1.01    Certain Terms Defined   | 1           |
| ARTICLE 2 SECURITIES  | 8           |
| Section 2.01    Forms Generally   | 9           |
| Section 2.02    Form of Trustee’s Certification of Authentication                     | 9           |
| Section 2.03    Amount Unlimited; Issuable in Series                                  | 9           |
| Section 2.04    Authentication and Delivery of Securities                             | 10          |
| Section 2.05    Execution of Securities   | 12          |
| Section 2.06    Certificate of Authentication   | 12          |
| Section 2.07    Denomination and Date of Securities; Payments of Interest             | 12          |
| Section 2.08    Registration, Transfer and Exchange                                   | 13          |
| Section 2.09    Mutilated, Defaced, Destroyed, Lost and Stolen Securities             | 15          |
| Section 2.10    Cancellation of Securities; Destruction Thereof                       | 16          |
| Section 2.11    Temporary Securities  | 16          |
| Section 2.12    Computation of Interest   | 17          |
| Section 2.13    CUSIP Numbers   | 17          |
| ARTICLE 3 COVENANTS OF THE ISSUER AND THE TRUSTEE                                     | 17          |
| Section 3.01    Payment of Principal and Interest                                     | 17          |
| Section 3.02    Offices for Payments, etc   | 18          |
| Section 3.03    Paying Agents   | 18          |
| Section 3.04    Certificate of the Issuer   | 19          |
| Section 3.05    List of Securityholders   | 19          |
| Section 3.06    Reports by the Issuer   | 20          |
| Section 3.07    Corporate Existence   | 20          |
| Section 3.08    Restrictions on Mergers, Sales and Consolidations                     | 20          |
| Section 3.09    Further Assurances  | 20          |
| ARTICLE 4 REMEDIES OF THE TRUSTEE AND SECURITYHOLDERS ON EVENT OF DEFAULT             | 21          |
| Section 4.01    Event of Default Defined; Acceleration of Maturity; Waiver of Default | 21          |

Table of Contents  
(continued)

|   | <u>Page</u>  |           |
|---|--|-----------|
| Section 4.02                            | Collection of Indebtedness by Trustee; Trustee May Prove Debt                                      | 23        |
| Section 4.03                            | Application of Proceeds  | 25        |
| Section 4.04                            | Suits for Enforcement  | 26        |
| Section 4.05                            | Restoration of Rights on Abandonment of Proceedings  | 26        |
| Section 4.06                            | Limitations on Suits by Securityholder   | 26        |
| Section 4.07                            | Unconditional Right of Securityholders to Institute Certain Suits                                  | 27        |
| Section 4.08                            | Powers and Remedies Cumulative; Delay or Omission Not Waiver of Default                            | 27        |
| Section 4.09                            | Control by Securityholders   | 27        |
| Section 4.10                            | Waiver of Past Defaults  | 28        |
| Section 4.11                            | Trustee to Give Notice of Default, But May Withhold in Certain Circumstances                       | 28        |
| Section 4.12                            | Right of Court to Require Filing of Undertaking to Pay Costs                                       | 28        |
| <b>ARTICLE 5 CONCERNING THE TRUSTEE</b> |  | <b>29</b> |
| Section 5.01                            | Duties and Responsibilities of the Trustee   | 29        |
| Section 5.02                            | Certain Rights of the Trustee  | 30        |
| Section 5.03                            | Trustee Not Responsible for Recitals, Disposition of Securities or Application of Proceeds Thereof | 31        |
| Section 5.04                            | Trustee and Agents May Hold Securities; Collections, etc   | 31        |
| Section 5.05                            | Monies Held by Trustee   | 32        |
| Section 5.06                            | Compensation and Indemnification of Trustee and Its Prior Claim                                    | 32        |
| Section 5.07                            | Right of Trustee to Rely on Officers' Certificate, etc   | 32        |
| Section 5.08                            | Persons Eligible for Appointment as Trustee  | 33        |
| Section 5.09                            | Resignation and Removal; Appointment of Successor Trustee  | 33        |
| Section 5.10                            | Acceptance of Appointment by Successor   | 34        |
| Section 5.11                            | Merger, Conversion, Consolidation or Succession to Business of Trustee                             | 35        |
| Section 5.12                            | Reports to the Trustee   | 35        |

Table of Contents  
(continued)

|  | <u>Page</u> |
|--|-------------|
| ARTICLE 6 CONCERNING THE SECURITYHOLDERS   | 35          |
| Section 6.01 Evidence of Action Taken by Securityholders   | 36          |
| Section 6.02 Proof of Execution of Instruments and of Holding of Securities; Record Date           | 36          |
| Section 6.03 Holders to be Treated as Owners   | 36          |
| Section 6.04 Securities Owned by Issuer Deemed Not Outstanding                                     | 36          |
| Section 6.05 Right of Revocation of Action Taken   | 37          |
| ARTICLE 7 SUPPLEMENTAL INDENTURES  | 37          |
| Section 7.01 Supplemental Indentures Without Consent of Securityholders                            | 37          |
| Section 7.02 Supplemental Indentures With Consent of Securityholders                               | 39          |
| Section 7.03 Effect of Supplemental Indenture  | 40          |
| Section 7.04 Documents to Be Given to Trustee  | 40          |
| Section 7.05 Notation on Securities in Respect of Supplemental Indentures                          | 41          |
| ARTICLE 8 CONSOLIDATION, MERGER, SALE OR CONVEYANCE  | 41          |
| Section 8.01 Issuer May Consolidate, etc   | 41          |
| Section 8.02 Successor Corporation Substituted   | 41          |
| ARTICLE 9 DISCHARGE OF INDENTURE   | 42          |
| Section 9.01 Defeasance Within One Year of Payment   | 42          |
| Section 9.02 Defeasance  | 43          |
| Section 9.03 Covenant Defeasance   | 44          |
| Section 9.04 Application of Trust Money  | 44          |
| Section 9.05 Repayment to Issuer   | 45          |
| ARTICLE 10 MISCELLANEOUS PROVISIONS  | 45          |
| Section 10.01 Incorporators, Stockholders, Officers and Directors Exempt from Individual Liability | 45          |
| Section 10.02 Provisions of Indenture for the Sole Benefit of Parties and Securityholders          | 45          |
| Section 10.03 Successors and Assigns of Issuer Bound by Indenture                                  | 46          |
| Section 10.04 Notices and Demands on Issuer, Trustee and Securityholders                           | 46          |



Table of Contents  
(continued)

|   | <u>Page</u>  |           |
|---|--|-----------|
| Section 10.05                                 | Officers' Certificates and Opinions of Counsel; Statements to be Contained Therein | 46        |
| Section 10.06                                 | Payments Due on Saturdays, Sundays and Holidays                                    | 47        |
| Section 10.07                                 | Conflict of Any Provision of Indenture with Trust Indenture Act of 1939            | 47        |
| Section 10.08                                 | New York Law to Govern   | 47        |
| Section 10.09                                 | Counterparts   | 47        |
| Section 10.10                                 | Effect of Headings   | 47        |
| <b>ARTICLE 11 REDEMPTION OF SECURITIES</b>    |  | <b>48</b> |
| Section 11.01                                 | Applicability of Article   | 48        |
| Section 11.02                                 | Notice of Redemption; Partial Redemptions  | 48        |
| Section 11.03                                 | Payment of Securities Called for Redemption  | 49        |
| Section 11.04                                 | Exclusion of Certain Securities from Eligibility for Selection for Redemption      | 49        |
| Section 11.05                                 | Conversion Arrangement On Call For Redemption                                      | 50        |
| <b>ARTICLE 12 CONVERSION OF SECURITIES</b>    |  | <b>50</b> |
| Section 12.01                                 | Applicability of Article   | 50        |
| Section 12.02                                 | Right of Securityholders to Convert Securities                                     | 51        |
| Section 12.03                                 | Issuance of Shares of Capital Stock on Conversion                                  | 51        |
| Section 12.04                                 | No Payment or Adjustment for Interest or Dividends                                 | 52        |
| Section 12.05                                 | Adjustment of Conversion Rate  | 52        |
| Section 12.06                                 | No Fractional Shares to Be Issued  | 56        |
| Section 12.07                                 | Preservation of Conversion Rights Upon Consolidation, Merger, Sale or Conveyance   | 56        |
| Section 12.08                                 | Notice to Security Holders of a Series Prior to Taking Certain Types of Action     | 57        |
| Section 12.09                                 | Covenant to Reserve Shares for Issuance on Conversion of Securities                | 58        |
| Section 12.10                                 | Compliance with Governmental Requirements  | 58        |
| Section 12.11                                 | Payment of Taxes Upon Certificates for Shares Issued Upon Conversion               | 58        |
| Section 12.12                                 | Trustee's Duties with Respect to Conversion Provisions                             | 58        |
| <b>ARTICLE 13 SUBORDINATION OF SECURITIES</b> |  | <b>59</b> |
| Section 13.01                                 | Agreement Of Subordination   | 59        |

Table of Contents  
(continued)

|               | <u>Page</u>                               |    |
|---------------|---|----|
| Section 13.02 | Payments to Holders                       | 59 |
| Section 13.03 | Subrogation Of Securities                 | 61 |
| Section 13.04 | Authorization By Holders                  | 61 |
| Section 13.05 | Notice to Trustee                         | 62 |
| Section 13.06 | Trustee's Relation to Senior Indebtedness | 62 |
| Section 13.07 | No Impairment Of Subordination            | 62 |
| Section 13.08 | Rights Of Trustee                         | 62 |

THIS INDENTURE, dated as of , between CORBUS PHARMACEUTICALS HOLDINGS, INC., a Delaware corporation (the “**Issuer**”) and •, a • corporation, as trustee (the “**Trustee**”).

**W I T N E S S E T H:**

WHEREAS, the Issuer has duly authorized the issue from time to time of its unsecured debentures, notes or other evidences of indebtedness to be issued in one or more series (the “**Securities**”) up to such principal amount or amounts as may from time to time be authorized in accordance with the terms of this Indenture and to provide, among other things, for the authentication, delivery and administration thereof, the Issuer has duly authorized the execution and delivery of this Indenture; and

WHEREAS, all things necessary to make this Indenture a valid indenture and agreement according to its terms have been done;

NOW, THEREFORE:

In consideration of the premises and the purchases of the Securities by the Holders thereof, the Issuer and the Trustee mutually covenant and agree for the equal and proportionate benefit of the respective Holders from time to time of the Securities as follows:

**ARTICLE 1  
DEFINITIONS**

Section 1.01 *Certain Terms Defined.* The following terms (except as otherwise expressly provided or unless the context otherwise clearly requires) for all purposes of this Indenture and of any indenture supplemental hereto shall have the respective meanings specified in this Section. All other terms used in this Indenture that are defined in the Trust Indenture Act of 1939 or the definitions of which in the Securities Act of 1933 are referred to in the Trust Indenture Act of 1939, as amended, including terms defined therein by reference to the Securities Act of 1933, as amended, (except as herein otherwise expressly provided or unless the context otherwise clearly requires), shall have the meanings assigned to such terms in said Trust Indenture Act and in said Securities Act as in force at the date of this Indenture. All accounting terms used herein and not expressly defined shall have the meanings assigned to such terms in accordance with GAAP. The words “herein”, “hereof” and “hereunder” and other words of similar import refer to this Indenture as a whole and not to any particular Article, Section or other subdivision. The terms defined in this Article have the meanings assigned to them in this Article and include the plural as well as the singular.

“**Affiliate**” of any specified Person means any other Person directly or indirectly controlling or controlled by or under direct or indirect common control with such specified Person. For the purposes of this definition, “control” when used with respect to any specified Person means the power to direct the management and policies of such Person, directly or indirectly, whether through the ownership of voting securities, by contract or otherwise; and the terms “controlling” and “controlled” have meanings correlative to the foregoing.

“**Authorized Newspaper**” means a newspaper in the English language or in an official language of the country of publication, customarily printed on each Business Day, whether or not published on Saturdays, Sundays or holidays, and of general circulation in the place in connection with which the term is used or in the financial community of such place. If, because of temporary suspension of publication or general circulation of any newspaper or for any other reason, it is impossible or impracticable to make any publication of any notice required by this Indenture in the manner herein provided, such publication or other notice in lieu thereof which is made at the written direction of the Issuer by the Trustee shall constitute a sufficient publication of such notice.

“**Board of Directors**” means either the Board of Directors of the Issuer or any committee of such Board duly authorized to act hereunder.

“**Business Day**” means, with respect to any Security, a day that in the city (or in all of the cities, if more than one) in which amounts are payable, as specified in the form of such Security, is not a day on which banking institutions are authorized by law or regulation to close.

“**Capitalized Lease**” means, as applied to any Person, any lease of any property (whether real, personal, or mixed) of which the discounted present value of the rental obligations of such Person as lessee, in conformity with GAAP, is required to be capitalized on the balance sheet of such Person; and “**Capitalized Lease Obligation**” is defined to mean the rental obligations, as aforesaid, under such lease.

“**Capital Stock**” means any and all shares, interests, participations or other equivalents (however designated, whether voting or non-voting) of the Issuer’s capital stock or other ownership interests, whether now outstanding or issued after the date of this Indenture, including, without limitation, all Common Stock and Preferred Stock.

“**Closing Price**” on any day when used with respect to any class of Capital Stock means the closing sale price per share (or if no closing sale price is reported, the average of the bid and ask prices or, if more than one in either case, the average of the average bid and the average ask prices) on that date as reported by The Nasdaq Global Select Market or, if such Capital Stock is not listed on The Nasdaq Global Select Market, then on the principal U.S. national or regional securities exchange on which such Capital Stock is then listed. If such Capital Stock is not listed on either The Nasdaq Global Select Market or on any U.S. national or regional securities exchange on the relevant date, the Closing Price will be the last quoted bid price for the Company’s Common Stock in the over-the-counter market on the relevant date as reported by the OTC Markets Group Inc. or similar organization. In the event that no such quotation is available for any day, the Board of Directors shall be entitled to determine in good faith the current market price on the basis of such quotations as it considers appropriate.

“**Commission**” means the Securities and Exchange Commission, as from time to time constituted, created under the Securities Exchange Act of 1934, or if at any time after the execution and delivery of this Indenture such Commission is not existing and performing the duties now assigned to it under the Trust Indenture Act, then the body performing such duties on such date.

“**Common Stock**” means any and all shares, interests, participations or other equivalents (however designated, whether voting or non-voting) of the Issuer’s common stock, par value \$0.001 per share, whether now outstanding or issued after the date of the Indenture, including, without limitation, all series and classes of such common stock.

“**Corporate Trust Office**” means the office of the Trustee at which the corporate trust business of the Trustee shall, at any particular time, be principally administered, which office is, at the date as of which this Indenture is dated, located at ●.

“**Currency Agreement**” means any foreign exchange contract, currency swap agreement, or other similar agreement or arrangement designed to protect against the fluctuation in currency values.

“**Default**” means any Event of Default as defined in Section 4.01 and any event that is, or after notice or passage of time or both would be, an Event of Default.

“**Depository**” means, with respect to the Securities of any series issuable or issued in the form of one or more Registered Global Securities, the Person designated as Depository by the Issuer pursuant to Section 2.03 until a successor Depository shall have become such pursuant to the applicable provisions of this Indenture, and thereafter “**Depository**” shall mean or include each Person who is then a Depository hereunder, and if at any time there is more than one such Person, “**Depository**” as used with respect to the Securities of any such series shall mean the Depository with respect to the Registered Global Securities of that series.

“**Determination Date**” has the meaning specified in Section 12.05.

“**Event of Default**” has the meaning specified in Section 4.01.

“**GAAP**” means generally accepted accounting principles in the United States of America as in effect as of the date of determination, including, without limitation, those set forth in the opinions and pronouncements of the Accounting Principles Board of the American Institute of Certified Public Accountants and statements and pronouncements of the Financial Accounting Standards Board or in such other statements by such other entity as approved by a significant segment of the accounting profession. All ratios and computations contained in this Indenture shall be computed in conformity with GAAP applied on a consistent basis.

“**Guarantee**” means any obligation, contingent or otherwise, of any Person directly or indirectly guaranteeing any Indebtedness or other obligation of any other Person and, without limiting the generality of the foregoing, any obligation, direct or indirect, contingent or otherwise, of such Person:

(i) to purchase or pay (or advance or supply funds for the purchase or payment of) such Indebtedness or other obligation of such other Person (whether arising by virtue of partnership arrangements, or by agreement to keep-well, to purchase assets, goods, securities, or services, to take-or-pay, or to maintain financial statement conditions or otherwise); or

(ii) entered into for purposes of assuring in any other manner the obligee of such Indebtedness or other obligation of the payment thereof or to protect such obligee against loss in respect thereof (in whole or in part);

*provided*, that the term **“Guarantee”** shall not include endorsements for collection or deposit in the ordinary course of business. The term **“Guarantee”** used as a verb has a corresponding meaning.

**“Holder”**, **“Securityholder”** or other similar terms mean the registered holder of any Security.

**“Indebtedness”** means, with respect to any Person at any date of determination (without duplication):

(i) all indebtedness of such Person for borrowed money;

(ii) all obligations of such Person evidenced by bonds, debentures, notes, or other similar instruments, in each case, for value received or settlement of claims;

(iii) all obligations of such Person in respect of letters of credit or other similar instruments (including reimbursement obligations with respect thereto);

(iv) all obligations of such Person to pay the deferred and unpaid purchase price of property or services (but excluding trade accounts payable or accrued liabilities arising in the ordinary course of business);

(v) all obligations of such Person as lessee under Capitalized Leases;

(vi) all Indebtedness of other Persons secured by a Lien on any asset of such Person, whether or not such Indebtedness is assumed by such Person;*provided* that the amount of such Indebtedness shall be the lesser of:

(1) the fair market value of such asset at such date of determination; and

(2) amount of such Indebtedness;

(vii) all Indebtedness of other Persons to the extent Guaranteed by such Person; and

(viii) to the extent not otherwise included in this definition, obligations under Currency Agreements and Interest Rate Agreements.

Notwithstanding the foregoing, in no event shall the term “Indebtedness” be deemed to include letters of credit or bonds that secure performance or surety bonds or similar instruments that are issued in the ordinary course of business.

The amount of Indebtedness of any Person at any date shall be the outstanding balance at such date of all unconditional obligations as described above and, with respect to contingent obligations, the maximum liability upon the occurrence of the contingency giving rise to the obligation; provided that:

(x) the amount outstanding at any time of any Indebtedness issued with original issue discount is the face amount of such Indebtedness less the remaining unamortized portion of the original issue discount of such Indebtedness at such time as determined in conformity with GAAP; and

(y) Indebtedness shall not include any liability for federal, state, local, or other taxes.

“**Indenture**” means this instrument as originally executed and delivered or, if amended or supplemented as herein provided, as so amended or supplemented or both, and shall include the forms and terms of particular series of Securities established as contemplated hereunder.

“**Interest**” means, when used with respect to non-interest bearing Securities, interest payable after maturity. “**Interest Rate Agreement**” means any obligation of any Person pursuant to any interest rate swap, cap, collar or similar arrangement providing protection against fluctuations in interest rates. For purposes of the Indenture, the amount of such obligation shall be the amount determined in respect thereof as of the end of the then most recently ended fiscal quarter of such Person, based on the assumption that such obligation had terminated at the end of such fiscal quarter, and in making such determination, if any agreement relating to such obligation provides for the netting of amounts payable by and to such Person thereunder or if any such agreement provides for the simultaneous payment of amounts by and to such Person, then in each such case, the amount of such obligation shall be the net amount so determined, plus any premium due upon default by such Person.

“**Issuer**” means the Person identified as “**Issuer**” in the first paragraph hereof and, subject to Article 8, its successors and assigns.

“**Lien**” means, with respect to any asset, any mortgage, lien, pledge, charge, security interest or encumbrance of any kind, or any other type of preferential arrangement that has the practical effect of creating a security interest, in respect of such asset. For the purposes of this Indenture, the Issuer shall be deemed to own subject to a Lien any asset that it has acquired or holds subject to the interest of a vendor or lessor under any conditional sale agreement, capital lease or other title retention agreement relating to such asset.

“**Officers’ Certificate**” means a certificate signed by the chairman of the Issuer’s Board of Directors, its president or any vice president, and by its treasurer, any assistant treasurer, its secretary or any assistant secretary of the Issuer, and delivered to the Trustee. Each such certificate shall comply with Section 314 of the Trust Indenture Act of 1939 and include the statements provided for in Section 10.05.

“**Opinion of Counsel**” means an opinion in writing signed by legal counsel who may be an employee of or counsel to the Issuer and who shall be satisfactory to the Trustee. Each such opinion shall comply with Section 314 of the Trust Indenture Act of 1939 and include the statements provided for in Section 10.05, if and to the extent required hereby.

“**Original Issue Date**” of any Security (or portion thereof) means the earlier of (i) the date of such Security or (ii) the date of any Security (or portion thereof) for which such Security was issued (directly or indirectly) on registration of transfer, exchange or substitution.

“**Original Issue Discount Security**” means any Security that provides for an amount less than the Principal amount thereof to be due and payable upon a declaration of acceleration of the maturity thereof pursuant to Section 4.01.

“**Outstanding**”, when used with reference to Securities, shall, subject to the provisions of Section 6.04, mean, as of any particular time, all Securities authenticated and delivered by the Trustee under this Indenture, except:

(i) Securities theretofore canceled by the Trustee or delivered to the Trustee for cancellation;

(ii) Securities, or portions thereof, for the payment or redemption of which monies in the necessary amount shall have been deposited in trust with the Trustee or with any paying agent (other than the Issuer) or shall have been set aside, segregated and held in trust by the Issuer for the Holders of such Securities (if the Issuer shall act as its own paying agent), provided that if such Securities, or portions thereof, are to be redeemed prior to the maturity thereof, notice of such redemption shall have been given as herein provided, or provision satisfactory to the Trustee shall have been made for giving such notice; and

(iii) Securities in substitution for which other Securities shall have been authenticated and delivered, or which shall have been paid, pursuant to the terms of Section 2.09 (except with respect to any such Security as to which proof satisfactory to the Trustee is presented that such Security is held by a person in whose hands such Security is a legal, valid and binding obligation of the Issuer).

In determining whether the Holders of the requisite Principal amount of Outstanding Securities of any or all series have given any request, demand, authorization, direction, notice, consent or waiver hereunder, the Principal amount of an Original Issue Discount Security that shall be deemed to be Outstanding for such purposes shall be the amount of the Principal thereof that would be due and payable as of the date of such determination upon a declaration of acceleration of the maturity thereof pursuant to Section 4.01.

“**Person**” means any individual, corporation, partnership, limited liability company, joint venture, association, joint stock company, trust, unincorporated organization or government or any agency or political subdivision thereof or any other entity.

“**Preferred Stock**” means any and all shares, interests, participations or other equivalents (however designated, whether voting or non-voting) of the Issuer’s preferred stock, par value \$0.001 per share, whether now outstanding or issued after the date of the Indenture, including, without limitation, all series and classes of such preferred stock.

“**Principal**” means, with respect to the Securities or any Security or any portion thereof, the principal amount of such Securities, Security or portion thereof, and shall be deemed to include “and premium, if any”.



“**record date**” as used with respect to any interest payment date (except a date for payment of defaulted interest), has the meaning specified in Section 2.07.

“**Registered Global Security**” means a Security evidencing all or a part of a series of Registered Securities, issued to the Depository for such series in accordance with Section 2.04, and bearing the legend prescribed in Section 2.04.

“**Registered Security**” means any Security registered on the register maintained by the Issuer pursuant to Section 2.08.

“**Responsible Officer**” when used with respect to the Trustee means any officer within the corporate trust department of the Trustee, including any vice president, assistant vice president, assistant secretary, assistant treasurer, trust officer or any other officer of the Trustee who customarily performs functions similar to those performed by the Persons who at the time shall be such officers, respectively, or to whom any corporate trust matter is referred because of such person’s knowledge of and familiarity with the particular subject and who shall have direct responsibility for the administration of this Indenture.

“**Security**” or “**Securities**” has the meaning stated in the first recital of this Indenture, or, as the case may be, Securities that have been authenticated and delivered under this Indenture.

“**Senior Indebtedness**” of the Issuer means (a) all Indebtedness of the Issuer, whether currently outstanding or hereafter issued, unless, by the terms of the instrument creating or evidencing such Indebtedness, it is provided that such Indebtedness is not superior in right of payment to the Securities, and (b) any modifications, refunding, deferrals, renewals or extensions of any such Indebtedness or securities, notes or other evidence of Indebtedness issued in exchange for such Indebtedness; provided that in no event shall “Senior Indebtedness” include (i) Indebtedness of the Issuer owed or owing to any Subsidiary of the Issuer or any officer, director or employee of the Issuer or any Subsidiary of the Issuer, (ii) Indebtedness to trade creditors or (iii) any liability for taxes owned or owing by the Issuer.

“**Subsidiary**” means, with respect to any Person, any corporation, association or other business entity of which more than 50% of all votes represented by all classes of outstanding Voting Stock is owned, directly or indirectly, by such Person and one or more other Subsidiaries of such Person.

“**Trustee**” means the Person identified as “**Trustee**” in the first paragraph hereof and, subject to the provisions of Article 5, shall also include any successor trustee.

“**Trust Indenture Act of 1939**” (except as otherwise provided in Section 7.01 and Section 7.02) means the Trust Indenture Act of 1939 as in force at the date as of which this Indenture was originally executed.

“**UCC**” means the Uniform Commercial Code, as in effect in each applicable jurisdiction. “**Unregistered Security**” means any Security other than a Registered Security.

“**U.S. Government Obligations**” means securities that are (i) direct obligations of the United States of America for the payment of which its full faith and credit is pledged or (ii) obligations of an agency of instrumentality of the United States of America the payment of which is unconditionally guaranteed as a full faith and credit obligation by the United States of America, and shall also include a depository receipt issued by a bank or trust company as custodian with respect to any such U.S. Government Obligation or a specific payment of interest on or principal of any such U.S. Government Obligation held by such custodian for the account of the holder of a depository receipt; provided that (except as required by law) such custodian is not authorized to make any deduction from the amount payable to the holder of such depository receipt from any amount received by the custodian in respect of the U.S. Government Obligation or the specific payment of interest on or principal of the U.S. Government Obligation evidenced by such depository receipt.

“**Voting Stock**” means, with respect to any Person, capital stock of any class or kind ordinarily having the power to vote for the election of directors, managers or other voting members of the governing body of such Person.

“**vice president**” when used with respect to the Issuer or the Trustee, means any vice president, whether or not designated by a number or a word or words added before or after the title of “**vice president**”.

“**Wholly-Owned**” is defined to mean, with respect to any Subsidiary of any Person, such Subsidiary if all of the outstanding common stock or other similar equity ownership interests (but not including preferred stock) in such Subsidiary (other than any director’s qualifying shares or investments by foreign nationals mandated by applicable law) is owned directly or indirectly by such Person.

“**Yield to Maturity**” means the yield to maturity on a series of securities, calculated at the time of issuance of such series, or, if applicable, at the most recent redetermination of interest on such series, and calculated in accordance with accepted financial practice.

## **ARTICLE 2 SECURITIES**

Section 2.01 *Forms Generally*. The Securities of each series shall be substantially in such form (not inconsistent with this Indenture) as shall be established by or pursuant to a resolution of the Board of Directors or in one or more indentures supplemental hereto, in each case with such appropriate insertions, omissions, substitutions and other variations as are required or permitted by this Indenture and may have imprinted or otherwise reproduced thereon such legend or legends, not inconsistent with the provisions of this Indenture, as may be required to comply with any law or with any rules or regulations pursuant thereto, or with any rules of any securities exchange or to conform to general usage, all as may be determined by the officers executing such Securities, as evidenced by their execution of the Securities. The Issuer shall furnish any such legends to the Trustee in writing.

The definitive Securities shall be printed, lithographed or engraved on steel engraved borders or may be produced in any other manner, all as determined by the officers executing such Securities, as evidenced by their execution of such Securities.

Section 2.02 *Form of Trustee's Certification of Authentication*. The Trustee's certificate of authentication on all Securities shall be in substantially the following form:

This is one of the Securities of the series designated herein and referred to in the within-mentioned Indenture.

•,  
as Trustee

By: \_\_\_\_\_  
Authorized Signatory:

Section 2.03 *Amount Unlimited; Issuable in Series*. The aggregate Principal amount of Securities which may be authenticated and delivered under this Indenture is unlimited.

The Securities may be issued in one or more series. There shall be established in or pursuant to a resolution of the Board of Directors and set forth in an Officers' Certificate, or established in one or more indentures supplemental hereto, prior to the issuance of Securities of any series:

(a) the title of the Securities of the series (which shall distinguish the Securities of the series from all other Securities);

(b) any limit upon the aggregate Principal amount of the Securities of the series that may be authenticated and delivered under this Indenture (except for Securities authenticated and delivered upon registration of transfer of, or in exchange for, or in lieu of, other Securities of the series pursuant to Section 2.08, Section 2.09, Section 2.11 or Section 12.03);

(c) the date or dates on which the Principal of the Securities of the series is payable;

(d) the rate or rates at which the Securities of the series shall bear interest, if any, or the method by which such rate shall be determined, the date or dates from which such interest shall accrue, the interest payment dates on which such interest shall be payable and the record dates for the determination of Holders to whom interest is payable;

(e) the place or places where the Principal of and any interest on Securities of the series shall be payable (if other than as provided in Section 3.02);

(f) the price or prices at which, the period or periods within which and the terms and conditions upon which Securities of the series may be redeemed, in whole or in part, at the option of the Issuer;

(g) the obligation, if any, of the Issuer to redeem, purchase or repay Securities of the series at the option of a Holder thereof and the price or prices at which, the period or periods within which and the terms and conditions upon which Securities of the series shall be redeemed, purchased or repaid, in whole or in part, pursuant to such obligation;

(h) the obligation, if any, of the Issuer to permit the conversion of the Securities of such series into Capital Stock, and the terms and conditions upon which such conversion shall be effected (including, without limitation, the initial conversion price or rate, the conversion period and any other provision in addition to or in lieu of those set forth in this Indenture relative to such obligation);

(i) if other than denominations of \$1,000 and any multiple thereof, the denominations in which Securities of the series shall be issuable;

(j) if other than the Principal amount thereof, the portion of the Principal amount of Securities of the series which shall be payable upon declaration of acceleration of the maturity thereof pursuant to Section 4.01 or provable in bankruptcy pursuant to Section 4.02;

(k) if the Securities of the series are issuable in whole or in part as one or more Registered Global Securities, the identity of the Depositary for such Registered Global Security or Securities;

(l) any other terms of the series (which terms shall not be inconsistent with the provisions of this Indenture);

(m) any trustees, authenticating or paying agents, transfer agents or registrar or any other agents with respect to the Securities of such series; and

(n) the extent to which payments on the Securities will be subordinated to the payment of Senior Indebtedness of the Issuer.

All Securities of any one series shall be substantially identical except as to denomination and except as may otherwise be provided in or pursuant to such resolution of the Board of Directors or in any such indenture supplemental hereto.

Section 2.04 *Authentication and Delivery of Securities*. At any time and from time to time after the execution and delivery of this Indenture, the Issuer may deliver Securities of any series executed by the Issuer to the Trustee for authentication, and the Trustee shall thereupon authenticate and deliver such Securities to or upon the written order of the Issuer, such order to be signed by both (a) the chairman of its Board of Directors, its president or any vice president and by its treasurer, any assistant treasurer, its secretary or any assistant secretary, without any further action by the Issuer. In authenticating such Securities and accepting the additional responsibilities under this Indenture in relation to such Securities the Trustee shall receive, and (subject to Section 5.01) shall be fully protected in relying upon:

(a) a certified copy of any resolution or resolutions of the Board of Directors authorizing the action taken pursuant to the resolution or resolutions delivered under clause (b) below;

secretary of the Issuer;

(b) a copy of any resolution or resolutions of the Board of Directors relating to such series, in each case certified by the secretary or an assistant

(c) an executed supplemental indenture, if any, and the documentation required to be delivered pursuant to Section 7.04;

(d) an Officers' Certificate setting forth the form and terms of the Securities as required pursuant to Section 2.01 and Section 2.03, respectively and prepared in accordance with Section 10.05;

(e) an Opinion of Counsel, prepared in accordance with Section 10.05, to the effect:

(i) that the form or forms and terms of such Securities have been established by or pursuant to a resolution of the Board of Directors or by a supplemental indenture as permitted by Section 2.01 and Section 2.03 in conformity with the provisions of this Indenture; and

(ii) that such Securities, when authenticated and delivered by the Trustee and issued by the Issuer in the manner and subject to any conditions specified in such Opinion of Counsel, will constitute valid and binding obligations of the Issuer enforceable against the Issuer in accordance with their terms, except to the extent that enforcement thereof may be limited by bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance or similar laws now or hereafter in effect relating to creditors' rights generally, and general principles of equity (regardless of whether enforceability is considered in a proceeding in equity or at law).

The Trustee shall have the right to decline to authenticate and deliver any Securities under this section if the Trustee, being advised by counsel, determines that such action may not lawfully be taken by the Issuer or if the Trustee in good faith by its board of directors or board of trustees, executive committee, or a trust committee of directors or trustees or Responsible Officers shall determine that such action would expose the Trustee to personal liability.

If the Issuer shall establish pursuant to Section 2.03 that the Securities of a series or a portion thereof are to be issued in the form of one or more Registered Global Securities, then the Issuer shall execute (in accordance with Section 2.05) and the Trustee shall authenticate and make available for delivery one or more Registered Global Securities that (i) shall represent and shall be denominated in an amount equal to the aggregate Principal amount of all of the Securities of such series issued in such form and not yet canceled, (ii) shall be registered in the name of the Depositary for such Registered Global Security or Securities or the nominee of such Depositary, (iii) shall be delivered by the Trustee to such Depositary or its custodian or pursuant to such Depositary's instructions and (iv) shall bear a legend substantially to the following effect: "Unless and until it is exchanged in whole or in part for Securities in definitive registered form, this Security may not be transferred except as a whole by the Depositary to a nominee of the Depositary or by a nominee of the Depositary to the Depositary or another nominee of the Depositary or by the Depositary or any such nominee to a successor Depositary or a nominee of such successor Depositary."

Section 2.05 *Execution of Securities*. The Securities shall be signed on behalf of the Issuer by the chairman of its Board of Directors, its president, any vice president, its treasurer or any assistant treasurer, under its corporate seal and attested by its secretary or any assistant secretary. Such signatures may be the manual or facsimile signatures of the present or any future such officers. The seal of the Issuer may be in the form of a facsimile thereof and may be impressed, affixed, imprinted or otherwise reproduced on the Securities. Typographical and other minor errors or defects in any such reproduction of the seal or any such signature shall not affect the validity or enforceability of any Security that has been duly authenticated and delivered by the Trustee.

In case any officer of the Issuer who shall have signed any of the Securities shall cease to be such officer before the Security so signed shall be authenticated and delivered by the Trustee or disposed of by the Issuer, such Security nevertheless may be authenticated and delivered or disposed of as though the person who signed such Security had not ceased to be such officer of the Issuer; and any Security may be signed on behalf of the Issuer by such persons as, at the actual date of the execution of such Security, shall be the proper officers of the Issuer, although at the date of the execution and delivery of this Indenture any such person was not such an officer.

Section 2.06 *Certificate of Authentication*. Only such Securities as shall bear thereon a certificate of authentication substantially in the form hereinbefore recited, executed by the Trustee by the manual signature of one of its authorized signatories, shall be entitled to the benefits of this Indenture or be valid or obligatory for any purpose. Such certificate by the Trustee upon any Security executed by the Issuer shall be conclusive evidence that the Security so authenticated has been duly authenticated and delivered hereunder and that the Holder is entitled to the benefits of this Indenture.

Section 2.07 *Denomination and Date of Securities; Payments of Interest*. The Securities shall be issuable as registered securities without coupons and in denominations as shall be specified as contemplated by Section 2.03. In the absence of any such specification with respect to the Securities of any series, the Securities of such series shall be issuable in denominations of \$1,000 and any multiple thereof. The Securities shall be numbered, lettered, or otherwise distinguished in such manner or in accordance with such plan as the officers of the Issuer executing the same may determine as evidenced by the execution and authentication thereof.

Each Security shall be dated the date of its authentication, shall bear interest, if any, from the date and shall be payable on the dates, in each case, which shall be specified as contemplated by Section 2.03.

The person in whose name any Security of any series is registered at the close of business on any record date applicable to a particular series with respect to any interest payment date for such series shall be entitled to receive the interest, if any, payable on such interest payment date notwithstanding any transfer or exchange of such Security subsequent to the record date and prior to such interest payment date, except if and to the extent the Issuer shall default in the payment of the interest due on such interest payment date for such series, in which case such defaulted interest shall be paid to the persons in whose names Outstanding Securities for such series are registered at the close of business on a subsequent record date (which shall be not less than five Business Days prior to the date of payment of such defaulted interest) established by notice given by mail by or on behalf of the Issuer to the Holders of Securities not less than 15 days preceding such subsequent record date. The term "**record date**" as used with respect to any interest payment date (except a date for payment of defaulted interest) shall mean the date specified as such in the terms of the Securities of any particular series, or, if no such date is so specified, if such interest payment date is the first day of a calendar month, the fifteenth day of the next preceding calendar month or, if such interest payment date is the fifteenth day of a calendar month, the first day of such calendar month, whether or not such record date is a Business Day.

Section 2.08 *Registration, Transfer and Exchange*. The Issuer will keep or cause to be kept at each office or agency to be maintained for the purpose as provided in Section 3.02 a register or registers in which, subject to such reasonable regulations as it may prescribe, it will register, and will register the transfer of, Securities as in this Article provided. Such register shall be in written form in the English language or in any other form capable of being converted into such form within a reasonable time. At all reasonable times such register or registers shall be open for inspection by the Trustee.

At the option of the Holder thereof, Registered Securities of any series (other than a Registered Global Security, except as set forth below) may be exchanged for a Registered Security or Registered Securities of such series and tenor having authorized denominations and an equal aggregate Principal amount, upon surrender of such Registered Securities to be exchanged at the agency of the Issuer that shall be maintained for such purpose in accordance with Section 3.02 and upon payment, if the Issuer shall so require, of the charges hereinafter provided. If the Securities of any series are issued in both registered and unregistered form, except as otherwise established pursuant to Section 2.03, at the option of the Holder thereof, Unregistered Securities of any series may be exchanged for Registered Securities of such series and tenor having authorized denominations and an equal aggregate Principal amount, upon surrender of such Unregistered Securities to be exchanged at the agency of the Issuer that shall be maintained for such purpose in accordance with Section 3.02 and upon payment, if the Issuer shall so require, of the charges hereinafter provided. At the option of the Holder thereof, if Unregistered Securities of any series, maturity date, interest rate and Original Issue Date are issued in more than one authorized denomination, except as otherwise established pursuant to Section 2.03, such Unregistered Securities may be exchanged for Unregistered Securities of such series and tenor having authorized denominations and an equal aggregate Principal amount, upon surrender of such Unregistered Securities to be exchanged at the agency of the Issuer that shall be maintained for such purpose in accordance with Section 3.02 and upon payment, if the Issuer shall so require, of the charges hereinafter provided. Registered Securities of any series may not be exchanged for Unregistered Securities of such series. Whenever any Securities are so surrendered for exchange, the Issuer shall execute, and the Trustee shall authenticate and make available for delivery, the Securities which the Holder making the exchange is entitled to receive.

All Registered Securities presented for registration of transfer, exchange, redemption, conversion or payment shall be duly endorsed by, or be accompanied by a written instrument or instruments of transfer in form satisfactory to the Issuer and the Trustee duly executed by, the Holder or his attorney duly authorized in writing.

The Issuer may require payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in connection with any exchange or registration of transfer of Securities. No service charge shall be made for any such transaction.

Notwithstanding any other provision of this Section 2.08, unless and until it is exchanged in whole or in part for Securities in definitive registered form, a Registered Global Security representing all or a portion of the Securities of a series may not be transferred except as a whole by the Depositary for such series to a nominee of such Depositary or by a nominee of such Depositary to such Depositary or another nominee of such Depositary or by such Depositary or any such nominee to a successor Depositary for such series or a nominee of such successor Depositary.

If at any time the Depositary for any Registered Global Securities of any series notifies the Issuer that it is unwilling or unable to continue as Depositary for such Registered Global Securities or if at any time the Depositary for such Registered Global Securities shall no longer be eligible under applicable law, the Issuer shall appoint a successor Depositary eligible under applicable law with respect to such Registered Global Securities. If a successor Depositary eligible under applicable law for such Registered Global Securities is not appointed by the Issuer within 90 days after the Issuer receives such notice or becomes aware of such ineligibility, the Issuer will execute, and the Trustee, upon receipt of the Issuer's order for the authentication and delivery of definitive Registered Securities of such series and tenor, will authenticate and make available for delivery Registered Securities of such series and tenor, in any authorized denominations, in an aggregate Principal amount equal to the Principal amount of such Registered Global Securities, in exchange for such Registered Global Securities.

The Issuer may at any time and in its sole discretion determine that any Registered Global Securities of any series shall no longer be maintained in global form. In such event, or in the event that there shall have occurred and be continuing an Event of Default with respect to a series of Securities, the Issuer will, upon the request of any Holder, execute, and the Trustee, upon receipt of the Issuer's order for the authentication and delivery of definitive Registered Securities of such series and tenor, will authenticate and make available for delivery, Registered Securities of such series and tenor in any authorized denominations, in an aggregate Principal amount equal to the Principal amount of such Registered Global Securities, in exchange for such Registered Global Securities.

Any time the Registered Securities of any series are not in the form of Registered Global Securities pursuant to the preceding two paragraphs, the Issuer agrees to supply the Trustee with a reasonable supply of certificated Registered Securities without the legend required by Section 2.04 and the Trustee agrees to hold such Registered Securities in safekeeping until authenticated and delivered pursuant to the terms of this Indenture.



If established by the Issuer pursuant to Section 2.03 with respect to any Registered Global Security, the Depository for such Registered Global Security may surrender such Registered Global Security in exchange in whole or in part for Registered Securities of the same series and tenor in definitive registered form on such terms as are acceptable to the Issuer and such Depository. Thereupon, the Issuer shall execute, and the Trustee shall authenticate and make available for delivery, without service charge,

(i) to the Person specified by such Depository new Registered Securities of the same series and tenor, of any authorized denominations as requested by such Person, in an aggregate Principal amount equal to and in exchange for such Person's beneficial interest in the Registered Global Security; and

(ii) to such Depository a new Registered Global Security in a denomination equal to the difference, if any, between the Principal amount of the surrendered Registered Global Security and the aggregate Principal amount of Registered Securities authenticated and delivered pursuant to clause (i) above.

Registered Securities issued in exchange for a Registered Global Security pursuant to this Section 2.08 shall be registered in such names and in such authorized denominations as the Depository for such Registered Global Security, pursuant to instructions from its direct or indirect participants or otherwise, shall instruct the Trustee or an agent of the Issuer or the Trustee. The Trustee or such agent shall deliver such Securities to or as directed by the Persons in whose names such Securities are so registered.

All Securities issued upon any transfer or exchange of Securities shall be valid obligations of the Issuer, evidencing the same debt, and entitled to the same benefits under this Indenture, as the Securities surrendered upon such transfer or exchange.

Notwithstanding anything herein or in the forms or terms of any Securities to the contrary, none of the Issuer, the Trustee or any agent of the Issuer or the Trustee shall be required to exchange any Unregistered Security for a Registered Security if such exchange would result in adverse Federal income tax consequences to the Issuer (such as, for example, the inability of the Issuer to deduct from its income, as computed for Federal income tax purposes, the interest payable on the Unregistered Securities) under then applicable United States Federal income tax laws. The Trustee and any such agent shall be entitled to rely on an Officers' Certificate or an Opinion of Counsel in determining such result.

Neither the Registrar nor the Issuer shall be required (i) to issue, authenticate, register the transfer of or exchange Securities of any series for a period of 15 days before the mailing of a notice of redemption of such Securities to be redeemed or (ii) to register the transfer of or exchange any Security selected for redemption in whole or in part.

Section 2.09 *Mutilated, Defaced, Destroyed, Lost and Stolen Securities*. In case any temporary or definitive Security shall become mutilated or defaced and shall be surrendered to the Trustee, the Issuer shall execute, and the Trustee shall authenticate and deliver, a new Security of the same series, bearing a number not contemporaneously outstanding, in exchange and substitution for the mutilated or defaced Security. If the Holder of any Security claims that the Security has been lost, destroyed or wrongfully taken, the Issuer shall execute, and the Trustee shall authenticate and deliver, a new Security of the same series, bearing a number not contemporaneously outstanding, in exchange and substitution for the lost, destroyed or wrongfully taken Security, if the applicant so requests before the Issuer has notice that the Security has been acquired by a protected purchaser, and the applicant furnishes to the Issuer and to the Trustee and any agent of the Issuer or the Trustee such security or indemnity as may be required by them to indemnify and defend and to save each of them harmless and the applicant satisfies other reasonable requirements imposed by the Issuer.

Upon the issuance of any substitute Security, the Issuer may require the payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in relation thereto and any other expenses (including the fees and expenses of the Trustee and its counsel) connected therewith. In case any Security which has matured or is about to mature or has been called for redemption in full shall become mutilated or defaced or be destroyed, lost or stolen, the Issuer may instead of issuing a substitute Security, pay or authorize the payment of the same (without surrender thereof except in the case of a mutilated or defaced Security), if the applicant for such payment shall furnish to the Issuer and to the Trustee and any agent of the Issuer or the Trustee such security or taking, the applicant shall also furnish to the Issuer and the Trustee and any agent of the Issuer or the Trustee evidence to their satisfaction of the destruction, loss or wrongful taking of such Security and of the ownership thereof.

Every substitute Security of any series issued pursuant to the provisions of this section by virtue of the fact that any such Security is destroyed, lost or stolen shall constitute an additional contractual obligation of the Issuer, whether or not the destroyed, lost or wrongfully taken Security shall be at any time enforceable by anyone and shall be entitled to all the benefits of (but shall be subject to all the limitations of rights set forth in) this Indenture equally and proportionately with any and all other Securities of such series duly authenticated and delivered hereunder. All Securities shall be held and owned upon the express condition that, to the extent permitted by law, the foregoing provisions are exclusive with respect to the replacement or payment of mutilated, defaced or destroyed, lost or wrongfully taken Securities and shall preclude any and all other rights or remedies.

*Section 2.10 Cancellation of Securities; Destruction Thereof.* All Securities surrendered for payment, redemption, repurchase, conversion, registration of transfer or exchange, if surrendered to the Issuer or any agent of the Issuer or the Trustee, shall be delivered to the Trustee for cancellation or, if surrendered to the Trustee, shall be canceled by it; and no Securities shall be issued in lieu thereof except as expressly permitted by any of the provisions of this Indenture. The Trustee shall dispose of canceled Securities held by it in accordance with the record retention policies of the Trustee in effect from time to time and, if such canceled certificates are destroyed, shall deliver a certificate of destruction to the Issuer. If the Issuer shall acquire any of the Securities, such acquisition shall not operate as a redemption or satisfaction of the indebtedness represented by such Securities unless and until the same are delivered to the Trustee for cancellation.

*Section 2.11 Temporary Securities.* Pending the preparation of definitive Securities for any series, the Issuer may execute and the Trustee shall authenticate and deliver temporary Securities for such series (printed, lithographed, typewritten or otherwise reproduced, in each case in form satisfactory to the Trustee). Temporary Securities of any series shall be issuable as registered Securities without coupons, of any authorized denomination, and substantially in the form of the definitive Securities of such series but with such omissions, insertions and variations as may be appropriate for temporary Securities, all as may be determined by the Issuer with the concurrence of the Trustee. Temporary Securities may contain such reference to any provisions of this Indenture as may be appropriate. Every temporary Security shall be executed by the Issuer and be authenticated by the Trustee upon the same conditions and in substantially the same manner, and with like effect, as the definitive Securities. Without unreasonable delay the Issuer shall execute and shall furnish definitive Securities of such series and thereupon temporary Securities of such series may be surrendered in exchange therefor without charge at each office or agency to be maintained by the Issuer for that purpose pursuant to Section 3.02, and the Trustee shall authenticate and deliver in exchange for such temporary Securities of such series a like aggregate Principal amount of definitive Securities of the same series of authorized denominations. Until so exchanged, the temporary Securities of any series shall be entitled to the same benefits under this Indenture as definitive Securities of such series.

Section 2.12 *Computation of Interest*. Except as otherwise specified in the Securities of a series, interest shall be computed on the basis of a 360-day year of twelve 30-day months.

Section 2.13 *CUSIP Numbers*. The Issuer in issuing the Securities may use “CUSIP” numbers (if then generally in use), and, if so, the Trustee shall use “CUSIP” numbers in notices of redemption as a convenience to Holders; provided that any such notice may state that no representation is made as to the correctness of such numbers either as printed on the Securities or as contained in any notice of a redemption and that reliance may be placed only on the other identification numbers printed on the Securities, and any such redemption shall not be affected by any defect in or omission of such numbers. The Issuer will notify the Trustee of any change in the “CUSIP” numbers.

### **ARTICLE 3 COVENANTS OF THE ISSUER AND THE TRUSTEE**

Section 3.01 *Payment of Principal and Interest*. The Issuer covenants and agrees for the benefit of each series of Securities that it will duly and punctually pay or cause to be paid the Principal of, and interest on, each of the Securities of such series at the place or places, at the respective times and in the manner provided in such Securities. Each installment of interest on the Securities of any series may be paid by mailing checks for such interest payable to or upon the written order of the Holders of Securities entitled thereto as they shall appear on the registry books of the Issuer.

Notwithstanding any provisions of this Indenture and the Securities of any series to the contrary, if the Issuer and a Holder of any Registered Security so agree or if expressly provided pursuant to Section 2.03, payments of interest on, and any portion of the Principal of, such Holder’s Registered Security shall be made by the paying agent, upon receipt from the Issuer of immediately available funds by 11:00 a.m., New York City time (or such other time as may be agreed to between the Issuer and the paying agent) or the Issuer, directly to the Holder of such Security (by wire transfer of Federal funds or immediately available funds or otherwise) if the Holder has delivered written instructions to the Trustee 15 days prior to such payment date requesting that such payment will be so made and designating the bank account to which such payments shall be so made and, in the case of payments of Principal, surrenders the same to the Trustee. The Trustee shall be entitled to rely on the last instruction delivered by the Holder pursuant to this Section 3.01 unless a new instruction is delivered 15 days prior to a payment date. The Issuer will indemnify and hold each of the Trustee and any paying agent harmless against any loss, liability or expense (including attorneys’ fees and expenses) resulting from any act or omission to act on the part of the Issuer or any such Holder in connection with any such agreement or from making any payment in accordance with any such agreement.

Section 3.02 *Offices for Payments, etc.* So long as any of the Securities remain outstanding, the Issuer will maintain in the Borough of Manhattan, The City of New York an office or agency (o) where the Securities may be presented for payment, (p) where the Securities may be presented for registration of transfer and for exchange as in this Indenture provided, (q) where notices and demands to or upon the Issuer in respect of the Securities or of this Indenture may be served and (r) for Securities of each series that is convertible, where such Securities may be presented for conversion. The Issuer will give to the Trustee written notice of the location of any such office or agency and of any change of location thereof. Unless otherwise specified in accordance with Section 2.03, the Issuer hereby initially designates the Corporate Trust Office of Trustee as the office to be maintained by it for each such purpose. In case the Issuer shall fail to so designate or maintain any such office or agency or shall fail to give such notice of the location or of any change in the location thereof, presentations and demands may be made and notices may be served at the Corporate Trust Office.

Section 3.03 *Paying Agents.* Whenever the Issuer shall appoint a paying agent other than the Trustee with respect to the Securities of any series, it will cause such paying agent to execute and deliver to the Trustee an instrument in which such agent shall agree with the Trustee, subject to the provisions of this Section:

(a) that it will hold all sums received by it as such agent for the payment of the Principal of or interest on the Securities of such series (whether such sums have been paid to it by the Issuer or by any other obligor on the Securities of such series) in trust for the benefit of the Holders of the Securities of such series or of the Trustee;

(b) that it will give the Trustee notice of any failure by the Issuer (or by any other obligor on the Securities of such series) to make any payment of the Principal of or interest on the Securities of such series when the same shall be due and payable; and during the continuance of the failure referred to in clause Section 3.03(b) above.

The Issuer will, on or prior to each due date of the Principal of or interest on the Securities of such series, deposit with the paying agent a sum sufficient to pay such Principal or interest so becoming due, and (unless such paying agent is the Trustee) the Issuer will promptly notify the Trustee of any failure to take such action.

If the Issuer shall act as its own paying agent with respect to the Securities of any Series, it will, on or before each due date of the Principal of or interest on the Securities of such series, set aside, segregate and hold in trust for the benefit of the Holders of the Securities of such series a sum sufficient to pay such Principal or interest so becoming due. The Issuer will promptly notify the Trustee of any failure to take such action.

Whenever the Issuer shall have one or more paying agents for any series of Securities, it will, on or before each due date of the Principal of or interest on any Securities of such series, deposit with the paying agent or agents for the Securities of such series a sum, by 11:00 a.m. New York City time in immediately available funds on the payment date, sufficient to pay the Principal or interest so becoming due with respect to the Securities of such series, and (unless such paying agent is the Trustee) the Issuer will promptly notify the Trustee in writing of any failure so to act.

Anything in this section to the contrary notwithstanding, the Issuer may at any time, for the purpose of obtaining a satisfaction and discharge with respect to one or more or all series of Securities hereunder, or for any other reason, pay or cause to be paid to the Trustee all sums held in trust for any such series by the Issuer or any paying agent hereunder, as required by this Section, such sums to be held by the Trustee upon the trusts herein contained.

Anything in this Section 3.03 to the contrary notwithstanding, the agreement to hold sums in trust as provided in this Section 3.03 is subject to the provisions of Section 9.05.

Section 3.04 *Certificate of the Issuer*. Within 120 days after the close of the fiscal year ended ●, and within 120 days after the close of each fiscal year thereafter, the Issuer will furnish to the Trustee a brief certificate (which need not comply with Section 10.05) from the principal executive, financial or accounting officer of the Issuer as to his or her knowledge of the Issuer's compliance with all conditions and covenants under the Indenture (such compliance to be determined without regard to any period of grace or requirement of notice provided under the Indenture).

At the time such certificate is filed, the Issuer will also file with the Trustee a letter or statement of the independent accountants who shall have certified the financial statements of the Issuer for its preceding fiscal year to the effect that, in making the examination necessary for certification of such financial statements, they have obtained no knowledge of any default by the Issuer in the performance or fulfillment of any covenant, agreement or condition contained in this Indenture, which default remains uncured at the date of such letter or statement, or, if they shall have obtained knowledge of any such uncured default, specifying in such letter or statement such default or defaults and the nature and status thereof, it being understood that such accountants shall not be liable directly or indirectly for failure to obtain knowledge of any such default or defaults, and that nothing contained in this Section 3.04 shall be construed to require such accountants to make any investigation beyond the scope required in connection with such examination.

Section 3.05 *List of Securityholders*. If and so long as the Trustee shall not be the Security registrar for the Securities of any series, the Issuer will furnish or cause to be furnished to the Trustee a list in such form as the Trustee may reasonably require of the names and addresses of the Holders of the Securities of such series pursuant to Section 312 of the Trust Indenture Act of 1939 (a) semi-annually not more than 10 days after each record date for the payment of interest on such Securities, as hereinabove specified, as of such record date and on dates to be determined pursuant to Section 2.03 for non-interest bearing Securities in each year and (b) at such other times as the Trustee may request in writing, within 30 days after receipt by the Issuer of any such request as of a date not more than 10 days prior to the time such information is furnished.

Section 3.06 *Reports by the Issuer*. The Issuer covenants to:

(a) file, whether or not required to do so under applicable law, with the Trustee, within 15 days after the Issuer files the same with the Commission:

(i) copies of the annual reports and of the information, documents, and other reports which the Issuer files with the Commission pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934; and

(ii) such additional information, documents and reports with respect to compliance by the Issuer with the conditions and covenants provided for in this Indenture as the Issuer may from time to time file with the Commission; and

(b) transmit to the Securityholders, in the manner and to the extent provided in Section 10.04, such summaries of any information, documents and reports required to be filed with the Trustee pursuant to the provisions of subdivision (a) of this Section 3.06 as may be required by the rules and regulations of the Commission.

Delivery of such reports, information and documents to the Trustee is for informational purposes only and the Trustee's receipt of such shall not constitute constructive notice of any information contained therein or determinable from information contained therein, including the Issuer's compliance with any of its covenants hereunder (as to which the Trustee is entitled to rely exclusively on Officers' Certificates).

Section 3.07 *Corporate Existence*. So long as any of the Securities remain unpaid, the Issuer will at all times (except as otherwise provided or permitted elsewhere in this Indenture) do or cause to be done all things necessary to preserve and keep in full force and effect its corporate existence.

Section 3.08 *Restrictions on Mergers, Sales and Consolidations*. So long as any of the Securities remain unpaid, the Issuer will not consolidate or merge with or sell, convey or lease all or substantially all of its property to any other corporation except as permitted in Article 8 hereof.

Section 3.09 *Further Assurances*. From time to time whenever requested by the Trustee, the Issuer will execute and deliver such further instruments and assurances and do such further acts as may be reasonably necessary or proper to carry out more effectually the purposes of this Indenture or to secure the rights and remedies hereunder of the Holders of the Securities of any series.

**ARTICLE 4**  
**REMEDIES OF THE TRUSTEE AND SECURITYHOLDERS**  
**ON EVENT OF DEFAULT**

Section 4.01 *Event of Default Defined; Acceleration of Maturity; Waiver of Default* “**Event of Default**” with respect to Securities of any series wherever used herein, means any one of the following events which shall have occurred and be continuing (whatever the reason for such Event of Default and whether it shall be voluntary or involuntary or be 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):

(a) default by the Issuer in the payment of any installment of interest upon any of the Securities of such series as and when the same shall become due and payable, and continuance of such default for a period of 30 days;

(b) default by the Issuer in the payment of all or any part of the Principal on any of the Securities of such series as and when the same shall become due and payable either at maturity, upon redemption, by declaration or otherwise, and continuance of such default for a period of five days;

(c) default by the Issuer in the performance, or breach by the Issuer, of any of its covenants or agreements in respect of the Securities of such series (other than a covenant or agreement in respect of the Securities of such series a default in whose performance or whose breach is elsewhere in this section specifically dealt with), and continuance of such default or breach for a period of 30 consecutive days after there has been given, by registered or certified mail, to the Issuer by the Trustee or to the Issuer and the Trustee by the Holders of at least 25% in Principal amount of the Outstanding Securities of all series affected thereby, a written notice specifying such default or breach and requiring it to be remedied and stating that such notice is a notice of default hereunder;

(d) the entry by a court having jurisdiction in the premises of a decree or order for relief in respect of the Issuer in an involuntary case under any applicable bankruptcy, insolvency or other similar law now or hereafter in effect, or the appointment of a receiver, liquidator, assignee, custodian, trustee or sequestrator (or similar official) of the Issuer or for any substantial part of the Issuer’s property and assets or the ordering of the winding up or liquidation of the Issuer’s affairs, and the continuance of any such decree or order unstayed and in effect for a period of 90 consecutive days;

(e) the commencement by the Issuer of a voluntary case under any applicable bankruptcy, insolvency or other similar law now or hereafter in effect, or the consent by the Issuer to the entry of an order for relief in an involuntary case under any such law, or the consent by the Issuer to the appointment of or taking possession by a receiver, liquidator, assignee, custodian, trustee or sequestrator (or similar official) of the Issuer or for any substantial part of the Issuer’s property, or the making of any general assignment by the Issuer for the benefit of creditors; or

(f) any other Event of Default provided in the supplemental indenture or resolution of the Board of Directors under which such series of Securities is issued or in the form of Security for such series.

If an Event of Default described in clauses 4.01(a), 4.01(b), 4.01(c) or 4.01(f) occurs and is continuing, then, and in each and every such case, unless the Principal of all of the Securities of such series shall have already become due and payable, either the Trustee or the Holders of not less than 25% in aggregate Principal amount of the Securities of any affected series then Outstanding hereunder (each such series voting as a separate class) by notice in writing to the Issuer (and to the Trustee if given by Securityholders), may declare the entire Principal (or, if the Securities of such series are Original Issue Discount Securities, such portion of the Principal amount as may be specified in the terms of such series) of all Securities of such series and the interest accrued thereon, if any, to be due and payable immediately, and upon any such declaration the same shall become immediately due and payable. If an Event of Default described in clauses Section 4.01(d) or Section 4.01(e) occurs and is continuing, then the Principal amount of all the Securities then Outstanding and interest accrued thereon, if any, shall be and become immediately due and payable, without any notice or other action by any Holder or the Trustee, to the full extent permitted by applicable law.

The foregoing provisions, however, are subject to the condition that if, at any time after the Principal (or, if the Securities are Original Issue Discount Securities, such portion of the Principal as may be specified in the terms thereof) of the Securities of any series (or of all the Securities, as the case may be) shall have been so declared due and payable, and before any judgment or decree for the payment of the monies due shall have been obtained or entered as hereinafter provided, the Issuer shall pay or shall deposit with the Trustee a sum sufficient to pay all matured installments of interest upon all the Securities of such series (or of all the Securities, as the case may be) and the Principal of any and all Securities of such series (or of all the Securities, as the case may be) which shall have become due otherwise than by acceleration (with interest upon such Principal and, to the extent that payment of such interest is enforceable under applicable law, on overdue installments of interest, at the same rate as the rate of interest or Yield to Maturity (in the case of Original Issue Discount Securities) specified in the Securities of such series (or at the respective rates of interest or Yields to Maturity of all the Securities, as the case may be) to the date of such payment or deposit) and such amount as shall be sufficient to cover reasonable compensation to the Trustee, its agents, attorneys and counsel, and all other expenses and liabilities incurred, and all advances made, by the Trustee except as a result of negligence or bad faith, and if any and all Events of Default under the Indenture, other than the non-payment of the Principal of Securities which shall have become due by acceleration, shall have been cured, waived or otherwise remedied as provided herein, then and in every such case the Holders of a majority in aggregate Principal amount of all the then Outstanding Securities of all such series that have been accelerated, each such series voting as a separate class, by written notice to the Issuer and to the Trustee, may waive all defaults with respect to such series (or with respect to all the Securities, as the case may be) and rescind and annul such declaration and its consequences, but no such waiver or rescission and annulment shall extend to or shall affect any subsequent default or shall impair any right consequent thereon.

For all purposes under this Indenture, if a portion of the Principal of any Original Issue Discount Securities shall have been accelerated and declared due and payable pursuant to the provisions hereof, then, from and after such declaration, unless such declaration has been rescinded and annulled, the Principal amount of such Original Issue Discount Securities shall be deemed, for all purposes hereunder, to be such Portion of the Principal thereof as shall be due and payable as a result of such acceleration, and payment of such portion of the Principal thereof as shall be due and payable as a result of such acceleration, together with interest, if any, thereon and all other amounts owing thereunder, shall constitute payment in full of such Original Issue Discount Securities.



Section 4.02 *Collection of Indebtedness by Trustee; Trustee May Prove Debt*. The Issuer covenants that (h) in case default shall be made in the payment of any installment of interest on any of the Securities of any series when such interest shall have become due and payable, and such default shall have continued for a period of 30 days or (i) in case default shall be made in the payment of all or any part of the Principal of any of the Securities of any series when the same shall have become due and payable, whether upon maturity of the Securities of such series or upon any redemption or by declaration or otherwise, then in each case upon demand of the Trustee, the Issuer will pay to the Trustee for the benefit of the Holders of the Securities of such series (x) the whole amount that then shall have become due and payable on all Securities of such series for Principal or interest, as the case may be (with interest to the date of such payment upon the overdue Principal and, to the extent that payment of such interest is enforceable under applicable law, on overdue installments of interest at the same rate as the rate of interest or Yield to Maturity (in the case of Original Issue Discount Securities) specified in the Securities of such series) and (y) in addition thereto, such further amount as shall be sufficient to cover the costs and expenses of collection, including reasonable compensation to the Trustee and each predecessor Trustee, their respective agents and counsel, and any expenses and liabilities incurred, and all advances made, by the Trustee and each predecessor Trustee except as a result of its negligence or bad faith.

Until such demand is made by the Trustee, the Issuer may pay the Principal of and interest on the Securities of any series to the registered Holders, whether or not the Principal of and interest on the Securities of such series be overdue.

In case the Issuer shall fail forthwith to pay such amounts upon such demand, the Trustee, in its own name and as trustee of an express trust, shall be entitled and empowered to institute any action or proceedings at law or in equity for the collection of the sums so due and unpaid, and may prosecute any such action or proceedings to judgment or final decree, and may enforce any such judgment or final decree against the Issuer or other obligor upon such Securities and collect in the manner provided by law out of the property of the Issuer or other obligor upon such Securities, wherever situated, the monies adjudged or decreed to be payable.

In case there shall be pending proceedings relative to the Issuer or any other obligor upon the Securities under Title 11 of the United States Code or any other applicable Federal or state bankruptcy, insolvency or other similar law, or in case a receiver, assignee or trustee in bankruptcy or reorganization, liquidator, sequestrator or similar official shall have been appointed for or taken possession of the Issuer or its property or such other obligor, or in case of any other comparable judicial proceedings relative to the Issuer or other obligor upon the Securities of any series, or to the creditors or property of the Issuer or such other obligor, the Trustee, irrespective of whether the Principal of any Securities shall then be due and payable as therein expressed or by declaration or otherwise and irrespective of whether the Trustee shall have made any demand pursuant to the provisions of this Section, shall be entitled and empowered, by intervention in such proceedings or otherwise:

(a) to file and prove a claim or claims for the whole amount of Principal and interest (or, if the Securities of any series are Original Issue Discount Securities, such portion of the Principal amount as may be specified in the terms of such series) owing and unpaid in respect of the Securities of any series, and to file such other papers or documents as may be necessary or advisable in order to have the claims of the Trustee (including any claim for reasonable compensation to the Trustee and each predecessor Trustee, and their respective agents, attorneys and counsel, and for reimbursement of all expenses and liabilities incurred, and all advances made, by the Trustee and each predecessor Trustee, except as a result of negligence or bad faith) and of the Securityholders allowed in any judicial proceedings relative to the Issuer or other obligor upon the Securities of any series, or to the creditors or property of the Issuer or such other obligor;

(b) unless prohibited by applicable law and regulations, to vote on behalf of the Holders of the Securities of any series in any election of a trustee or a standby trustee in arrangement, reorganization, liquidation or other bankruptcy or insolvency proceedings or person performing similar functions in comparable proceedings; and

(c) to collect and receive any monies or other property payable or deliverable on any such claims, and to distribute all amounts received with respect to the claims of the Securityholders and of the Trustee on their behalf; and any trustee, receiver, or liquidator, custodian or other similar official is hereby authorized by each of the Securityholders to make payments to the Trustee, and, in the event that the Trustee shall consent to the making of payments directly to the Securityholders, to pay to the Trustee such amounts as shall be sufficient to cover reasonable compensation to the Trustee, each predecessor Trustee and their respective agents, attorneys and counsel, and all other expenses and liabilities incurred, and all advances made, by the Trustee and each predecessor Trustee except as a result of negligence or bad faith and all other amounts due to the Trustee or any predecessor Trustee pursuant to Section 5.06.

Nothing herein contained shall be deemed to authorize the Trustee to authorize or consent to or vote for or accept or adopt on behalf of any Securityholder any plan of reorganization, arrangement, adjustment or composition affecting the Securities of any series or the rights of any Holder thereof, or to authorize the Trustee to vote in respect of the claim of any Securityholder in any such proceeding except, as aforesaid, to vote for the election of a trustee in bankruptcy or similar person.

All rights of action and of asserting claims under this Indenture, or under any of the Securities, may be enforced by the Trustee without the possession of any of the Securities or the production thereof on any trial or other proceedings relative thereto, and any such action or proceedings instituted by the Trustee shall be brought in its own name as trustee of an express trust, and any recovery of judgment, subject to the payment of the expenses, disbursements and compensation of the Trustee, each predecessor Trustee and their respective agents and attorneys, shall be for the ratable benefit of the Holders of the Securities in respect of which such action was taken.

In any proceedings brought by the Trustee (and also any proceedings involving the interpretation of any provision of this Indenture to which the Trustee shall be a party) the Trustee shall be held to represent all the Holders of the Securities in respect to which such action was taken, and it shall not be necessary to make any Holders of such Securities parties to any such proceedings.

Section 4.03 *Application of Proceeds*. Any monies collected by the Trustee pursuant to this Article in respect of any series shall be applied in the following order at the date or dates fixed by the Trustee and, in case of the distribution of such monies on account of Principal or interest, upon presentation of the several Securities in respect of which monies have been collected and stamping (or otherwise noting) thereon the payment, or issuing Securities of such series in reduced Principal amounts in exchange for the presented Securities of like series if only partially paid, or upon surrender thereof if fully paid:

FIRST: To the payment of costs and expenses applicable to such series in respect of which monies have been collected, including reasonable compensation to the Trustee and each predecessor Trustee and their respective agents and attorneys and of all expenses and liabilities incurred, and all advances made, by the Trustee and each predecessor Trustee except as a result of negligence or bad faith, and all other amounts due to the Trustee or any predecessor Trustee pursuant to Section 5.06;

SECOND: In case the Principal of the Securities of such series in respect of which monies have been collected shall not have become and be then due and payable, to the payment of interest on the Securities of such series in default in the order of the maturity of the installments of such interest, with interest (to the extent that such interest has been collected by the Trustee) upon the overdue installments of interest at the same rate as the rate of interest or Yield to Maturity (in the case of Original Issue Discount Securities) specified in such Securities, such payments to be made ratably to the persons entitled thereto, without discrimination or preference;

THIRD: In case the Principal of the Securities of such series in respect of which monies have been collected shall have become and shall be then due and payable, to the payment of the whole amount then owing and unpaid upon all the Securities of such series for Principal and interest, with interest upon the overdue Principal, and (to the extent that such interest has been collected by the Trustee) upon overdue installments of interest at the same rate as the rate of interest or Yield to Maturity (in the case of Original Issue Discount Securities) specified in the Securities of such series; and in case such monies shall be insufficient to pay in full the whole amount so due and unpaid upon the Securities of such series, then to the payment of such Principal and interest or yield to maturity, without preference or priority of Principal over interest or yield to maturity, or of interest or yield to maturity over Principal, or of any installment of interest over any other installment of interest, or of any Security of such series over any other Security of such series, ratably to the aggregate of such Principal and accrued and unpaid interest or yield to maturity; and

FOURTH: To the payment of the remainder, if any, to the Issuer or any other person lawfully entitled thereto.

Section 4.04 *Suits for Enforcement*. In case an Event of Default has occurred, has not been waived and is continuing, the Trustee may proceed to protect and enforce the rights vested in it by this Indenture, either at law or in equity or in bankruptcy or otherwise, whether for the specific enforcement of any covenant or agreement contained in this Indenture or in aid of the exercise of any power granted in this Indenture or to enforce any other legal or equitable right vested in the Trustee by this Indenture or by law.

Section 4.05 *Restoration of Rights on Abandonment of Proceedings*. In case the Trustee shall have proceeded to enforce any right under this Indenture and such proceedings shall have been discontinued or abandoned for any reason, or shall have been determined adversely to the Trustee, then and in every such case the Issuer and the Trustee shall be restored respectively to their former positions and rights hereunder, and all rights, remedies and powers of the Issuer, the Trustee and the Securityholders shall continue as though no such proceedings had been taken.

Section 4.06 *Limitations on Suits by Securityholder*. No Holder of any Security of any series shall have any right by virtue or by availing of any provision of this Indenture to institute any action or proceeding at law or in equity or in bankruptcy or otherwise upon or under or with respect to this Indenture, or for the appointment of a trustee, receiver, liquidator, custodian or other similar official or for any other remedy hereunder, unless such Holder previously shall have given to the Trustee written notice of an Event of Default and of the continuance thereof, as hereinbefore provided, and unless also the Holders of not less than 25% in aggregate Principal amount of the Securities of such series then outstanding shall have made written request upon the Trustee to institute such action or proceedings in respect of such Event of Default in its own name as trustee hereunder and shall have offered to the Trustee indemnity satisfactory to the Trustee against the costs, expenses and liabilities to be incurred therein or thereby and the Trustee for 60 days after its receipt of such notice, request and offer of indemnity shall have failed to institute any such action or proceeding and no direction inconsistent with such written request shall have been given to the Trustee pursuant to Section 4.09; it being understood and intended, and being expressly covenanted by the Holder of every Security with every other Holder and the Trustee, that no one or more Holders of Securities of any series shall have any right in any manner whatever by virtue or by availing of any provision of this Indenture to affect, disturb or prejudice the rights of any other such Holder of Securities, or to obtain or seek to obtain priority over or preference to any other such Holder or to enforce any right under this Indenture, except in the manner herein provided and for the equal, ratable and common benefit of all Holders of Securities of the applicable series. For the protection and enforcement of the provisions of this Section, each and every Securityholder and the Trustee shall be entitled to such relief as can be given either at law or in equity.

Section 4.07 *Unconditional Right of Securityholders to Institute Certain Suits*. Notwithstanding any other provision in this Indenture and any provision of any Security, the right of any Holder of any Security to receive payment of the Principal of or interest on such Security on or after the respective due dates expressed in such Security, or to institute suit for the enforcement of any such payment on or after such respective dates, shall not be impaired or affected without the consent of such Holder.

Section 4.08 *Powers and Remedies Cumulative; Delay or Omission Not Waiver of Default*. Except as provided in Section 4.06, no right or remedy herein conferred upon or reserved to the Trustee or to the Securityholders is intended to be exclusive of any other right or remedy, and every right and remedy shall, to the extent permitted by law, be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other appropriate right or remedy.

No delay or omission of the Trustee or of any Securityholder to exercise any right or power accruing upon any Event of Default occurring and continuing as aforesaid shall impair any such right or power or shall be construed to be a waiver of any such Event of Default or an acquiescence therein; and, subject to Section 4.06, every power and remedy given by this Indenture or by law to the Trustee or to the Securityholders may be exercised from time to time, and as often as shall be deemed expedient, by the Trustee or by the Securityholders.

Section 4.09 *Control by Securityholders*. The Holders of a majority in aggregate Principal amount of the Securities of each series affected (with each series voting as a separate class) at the time outstanding shall have the right to direct the time, method, and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred on the Trustee with respect to the Securities of such series by this Indenture; provided that such direction shall not be otherwise than in accordance with law and the provisions of this Indenture and provided further that (subject to the provisions of Section 5.01) the Trustee shall have the right to decline to follow any such direction if the Trustee, being advised by counsel, shall determine that the action or proceeding so directed may not lawfully be taken or if the Trustee in good faith by its board of directors, the executive committee, or a trust committee of directors or Responsible Officers of the Trustee shall determine that the action or proceedings so directed would subject the Trustee to personal liability or if the Trustee in good faith shall so determine that the actions or forbearances specified in or pursuant to such direction would be unduly prejudicial to the interests of Holders of the Securities of all series so affected not joining in the giving of said direction.

Nothing in this Indenture shall impair the right of the Trustee to take any action which is not inconsistent with such direction or directions by Securityholders.

Section 4.10 *Waiver of Past Defaults*. Prior to a declaration of the acceleration of the maturity of the Securities of any series as provided in Section 4.01, the Holders of a majority in aggregate Principal amount of the Securities of such series at the time Outstanding (each such series voting as a separate class) may on behalf of the Holders of all the Securities of such series waive an existing default or Event of Default, except a default in the payment of Principal of or interest on any Security as specified in clauses (a) or (b) of Section 4.01 or in respect of a covenant or provision hereof which cannot be modified or amended without the consent of each Holder affected as provided in Section 7.02. In the case of any such waiver, the Issuer, the Trustee and the Holders of the Securities of each series affected shall be restored to their former positions and rights hereunder, respectively.

Upon any such waiver, such default shall cease to exist and be deemed to have been cured and not to have occurred, and any Event of Default arising therefrom shall be deemed to have been cured, and not to have occurred for every purpose of this Indenture; but no such waiver shall extend to any subsequent or other default or Event of Default or impair any right consequent thereon.

Section 4.11 *Trustee to Give Notice of Default, But May Withhold in Certain Circumstances*. The Trustee shall give to the Securityholders of any series, as the names and addresses of such Holders appear on the registry books, notice by mail of all defaults known to Responsible Officers of the Trustee which have occurred with respect to such series, such notice to be transmitted within 90 days after the occurrence thereof, unless such defaults shall have been cured before the giving of such notice (the term "default" or "defaults" for the purposes of this section being hereby defined to mean any event or condition which is, or with notice or lapse of time or both would become, an Event of Default); provided that, except in the case of default in the payment of the Principal of or interest on any of the Securities of such series, the Trustee shall be protected in withholding such notice if and so long as the board of directors, the executive committee, or a trust committee of directors or trustees and/or Responsible Officers of the Trustee in good faith determines that the withholding of such notice is in the interests of the Securityholders of such series.

Section 4.12 *Right of Court to Require Filing of Undertaking to Pay Costs* All parties to this Indenture agree, and each Holder of any Security by his acceptance thereof shall be deemed to have agreed, that any court may in its discretion require, in any suit for the enforcement of any right or remedy under this Indenture or in any suit against the Trustee for any action taken, suffered or omitted by it as Trustee, the filing by any party litigant in such suit of an undertaking to pay the costs of such suit, and that such court may in its discretion assess reasonable costs, including reasonable attorneys' fees and expenses, against any party litigant in such suit, having due regard to the merits and good faith of the claims or defenses made by such party litigant; *provided* that the provisions of this Section 4.12 shall not apply to (i) any suit instituted by the Trustee, (ii) any suit instituted by any Securityholder or group of Securityholders of any series holding in the aggregate more than 10% in aggregate Principal amount of the Securities of such series or (iii) any suit instituted by a Holder pursuant to Section 4.07.

**ARTICLE 5  
CONCERNING THE TRUSTEE**

Section 5.01 *Duties and Responsibilities of the Trustee*. With respect to the Holders of any series of Securities issued hereunder, the Trustee, prior to the occurrence of an Event of Default with respect to the Securities of a particular series and after the curing or waiving of all Events of Default which may have occurred with respect to such series, undertakes to perform such duties and only such duties as are specifically set forth in this Indenture. In case an Event of Default with respect to the Securities of a series has occurred (which has not been cured or waived) the Trustee shall exercise such of the rights and powers vested in it by this Indenture, and use the same degree of care and skill in their exercise, as a prudent person would exercise or use under the circumstances in the conduct of such person's own affairs.

(a) Prior to the occurrence of an Event of Default with respect to the Securities of any series and after the curing or waiving of all such Events of Default with respect to such series which may have occurred:

(i) the duties and obligations of the Trustee with respect to the Securities of any Series shall be determined solely by the express provisions of this Indenture, and the Trustee shall not be liable except for the performance of such duties and obligations as are specifically set forth in this Indenture, and no implied covenants or obligations shall be read into this Indenture against the Trustee; and

(ii) in the absence of bad faith on the part of the Trustee, the Trustee may conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon any statements, certificates or opinions furnished to the Trustee and conforming to the requirements of this Indenture; but in the case of any such statements, certificates or opinions which by any provision hereof are specifically required to be furnished to the Trustee, the Trustee shall be under a duty to examine the same to determine whether or not they conform to the requirements of this Indenture.

(b) No provision of this Indenture shall be construed to relieve the Trustee from liability for its own negligent action, its own negligent failure to act or its own willful misconduct, except that:

(i) this subsection (b) shall not be construed to limit the effect of subsection (a) of this Section 5.01;

(ii) the Trustee shall not be liable for any error of judgment made in good faith by a Responsible Officer or Responsible Officers of the Trustee, unless it shall be proved that the Trustee was negligent in ascertaining the pertinent facts; and

(iii) the Trustee shall not be liable with respect to any action taken, suffered or omitted to be taken by it in good faith in accordance with the direction of the Holders relating to the time, method and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred upon the Trustee, under this Indenture.

None of the provisions contained in this Indenture shall require the Trustee to expend or risk its own funds or otherwise incur personal financial liability in the performance of any of its duties or in the exercise of any of its rights or powers, if there shall be reasonable ground for believing that the repayment of such funds or adequate indemnity against such liability is not reasonably assured to it.

The provisions of this Section 5.01 are in furtherance of and subject to Sections 315 and 316 of the Trust Indenture Act of 1939.

Whether or not therein expressly provided, every provision of this Indenture relating to the conduct of, affecting the liability of or affording protection to the Trustee shall be subject to the provisions of this Section 5.01.

Section 5.02 *Certain Rights of the Trustee*. In furtherance of and subject to the Trust Indenture Act of 1939, and subject to Section 5.01:

(a) In the absence of bad faith on its part, the Trustee may conclusively rely and shall be protected in acting or refraining from acting upon any resolution, Officers' Certificate or any other certificate, statement, instrument, opinion, report, notice, request, direction, consent, order, bond, debenture, note, coupon, security or other paper or document believed by it to be genuine and to have been signed or presented by the proper party or parties;

(b) any request, direction, order or demand of the Issuer mentioned herein shall be sufficiently evidenced by an Officers' Certificate (unless other evidence in respect thereof be herein specifically prescribed); and any resolution of the Board of Directors may be evidenced to the Trustee by a copy thereof certified by the secretary or an assistant secretary of the Issuer;

(c) the Trustee may consult with counsel of its selection and any advice or Opinion of Counsel shall be full and complete authorization and protection in respect of any action taken, suffered or omitted to be taken by it hereunder in good faith and in accordance with such advice or Opinion of Counsel;

(d) the Trustee shall be under no obligation to exercise any of the trusts or powers vested in it by this Indenture at the request, order or direction of any of the Securityholders pursuant to the provisions of this Indenture, unless such Securityholders shall have offered to the Trustee reasonable security or indemnity against the costs, expenses and liabilities which might be incurred by it in connection with such request, order or direction;

(e) the Trustee shall not be liable for any action taken or omitted by it in good faith and believed by it to be authorized or within the discretion, rights or powers conferred upon it by this Indenture;

(f) prior to the occurrence of an Event of Default hereunder and after the curing or waiving of all Events of Default, the Trustee shall not be bound to make any investigation into the facts or matters stated in any resolution, certificate, statement, instrument, opinion, report, notice, request, consent, order, approval, appraisal, bond, debenture, note, coupon, security, or other paper or document unless requested in writing so to do by the Holders of not less than a majority in aggregate Principal amount of the Securities of all series affected then outstanding; provided that, if the payment within a reasonable time to the Trustee of the costs, expenses or liabilities likely to be incurred by it in the making of such investigation is, in the opinion of the Trustee, not reasonably assured to the Trustee by the security afforded to it by the terms of this Indenture, the Trustee may require indemnity satisfactory to it against such expenses or liabilities as a condition to proceeding, and the reasonable expenses of every such investigation shall be paid by the Issuer or, if paid by the Trustee or any predecessor trustee, shall be repaid by the Issuer upon demand;



(g) the Trustee may execute any of the trusts or powers hereunder or perform any duties hereunder either directly or by or through agents or attorneys not regularly in its employ and the Trustee shall not be responsible for any misconduct or negligence on the part of any such agent or attorney appointed with due care by it hereunder;

(h) the Trustee shall not be liable for any action taken, suffered or omitted in good faith and believed by it to be authorized or within the discretion, rights or powers conferred upon it by this Indenture;

(i) the Trustee shall not be deemed to have notice of any Default or Event of Default unless a Responsible Officer of the Trustee has actual knowledge thereof or unless written notice of any event which is in fact such a default is received by the Trustee at the Corporate Trust Office of the Trustee, and such notice references the Securities and this Indenture;

(j) the rights, privileges, protections, immunities and benefits given to the Trustee, including, without limitation, its right to be indemnified, are extended to, and shall be enforceable by, the Trustee in each of its capacities hereunder, and each agent, custodian and other Person employed to act hereunder; and

(k) the Trustee may request that the Issuer deliver an Officers' Certificate setting forth the names of individuals and/or titles of officers authorized at such time to take specified actions pursuant to this Indenture, which Officers' Certificate may be signed by any person authorized to sign an Officers' Certificate, including any person specified as so authorized in any such certificate previously delivered and not superseded.

Section 5.03 *Trustee Not Responsible for Recitals, Disposition of Securities or Application of Proceeds Thereof.* The recitals contained herein and in the Securities, except the Trustee's certificates of authentication, shall be taken as the statements of the Issuer, and the Trustee assumes no responsibility for the correctness of the same. The Trustee makes no representation as to the validity or sufficiency of this Indenture or the Securities. The Trustee shall not be accountable for the use or application by the Issuer of any of the Securities or of the proceeds thereof.

Section 5.04 *Trustee and Agents May Hold Securities; Collections, etc.* The Trustee or any agent of the Issuer or the Trustee, in its individual or any other capacity, may become the owner or pledgee of Securities with the same rights it would have if it were not the Trustee or such agent and may otherwise deal with the Issuer and receive, collect, hold and retain collections from the Issuer with the same rights it would have if it were not the Trustee or such agent.

Section 5.05 *Monies Held by Trustee*. All monies received by the Trustee in trust hereunder need not be segregated from other funds except to the extent required by mandatory provisions of law. Neither the Trustee nor any agent of the Issuer or the Trustee shall be under any liability for interest on any monies received by it hereunder.

Section 5.06 *Compensation and Indemnification of Trustee and Its Prior Claim*. The Issuer covenants and agrees to pay to the Trustee from time to time, and the Trustee shall be entitled to, such compensation as shall be agreed in writing from time to time by the Issuer and the Trustee (which shall not be limited by any provision of law in regard to the compensation of a trustee of an express trust) and the Issuer covenants and agrees to pay or reimburse the Trustee and each predecessor Trustee upon its request for all reasonable expenses, disbursements and advances incurred or made by or on behalf of it in accordance with any of the provisions of this Indenture (including the reasonable compensation and the expenses and disbursements of its counsel and of all agents and other persons not regularly in its employ) except to the extent any such expense, disbursement or advance may arise from its negligence or bad faith. The Issuer also covenants and agrees to indemnify the Trustee and each predecessor Trustee for, and to hold it harmless against, any loss, liability or expense arising out of or in connection with the acceptance or administration of this Indenture or the trusts hereunder and the performance of its duties hereunder, including the costs and expenses of defending itself against or investigating any claim of liability (whether asserted by the Issuer, a Holder or any other Person) in the premises, except to the extent such loss, liability or expense is due to the negligence or bad faith of the Trustee or such predecessor Trustee. The obligations of the Issuer under this section to compensate and indemnify the Trustee and each predecessor Trustee and to pay or reimburse the Trustee and each predecessor Trustee for expenses, disbursements and advances shall constitute additional indebtedness hereunder and shall survive the satisfaction and discharge of this Indenture or the resignation or removal of the Trustee. Such additional indebtedness shall be a senior claim and lien to that of the Securities upon all property and funds held or collected by the Trustee as such, except funds held in trust for the benefit of the Holders of particular Securities, and the Securities are hereby subordinated to such senior claim. The parties agree that if the Trustee renders services following an Event of Default under Section 4.01(d) or (e), compensation for such services is intended to constitute administrative expense under any bankruptcy law.

Section 5.07 *Right of Trustee to Rely on Officers' Certificate, etc* Subject to Section 5.01 and Section 5.02, whenever in the administration of the trusts of this Indenture the Trustee shall deem it necessary or desirable that a matter be proved or established prior to taking or suffering or omitting any action hereunder, such matter (unless other evidence in respect thereof be herein specifically prescribed) may, in the absence of negligence or bad faith on the part of the Trustee, be deemed to be conclusively proved and established by an Officers' Certificate delivered to the Trustee, and such certificate, in the absence of negligence or bad faith on the part of the Trustee, shall be full warrant to the Trustee for any action taken, suffered or omitted by it under the provisions of this Indenture upon the faith thereof.

Section 5.08 *Persons Eligible for Appointment as Trustee*. The Trustee for each series of Securities hereunder shall at all times be a corporation which is eligible in accordance with the provisions of Section 310(a) of the Trust Indenture Act of 1939 and which has (or which is a Wholly-Owned Subsidiary, directly or indirectly, of a bank holding company which has) a combined capital and surplus of \$50,000,000. If such corporation or holding company publishes reports of condition at least annually, pursuant to law or to the requirements of a Federal, State or District of Columbia supervising or examining authority, then for the purposes of this Section, the combined capital and surplus of such corporation or holding company shall be deemed to be its combined capital and surplus as set forth in its most recent report of condition so published.

Section 5.09 *Resignation and Removal; Appointment of Successor Trustee*. (a) The Trustee, or any trustee or trustees hereafter appointed, may at any time resign with respect to one or more or all series of Securities by giving written notice of resignation to the Issuer. Upon receiving such notice of resignation, the Issuer shall promptly appoint a successor trustee or trustees with respect to the applicable series by written instrument in duplicate, executed by authority of the Board of Directors, one copy of which instrument shall be delivered to the resigning Trustee and one copy to the successor trustee or trustees. If no successor Trustee shall have been so appointed with respect to any series and have accepted appointment within 30 days after the mailing of such notice of resignation, the resigning Trustee may petition, at the expense of the Issuer, any court of competent jurisdiction for the appointment of a successor Trustee, or any Securityholder who has been a bona fide Holder of a Security or Securities of the applicable series for at least six months may, subject to the provisions of Section 4.12, on behalf of himself and all others similarly situated, petition any such court for the appointment of a successor Trustee. Such court may thereupon, after such notice, if any, as it may deem proper and prescribe, appoint a successor Trustee.

(b) In case at any time any of the following shall occur:

(i) the Trustee shall fail to comply with the provisions of Section 310(b) of the Trust Indenture Act of 1939 with respect to any series of Securities after written request therefor by the Issuer or by any Securityholder who has been a bona fide Holder of a Security or Securities of such series for at least six months;

(ii) the Trustee shall cease to be eligible in accordance with the provisions of Section 310(a) of the Trust Indenture Act of 1939 and shall fail to resign after written request therefor by the Issuer or by any Securityholder; or

(iii) the Trustee shall become incapable of acting with respect to any series of Securities, or shall be adjudged a bankrupt or insolvent, or a receiver or liquidator of the Trustee or of its property shall be appointed, or any public officer shall take charge or control of the Trustee or of its property or affairs for the purpose of rehabilitation, conservation or liquidation; then, in any such case, the Issuer may remove the Trustee with respect to the applicable series of Securities and appoint a successor trustee for such series by written instrument, in duplicate, executed by order of the Board of Directors of the Issuer, one copy of which instrument shall be delivered to the Trustee so removed and one copy to the successor Trustee, or, subject to Section 315(e) of the Trust Indenture Act of 1939, any Securityholder who has been a bona fide Holder of a Security or Securities of such series for at least six months may on behalf of himself and all others similarly situated, petition any court of competent jurisdiction for the removal of the Trustee and the appointment of a successor trustee with respect to such series. Such court may thereupon, after such notice, if any, as it may deem proper and prescribe, remove the Trustee and appoint a successor trustee.

(c) The Holders of a majority in aggregate Principal amount of the Securities of each series at the time outstanding may at any time remove the Trustee with respect to Securities of such series and appoint a successor Trustee with respect to the Securities of such series by delivering to the Trustee so removed, to the successor Trustee so appointed and to the Issuer the evidence provided in Section 6.01 of the action in that regard taken by the Securityholders.

(d) Any resignation or removal of the Trustee with respect to any series and any appointment of a successor trustee with respect to such series pursuant to any of the provisions of this Section 5.09 shall become effective upon acceptance of appointment by the successor trustee as provided in Section 5.10.

Section 5.10 *Acceptance of Appointment by Successor*. Any successor Trustee appointed as provided in Section 5.09 shall execute and deliver to the Issuer and to its predecessor Trustee an instrument accepting such appointment hereunder, and thereupon the resignation or removal of the predecessor Trustee with respect to all or any applicable series shall become effective and such successor Trustee, without any further act, deed or conveyance, shall become vested with all rights, powers, duties and obligations with respect to such series of its predecessor hereunder, with like effect as if originally named as Trustee for such series hereunder. On the written request of the Issuer or of the successor Trustee, upon payment of its charges then unpaid, the Trustee ceasing to act shall, subject to Section 5.06, pay over to the successor Trustee all monies at the time held by it hereunder and shall execute and deliver an instrument transferring to such successor Trustee all such rights, powers, duties and obligations. Upon request of any such successor Trustee, the Issuer shall execute any and all instruments in writing for more fully and certainly vesting in and confirming to such successor Trustee all such rights and powers. Any Trustee ceasing to act shall, nevertheless, retain a prior claim upon all property or funds held or collected by such Trustee to secure any amounts then due it pursuant to the provisions of Section 5.06.

If a successor Trustee is appointed with respect to the Securities of one or more (but not all) series, the Issuer, the predecessor Trustee and each successor Trustee with respect to the Securities of any applicable series shall execute and deliver an indenture supplemental hereto which shall contain such provisions as shall be deemed necessary or desirable to confirm that all the rights, powers, trusts and duties of the predecessor Trustee with respect to the Securities of any series as to which the predecessor Trustee is not retiring shall continue to be vested in the predecessor Trustee, and shall add to or change any of the provisions of this Indenture as shall be necessary to provide for or facilitate the administration of the trusts hereunder by more than one Trustee, it being understood that nothing herein or in such supplemental indenture shall constitute such Trustees co-trustees of the same trust and that each such Trustee shall be Trustee of a trust or trusts under separate indentures.

Upon acceptance of appointment by any successor Trustee as provided in this Section 5.10, the Issuer shall mail notice thereof by first-class mail to the Holders of Securities of any series for which such successor Trustee is acting as Trustee at their last addresses as they shall appear in the Security register. If the acceptance of appointment is substantially contemporaneous with the resignation, then the notice called for by the preceding sentence may be combined with the notice called for by Section 5.09. If the Issuer fails to mail such notice within 10 days after acceptance of appointment by the successor Trustee, the successor Trustee shall cause such notice to be mailed at the expense of the Issuer.

Section 5.11 *Merger, Conversion, Consolidation or Succession to Business of Trustee.* Any corporation into which the Trustee may be merged or converted or with which it may be consolidated, or any corporation resulting from any merger, conversion or consolidation to which the Trustee shall be a party, or any corporation succeeding to all or substantially all the corporate trust business of the Trustee, shall be the successor of the Trustee hereunder, provided that such corporation shall be eligible under the provisions of Section 5.08, without the execution or filing of any paper or any further act on the part of any of the parties hereto, anything herein to the contrary notwithstanding.

In case at the time such successor to the Trustee shall succeed to the trusts created by this Indenture any of the Securities of any series shall have been authenticated but not delivered, any such successor to the Trustee may adopt the certificate of authentication of any predecessor Trustee and deliver such Securities so authenticated; and, in case at that time any of the Securities of any series shall not have been authenticated, any successor to the Trustee may authenticate such Securities either in the name of any predecessor hereunder or in the name of the successor Trustee; and in all such cases such certificate shall have the full force which it is anywhere in the Securities of such series or in this Indenture provided that the certificate of the Trustee shall have; provided, that the right to adopt the certificate of authentication of any predecessor Trustee or to authenticate Securities of any series in the name of any predecessor Trustee shall apply only to its successor or successors by merger, conversion or consolidation.

Section 5.12 *Reports to the Trustee.* The Trustee shall transmit to Holders such reports concerning the Trustee and its actions under this Indenture as may be required pursuant to the Trust Indenture Act at the times and in the manner provided pursuant thereto. If required by Section 313(a) of the Trust Indenture Act, the Trustee shall, within sixty days after each May 15 following the date of the initial issuance of Securities under this Indenture deliver to Holders a brief report, dated as of such May 15, which complies with the provisions of such Section 313(a).

A copy of each such report shall, at the time of such transmission to Holders, be filed by the Trustee with each stock exchange, if any, upon which the Securities are listed, with the Commission and with the Issuer. The Issuer will promptly notify the Trustee when the Securities are listed on any stock exchange and of any delisting thereof.

**ARTICLE 6**  
**CONCERNING THE SECURITYHOLDERS**

Section 6.01 *Evidence of Action Taken by Securityholders.* Any request, demand, authorization, direction, notice, consent, waiver or other action provided by this Indenture to be given or taken by a specified percentage in Principal amount of the Securityholders of any or all series may be embodied in and evidenced by one or more instruments of substantially similar tenor signed by such specified percentage of Securityholders in person or by agent duly appointed in writing; and, except as herein otherwise expressly provided, such action shall become effective when such instrument or instruments are delivered to the Trustee. Proof of execution of any instrument or of a writing appointing any such agent shall be sufficient for any purpose of this Indenture and (subject to Section 5.01 and Section 5.02) conclusive in favor of the Trustee and the Issuer, if made in the manner provided in this Article.

Section 6.02 *Proof of Execution of Instruments and of Holding of Securities; Record Date.* Subject to Section 5.01 and Section 5.02, the execution of any instrument by a Securityholder or his agent or proxy may be proved by the certificate of any notary public or other officer authorized to take acknowledgment of deeds, that the Person executing such instrument acknowledged to such notary public or other such officer the execution thereof, or by an affidavit of a witness to such execution sworn to before any such notary public or other officer. Where such execution is by an officer of a corporation or association or a member of a partnership on behalf of such corporation, association or partnership, as the case may be, or by any other Person acting in a representative capacity, such certificate or affidavit shall also constitute sufficient proof of such Person's authority. The holding of Securities shall be proved by the Security register or by a certificate of the registrar thereof. The Issuer may set a record date for purposes of determining the identity of Holders of Securities of any series entitled to vote or consent to any action referred to in Section 6.01, which record date may be set at any time or from time to time by notice to the Trustee, for any date or dates (in the case of any adjournment or reconsideration) not more than 60 days nor less than five days prior to the proposed date of such vote or consent, and thereafter, notwithstanding any other provisions hereof, only Holders of Securities of such series of record on such record date shall be entitled to so vote or give such consent or revoke such vote or consent.

Section 6.03 *Holders to be Treated as Owners.* Prior to due presentment of a Security for registration of transfer, the Issuer, the Trustee and any agent of the Issuer or the Trustee may deem and treat the person in whose name any Security shall be registered upon the Security register for such series as the absolute owner of such Security (whether or not such Security shall be overdue and notwithstanding any notation of ownership or other writing thereon) for the purpose of receiving payment of or on account of the Principal of and, subject to the provisions of this Indenture, interest on such Security and for all other purposes, and neither the Issuer nor the Trustee nor any agent of the Issuer or the Trustee shall be affected by any notice to the contrary. All such payments so made to any such person, or upon his order, shall be valid, and, to the extent of the sum or sums so paid, effectual to satisfy and discharge the liability for monies payable upon any such Security.

Section 6.04 *Securities Owned by Issuer Deemed Not Outstanding.* In determining whether the Holders of the requisite aggregate Principal amount of Outstanding Securities of any or all series have concurred in any direction, consent or waiver under this Indenture, Securities which are owned by the Issuer or any other obligor on the Securities with respect to which such determination is being made or by any person directly or indirectly controlling or controlled by or under direct or indirect common control with the Issuer or any other obligor on the Securities with respect to which such determination is being made shall be disregarded and deemed not to be Outstanding for the purpose of any such determination, except that for the purpose of determining whether the Trustee shall be protected in relying on any such direction, consent or waiver only Securities as to which the Trustee has received written notice are so owned shall be so disregarded. Securities so owned which have been pledged in good faith may be regarded as Outstanding if the pledgee establishes to the satisfaction of the Trustee the pledgee's right so to act with respect to such Securities and that the pledgee is not the Issuer or any other obligor upon the Securities or any person directly or indirectly controlling or controlled by or under direct or indirect common control with the Issuer or any other obligor on the Securities. In case of a dispute as to such right, the advice of counsel shall be full protection in respect of any decision made by the Trustee in accordance with such advice. Upon request of the Trustee, the Issuer shall furnish to the Trustee promptly an Officers' Certificate listing and identifying all Securities, if any, known by the Issuer to be owned or held by or for the account of any of the above-described persons; and, subject to Section 5.01 and Section 5.02, the Trustee shall be entitled to accept such Officers' Certificate as conclusive evidence of the facts therein set forth and of the fact that all Securities not listed therein are Outstanding for the purpose of any such determination.

Section 6.05 *Right of Revocation of Action Taken*. At any time prior to (but not after) the evidencing to the Trustee, as provided in Section 6.01, of the taking of any action by the Holders of the percentage in aggregate Principal amount of the Securities of any or all series, as the case may be, specified in this Indenture in connection with such action, any Holder of a Security the serial number of which is shown by the evidence to be included among the serial numbers of the Securities the Holders of which have consented to such action may, by filing written notice at the Corporate Trust Office and upon proof of holding as provided in this Article, revoke such action so far as concerns such Security. Except as aforesaid any such action taken by the Holder of any Security shall be conclusive and binding upon such Holder and upon all future Holders and owners of such Security and of any Securities issued in exchange or substitution therefor, irrespective of whether or not any notation in regard thereto is made upon any such Security. Any action taken by the Holders of the percentage in aggregate Principal amount of the Securities of any or all series, as the case may be, specified in this Indenture in connection with such action shall be conclusively binding upon the Issuer, the Trustee and the Holders of all the Securities affected by such action.

**ARTICLE 7**  
**SUPPLEMENTAL INDENTURES**

Section 7.01 *Supplemental Indentures Without Consent of Securityholders*. The Issuer, when authorized by a resolution of its Board of Directors certified to the Trustee, and the Trustee may from time to time and at any time enter into an indenture or indentures supplemental hereto for one or more of the following purposes:

(a) to evidence the succession of another corporation to the Issuer, or successive successions, and the assumption by the successor corporation of the covenants, agreements and obligations of the Issuer pursuant to Article 8;

(b) (i) to cure any ambiguity or to correct or supplement any provision contained herein or in any supplemental indenture which may be defective or inconsistent with any other provision contained herein or in any supplemental indenture, (ii) to conform the terms of Securities to the description thereof in the prospectus and prospectus supplement (or similar offering document) offering such Securities or (iii) to make such other provisions in regard to matters or questions arising under this Indenture or under any supplemental indenture as the Board of Directors may deem necessary or desirable and which shall not adversely affect the interests of the Holders of the Securities in any material respect;

(c) to establish the form or terms of Securities of any series as permitted by Section 2.01 and Section 2.03;

(d) to evidence and provide for the acceptance of appointment hereunder by a successor trustee with respect to the Securities of one or more series and to add to or change any of the provisions of this Indenture as shall be necessary to provide for or facilitate the administration of the trusts hereunder by more than one trustee, pursuant to the requirements of Section 5.10;

(e) to comply with any requirements of the Commission in connection with the qualification of this Indenture under the Trust Indenture Act of 1939;

(f) to provide for uncertificated or Unregistered Securities and to make all appropriate changes for such purpose;

(g) to make any change that would not reasonably be expected to adversely affect the rights of any Holder in any material respect;

(h) to add to the covenants of the Issuer such new covenants, restrictions, conditions or provisions as its Board of Directors shall consider to be for the protection of the Holders of Securities, and with respect to which the Trustee has received an Opinion of Counsel to a similar effect, and to make the occurrence, or the occurrence and continuance, of a default in any such additional covenants, restrictions, conditions or provisions an Event of Default; provided, that in respect of any such additional covenant, restriction, condition or provision such supplemental indenture may provide for a particular period of grace after default (which period may be shorter or longer than that allowed in the case of other defaults) or may provide for an immediate enforcement upon such an Event of Default or may limit the remedies available to the Trustee upon such an Event of Default or may limit the right of the Holders of a majority in aggregate Principal amount of the Securities of such series to waive such an Event of Default; or

(i) to make any change so long as no Securities are Outstanding.

The Trustee is hereby authorized to join with the Issuer in the execution of any such supplemental indenture, to make any further appropriate agreements and stipulations which may be therein contained and to accept the conveyance, transfer, assignment, mortgage or pledge of any property thereunder, but the Trustee shall not be obligated to enter into any such supplemental indenture which affects the Trustee's own rights, duties or immunities under this Indenture or otherwise.



Any supplemental indenture authorized by the provisions of this section may be executed without the consent of the Holders of any of the Securities at the time outstanding, notwithstanding any of the provisions of Section 7.02.

Section 7.02 *Supplemental Indentures With Consent of Securityholders*. With the consent (evidenced as provided in Article 6) of the Holders of not less than a majority in aggregate Principal amount of the Securities at the time Outstanding of all series affected by such supplemental indenture (voting as one class), the Issuer, when authorized by a resolution of its Board of Directors, and the Trustee may, from time to time and at any time, enter into an indenture or indentures supplemental hereto for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of this Indenture or of any supplemental indenture or of modifying in any manner the rights of the Holders of the Securities of each such series; provided, that no such supplemental indenture shall without the consent of each Holder affected thereby:

- (i) change the stated maturity of the Principal of, or the time of payment of any installment of interest on, such Holder's Security;
- (ii) reduce the Principal thereof or the rate of interest thereon, or any premium payable with respect thereto;
- (iii) change any place of payment where, or the currency in which, any Security or any premium or the interest thereon is payable;
- (iv) change the provisions for calculating any redemption or repurchase price, including the definitions relating thereto;
- (v) make any change to Section 4.07 or Section 4.10 (except to include other provisions subject to Section 4.10);
- (vi) reduce the percentage in Principal amount of outstanding Securities of the relevant series the consent of whose Holders is required for any such supplemental indenture, for any waiver of compliance with any provisions of this Indenture or any defaults and their consequences provided for in this Indenture;
- (vii) alter or impair the right to convert any Security at the rate and upon the terms provided in Article 12;
- (viii) waive a default in the payment of Principal of or interest on any Security of such Holder (except pursuant to a rescission of acceleration pursuant to Section 4.01);

(ix) adversely affect the rights of such Holder under any mandatory redemption or repurchase provision or any right of redemption or repurchase at the option of such Holder;

(x) modify any of the provisions of this Section 7.02, except to increase any such percentage or to provide that certain other provisions of this Indenture cannot be modified or waived without the consent of the Holder of each outstanding Security affected thereby;

(xi) modify Article 13 of this Indenture or the definition of "Senior Indebtedness" in Article 1 hereof in a manner adverse to Holders of any series of Securities; or

(xii) change or waive any provision that, pursuant to a board resolution or indenture supplemental hereto establishing the terms of one or more series of Securities, is prohibited to be so changed or waived.

Upon the written request of the Issuer, accompanied by a copy of a resolution of the Board of Directors certified by the secretary or an assistant secretary of the Issuer authorizing the execution of any such supplemental indenture, and upon the filing with the Trustee of evidence of the consent of Securityholders as aforesaid and other documents, if any, required by Section 6.01, the Trustee shall join with the Issuer in the execution of such supplemental indenture unless such supplemental indenture affects the Trustee's own rights, duties or immunities under this Indenture or otherwise, in which case the Trustee may in its discretion, but shall not be obligated to, enter into such supplemental indenture.

It shall not be necessary for the consent of the Securityholders under this section to approve the particular form of any proposed supplemental indenture, but it shall be sufficient if such consent shall approve the substance thereof.

Promptly after the execution by the Issuer and the Trustee of any supplemental indenture pursuant to the provisions of this Section, the Issuer shall mail a notice thereof by first class mail to the Holders of Securities of each series affected thereby at their addresses as they shall appear on the registry books of the Issuer, setting forth in general terms the substance of such supplemental indenture. Any failure of the Issuer to mail such notice, or any defect therein, shall not, however, in any way impair or affect the validity of any such supplemental indenture.

*Section 7.03 Effect of Supplemental Indenture.* Upon the execution of any supplemental indenture pursuant to the provisions hereof, this Indenture shall be and be deemed to be modified and amended in accordance therewith and the respective rights, limitations of rights, obligations, duties and immunities under this Indenture of the Trustee, the Issuer and the Holders of Securities of each series affected thereby shall thereafter be determined, exercised and enforced hereunder subject in all respects to such modifications and amendments, and all the terms and conditions of any such supplemental indenture shall be and be deemed to be part of the terms and conditions of this Indenture for any and all purposes.

*Section 7.04 Documents to Be Given to Trustee.* The Trustee, subject to the provisions of Section 5.01 and Section 5.02, may receive an Officers' Certificate and an Opinion of Counsel as conclusive evidence that any supplemental indenture executed pursuant to this Article 7 complies with the applicable provisions of this Indenture.

Section 7.05 *Notation on Securities in Respect of Supplemental Indentures*. Securities of any series authenticated and delivered after the execution of any supplemental indenture pursuant to the provisions of this Article may bear a notation in form approved by the Trustee for such series as to any matter provided for by such supplemental indenture or as to any action taken at any such meeting. If the Issuer or the Trustee shall so determine, new Securities of any series so modified as to conform, in the opinion of the Trustee and the Board of Directors, to any modification of this Indenture contained in any such supplemental indenture may be prepared by the Issuer, authenticated by the Trustee and delivered in exchange for the Securities of such series then outstanding.

## ARTICLE 8 CONSOLIDATION, MERGER, SALE OR CONVEYANCE

Section 8.01 *Issuer May Consolidate, etc., on Certain Terms*. The Issuer covenants that it will not merge or consolidate with any other Person or sell, convey, transfer, lease or otherwise dispose of all or substantially all of its property and assets to any Person (other than a consolidation with or merger with or into or a sale, conveyance, transfer, lease or other disposition to a Wholly-Owned Subsidiary with a positive net worth; *provided* that, in connection with any such merger of the Issuer with a Wholly-Owned Subsidiary, no consideration (other than common stock) in the surviving person or the Issuer shall be issued or distributed to the stockholders of the Issuer), unless (xv) either (x) the Issuer shall be the continuing corporation, or the successor corporation or (y) the Person formed by such consolidation or into which the Issuer is merged or that acquires by sale or conveyance substantially all the assets of the Issuer (if other than the Issuer) shall be a corporation or limited liability company organized and validly existing under the laws of the United States of America or any jurisdiction thereof and shall expressly assume the due and punctual payment of the Principal of and interest on all the Securities, according to their tenor, and the due and punctual performance and observance of all of the covenants and conditions of this Indenture to be performed or observed by the Issuer, by supplemental indenture satisfactory to the Trustee, executed and delivered to the Trustee by such Person, (xvi) immediately after giving effect to such transaction, no default or Event of Default shall have occurred and be continuing and (xvii) the Issuer delivers to the Trustee an Officers' Certificate and Opinion of Counsel, in each case stating that such consolidation, merger or transfer and such supplemental indenture complies with this Section 8.01 and that all conditions precedent provided for herein relating to such transaction have been complied with; *provided*, however, that the foregoing limitations shall not apply if, in the good faith determination of the Board of Directors, whose determination shall be evidenced by a board resolution certified to the Trustee, the principal purpose of such transaction is to change the state of incorporation of the Issuer; and *provided further* that any such transaction shall not have as one of its purposes the evasion of the foregoing limitations.

Section 8.02 *Successor Corporation Substituted*. In case of any such consolidation, merger, sale, conveyance, transfer, lease or other disposition, and following such an assumption by the successor Person, such successor Person shall succeed to and be substituted for the Issuer, with the same effect as if it had been named herein. Such successor Person may cause to be signed, and may issue either in its own name or in the name of the Issuer prior to such succession any or all of the Securities issuable hereunder which theretofore shall not have been signed by the Issuer and delivered to the Trustee; and, upon the order of such successor Person instead of the Issuer and subject to all the terms, conditions and limitations in this Indenture prescribed, the Trustee, pursuant to the terms hereof, shall authenticate and shall deliver any Securities which previously shall have been signed and delivered by the officers of the Issuer to the Trustee for authentication, and any Securities which such successor Person thereafter shall cause to be signed and delivered to the Trustee for that purpose. All of the Securities so issued shall in all respects have the same legal rank and benefit under this Indenture as the Securities theretofore or thereafter issued in accordance with the terms of this Indenture as though all of such Securities had been issued at the date of the execution hereof.

In case of any such consolidation, merger, sale, conveyance, transfer, lease or other disposition, such changes in phraseology and form (but not in substance) may be made in the Securities thereafter to be issued as may be appropriate.

Upon the assumption by the successor Person in the manner described in this Article, the Issuer shall be discharged from all obligations and covenants under this Indenture and the Securities.

#### **ARTICLE 9 DISCHARGE OF INDENTURE**

Section 9.01 *Defeasance Within One Year of Payment*. Except as otherwise provided in this Section 9.01, the Issuer may terminate its obligations under the Securities of any series and this Indenture with respect to Securities of such series if:

(i) all Securities of such series previously authenticated and delivered (other than destroyed, lost or wrongfully taken Securities of such series that have been replaced or Securities of such series for whose payment money or securities have theretofore been held in trust and thereafter repaid to the Issuer, as provided in Section 9.05) have been delivered to the Trustee for cancellation and the Issuer has paid all sums payable by it hereunder; or

(ii) (A) the Securities of such series mature within one year or all of them are to be called for redemption within one year under arrangements satisfactory to the Trustee for giving the notice of redemption, (B) the Issuer irrevocably deposits in trust with the Trustee, as trust funds solely for the benefit of the Holders of such Securities for that purpose, money or U.S. Government Obligations or a combination thereof sufficient (unless such funds consist solely of money, in the opinion of a nationally recognized firm of independent public accountants expressed in a written certification thereof delivered to the Trustee), without consideration of any reinvestment and after payment of all Federal, state and local taxes or other charges and assessments in respect thereof payable by the Trustee, to pay Principal of and interest on the Securities of such series to maturity or redemption, as the case may be, and to pay all other sums payable by it hereunder and (C) the Issuer delivers to the Trustee an Officers' Certificate and an Opinion of Counsel, in each case stating that all conditions precedent provided for herein relating to the satisfaction and discharge of this Indenture with respect to the Securities of such series have been complied with.

With respect to the foregoing clause (i), only the Issuer's obligations under Sections 5.06 and 9.05 in respect of the Securities of such series shall survive. With respect to the foregoing clause (ii), only the Issuer's obligations in Sections 2.03 through 2.11, 3.02, 5.06, 5.09 and 9.05 in respect of the Securities of such series shall survive until such Securities of such series are no longer outstanding. Thereafter, only the Issuer's obligations in Sections 5.06 and 9.05 in respect of the Securities of such series shall survive. After any such irrevocable deposit, the Trustee shall acknowledge in writing the discharge of the Issuer's obligations under the Securities of such series and this Indenture with respect to the Securities of such series except for those surviving obligations specified above.

Section 9.02 *Defeasance*. Except as provided below, the Issuer will be deemed to have paid and will be discharged from any and all obligations in respect of the Securities of any series and the provisions of this Indenture will no longer be in effect with respect to the Securities of such series (and the Trustee, at the expense of the Issuer, shall execute instruments in form and substance satisfactory to the Issuer and the Trustee acknowledging the same) if the following conditions shall have been satisfied:

(i) the Issuer has irrevocably deposited in trust with the Trustee as trust funds specifically pledged as security for, and dedicated solely to, Holders of the Securities of such series, for payment of the Principal of and interest on the Securities of such series, money or U.S. Government Obligations or a combination thereof sufficient (unless such funds consist solely of money, in the opinion of a nationally recognized firm of independent public accountants expressed in a written certification thereof delivered to the Trustee) without consideration of any reinvestment and after payment of all federal, state and local taxes or other charges and assessments in respect thereof payable by the Trustee, to pay and discharge the Principal of and accrued interest on the outstanding Securities of such series to maturity or earlier redemption (irrevocably provided for under arrangements satisfactory to the Trustee), as the case may be;

(ii) such deposit will not result in a breach or violation of, or constitute a default under, this Indenture or any other material agreement or instrument to which the Issuer is a party or by which it is bound;

(iii) no default or Event of Default with respect to the Securities of such series shall have occurred and be continuing on the date of such deposit;

(iv) the Issuer shall have delivered to the Trustee (1) either (x) a ruling directed to the Trustee received from the Internal Revenue Service to the effect that the Holders of the Securities of such series will not recognize income, gain or loss for Federal income tax purposes as a result of the Issuer's exercise of its option under this Section 9.02 and will be subject to federal income tax on the same amount and in the same manner and at the same times as would have been the case if such deposit and defeasance had not occurred or (y) an Opinion of Counsel to the same effect as the ruling described in clause (x) above and based upon a change in law and (2) an Opinion of Counsel to the effect that the Holders of the Securities of such series have a valid security interest in the trust funds subject to no prior liens under the UCC; and

(v) the Issuer has delivered to the Trustee an Officers' Certificate and an Opinion of Counsel, in each case stating that all conditions precedent provided for herein relating to the defeasance contemplated by this Section 9.02 of the Securities of such series have been complied with.

The Issuer's obligations in Sections 2.03 through 2.11, 3.02, 5.06, 5.09 and 9.05 with respect to the Securities of such series shall survive until such Securities are no longer outstanding. Thereafter, only the Issuer's obligations in Sections 5.06 and 9.05 shall survive.

Section 9.03 *Covenant Defeasance*. The Issuer may omit to comply with any term, provision or condition set forth in Sections 3.04, 3.06 or 3.08 (or any other specific covenant relating to the Securities of any series provided for in a Board Resolution or supplemental indenture pursuant to Section 2.03 which may by its terms be defeased pursuant to this Section 9.03), and such omission shall be deemed not to be an Event of Default under clause (c) of Section 4.01, with respect to the outstanding Securities of such series if:

(i) the Issuer has irrevocably deposited in trust with the Trustee as trust funds solely for the benefit of the Holders of the Securities of such series, for payment of the Principal of and interest, if any, on the Securities of such series, money or U.S. Government Obligations or a combination thereof in an amount sufficient (unless such funds consist solely of money, in the opinion of a nationally recognized firm of independent public accountants expressed in a written certification thereof delivered to the Trustee) without consideration of any reinvestment and after payment of all Federal, state and local taxes or other charges and assessments in respect thereof payable by the Trustee, to pay and discharge the Principal of and interest on the outstanding Securities of such series to maturity or earlier redemption (irrevocably provided for under arrangements satisfactory to the Trustee), as the case may be;

(ii) such deposit will not result in a breach or violation of, or constitute a default under, this Indenture or any other material agreement or instrument to which the Issuer is a party or by which it is bound;

(iii) no default or Event of Default with respect to the Securities of such series shall have occurred and be continuing on the date of such deposit;

(iv) the Issuer has delivered to the Trustee an Opinion of Counsel to the effect that (A) the Holders of the Securities of such series have a valid security interest in the trust funds subject to no prior liens under the UCC and (B) such Holders will not recognize income, gain or loss for Federal income tax purposes as a result of such deposit and covenant defeasance and will be subject to federal income tax on the same amount and in the same manner and at the same times as would have been the case if such deposit and defeasance had not occurred; and

(v) the Issuer has delivered to the Trustee an Officers' Certificate and an Opinion of Counsel, in each case stating that all conditions precedent provided for herein relating to the covenant defeasance contemplated by this Section 9.03 of the Securities of such series have been complied with.

Section 9.04 *Application of Trust Money*. Subject to Section 9.05, the Trustee or Paying Agent shall hold in trust money or U.S. Government Obligations deposited with it pursuant to 9.01, 9.02, 9.03, as the case may be, in respect of the Securities of any series and shall apply the deposited money and the proceeds from deposited U.S. Government Obligations in accordance with the Securities of such series and this Indenture to the payment of Principal of and interest on the Securities of such series; provided that such money need not be segregated from other funds except to the extent required by law. The Issuer shall pay and indemnify the Trustee against any tax, fee or other charge imposed on or assessed against the U.S. Government Obligations deposited pursuant to 9.01, 9.02, 9.03, as the case may be, or the Principal and interest received in respect thereof, other than any such tax, fee or other charge that by law is for the account of the Holders.

Section 9.05 *Repayment to Issuer*. Subject to Sections 5.06 and 9.01, the Trustee and the Paying Agent shall promptly pay to the Issuer upon request set forth in an Officers' Certificate any money held by them at any time and not required to make payments hereunder and thereupon shall be relieved from all liability with respect to such money. Subject to applicable escheat or abandoned property laws, the Trustee and the Paying Agent shall pay to the Issuer upon written request any money held by them and required to make payments hereunder under this Indenture that remains unclaimed for two years; *provided* that the Trustee or such Paying Agent before being required to make any payment shall cause to be published at the expense of the Issuer once in an Authorized Newspaper or mail to each Holder entitled to such money at such Holder's address (as set forth in the register) notice that such money remains unclaimed and that after a date specified therein (which shall be at least 30 days from the date of such publication or mailing) any unclaimed balance of such money then remaining will be repaid to the Issuer. After payment to the Issuer, Holders entitled to such money must look to the Issuer for payment as unsecured general creditors unless an abandoned property law designates another Person, and all liability of the Trustee and such Paying Agent with respect to such money shall cease.

#### **ARTICLE 10 MISCELLANEOUS PROVISIONS**

Section 10.01 *Incorporators, Stockholders, Officers and Directors Exempt from Individual Liability*. No recourse under or upon any obligation, covenant or agreement contained in this Indenture or in any Security, or because of any indebtedness evidenced thereby, shall be had against any incorporator, as such, or against any past, present or future stockholder, officer, director or employee, as such, of the Issuer or of any successor Person thereof, either directly or through the Issuer or any successor Person thereof, under any rule of law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise, all such liability being expressly waived and released by the acceptance of the Securities by the Holders thereof and as part of the consideration for the issue of the Securities.

Section 10.02 *Provisions of Indenture for the Sole Benefit of Parties and Securityholders*. Nothing in this Indenture or in the Securities, expressed or implied, shall give or be construed to give to any person, firm or corporation, other than the parties hereto and their successors and the Holders of the Securities, any legal or equitable right, remedy or claim under this Indenture or under any covenant or provision herein contained, all such covenants and provisions being for the sole benefit of the parties hereto and their successors and of the Holders of the Securities.

Section 10.03 *Successors and Assigns of Issuer Bound by Indenture*. All the covenants, stipulations, promises and agreements contained in this Indenture by or on behalf of the Issuer shall bind its successors and assigns, whether so expressed or not.

Section 10.04 *Notices and Demands on Issuer, Trustee and Securityholders*. Any notice or demand which by any provision of this Indenture is required or permitted to be given or served by the Trustee or by the Holders of Securities to or on the Issuer may be given or served by being deposited postage prepaid, first-class mail (except as otherwise specifically provided herein) addressed (until another address of the Issuer is filed by the Issuer with the Trustee) to Corbus Pharmaceuticals Holdings, Inc. at 100 River Ridge Drive, Norwood MA, 02062, Attention: Chief Financial Officer. Any notice, direction, request or demand by the Issuer or any Securityholder to or upon the Trustee shall be deemed to have been sufficiently given or made, for all purposes, if given or made at the Corporate Trust Office.

Where this Indenture provides for notice to Holders, such notice shall be sufficiently given (unless otherwise herein expressly provided) if in writing and mailed, first-class postage prepaid, to each Holder entitled thereto, at such Holder's last address as it appears in the Security register. In any case where notice to Holders is given by mail, neither the failure to mail such notice, nor any defect in any notice so mailed, to any particular Holder shall affect the sufficiency of such notice with respect to other Holders. Where this Indenture provides for notice in any manner, such notice may be waived in writing by the person entitled to receive such notice, either before or after the event, and such waiver shall be the equivalent of such notice. Waivers of notice by Holders shall be filed with the Trustee, but such filing shall not be a condition precedent to the validity of any action taken in reliance upon such waiver.

In case, by reason of the suspension of or irregularities in regular mail service, it shall be impracticable to mail notice to the Issuer and Securityholders when such notice is required to be given pursuant to any provision of this Indenture, then any manner of giving such notice as shall be satisfactory to the Trustee shall be deemed to be a sufficient giving of such notice.

Section 10.05 *Officers' Certificates and Opinions of Counsel; Statements to be Contained Therein*. Upon any application or demand by the Issuer to the Trustee to take any action under any of the provisions of this Indenture, the Issuer shall furnish to the Trustee an Officers' Certificate stating that all conditions precedent provided for in this Indenture relating to the proposed action have been complied with and an Opinion of Counsel stating that in the opinion of such counsel all such conditions precedent have been complied with, except that in the case of any such application or demand as to which the furnishing of such documents is specifically required by any provision of this Indenture relating to such particular application or demand, no additional certificate or opinion need be furnished.

Each certificate or opinion provided for in this Indenture and delivered to the Trustee with respect to compliance with a condition or covenant provided for in this Indenture shall include (a) a statement that the person making such certificate or opinion has read such covenant or condition, (b) a brief statement as to the nature and scope of the examination or investigation upon which the statements or opinions contained in such certificate or opinion are based, (c) a statement that, in the opinion of such person, he has made such examination or investigation as is necessary to enable him to express an informed opinion as to whether or not such covenant or condition has been complied with and (d) a statement as to whether or not, in the opinion of such person, such condition or covenant has been complied with.



Any certificate, statement or opinion of an officer of the Issuer may be based, insofar as it relates to legal matters, upon a certificate or opinion of or representations by counsel, unless such officer knows that the certificate or opinion or representations with respect to the matters upon which his certificate, statement or opinion may be based as aforesaid are erroneous, or in the exercise of reasonable care should know that the same are erroneous. Any certificate, statement or opinion of counsel may be based, insofar as it relates to factual matters, information with respect to which is in the possession of the Issuer, upon the certificate, statement or opinion of or representations by an officer or officers of the Issuer, unless such counsel knows that the certificate, statement or opinion or representations with respect to the matters upon which his certificate, statement or opinion may be based as aforesaid are erroneous, or in the exercise of reasonable care should know that the same are erroneous.

Any certificate, statement or opinion of an officer of the Issuer or of counsel may be based, insofar as it relates to accounting matters, upon a certificate or opinion of or representations by an accountant or firm of accountants in the employ of the Issuer, unless such officer or counsel, as the case may be, knows that the certificate or opinion or representations with respect to the accounting matters upon which his certificate, statement or opinion may be based as aforesaid are erroneous, or in the exercise of reasonable care should know that the same are erroneous.

Any certificate or opinion of any independent firm of public accountants filed with the Trustee shall contain a statement that such firm is independent.

Section 10.06 *Payments Due on Saturdays, Sundays and Holidays*. If the date of maturity of interest on or Principal of the Securities of any series or the date fixed for redemption or repayment of any such Security shall not be a Business Day, then payment of interest or Principal need not be made on such date, but may be made on the next succeeding Business Day with the same force and effect as if made on the date of maturity or the date fixed for redemption, and no interest shall accrue for the period after such date.

Section 10.07 *Conflict of Any Provision of Indenture with Trust Indenture Act of 1939*. If and to the extent that any provision of this Indenture limits, qualifies or conflicts with another provision incorporated in this Indenture by operation of Sections 310 to 317, inclusive, of the Trust Indenture Act of 1939, such incorporated provision shall control.

Section 10.08 *New York Law to Govern*. This Indenture and each Security shall be deemed to be a contract under the laws of the State of New York, and for all purposes shall be construed in accordance with the laws of such State.

Section 10.09 *Counterparts*. This Indenture may be executed in any number of counterparts, each of which shall be an original; but such counterparts shall together constitute but one and the same instrument.

Section 10.10 *Effect of Headings*. The Article and Section headings herein and the Table of Contents are for convenience only and shall not affect the construction hereof.

**ARTICLE 11**  
**REDEMPTION OF SECURITIES**

Section 11.01 *Applicability of Article*. The provisions of this Article shall be applicable to the Securities of any series which are redeemable before their maturity except as otherwise specified as contemplated by Section 2.03 for Securities of such series.

Section 11.02 *Notice of Redemption; Partial Redemptions*. Notice of redemption to the Holders of Securities of any series to be redeemed as a whole or in part at the option of the Issuer shall be given by mailing notice of such redemption by first class mail, postage prepaid, at least 30 days and not more than 60 days prior to the date fixed for redemption to such Holders of Securities of such series at their last addresses as they shall appear upon the registry books. Any notice which is mailed in the manner herein provided shall be conclusively presumed to have been duly given, whether or not the Holder receives the notice. Failure to give notice by mail, or any defect in the notice to the Holder of any Security of a series designated for redemption as a whole or in part shall not affect the validity of the proceedings for the redemption of any other Security of such series.

The notice of redemption to each such Holder shall specify the CUSIP numbers of such Securities to be redeemed, the Principal amount of each Security of such series held by such Holder to be redeemed, the date fixed for redemption, the redemption price, the place or places of payment, that payment will be made upon presentation and surrender of such Securities, that interest accrued to the date fixed for redemption will be paid as specified in such notice and that on and after said date interest thereon or on the portions thereof to be redeemed will cease to accrue. In case any Security of a series is to be redeemed in part only the notice of redemption shall state the portion of the Principal amount thereof to be redeemed, the method the Trustee shall use to determine such Securities to be redeemed as specified in the last paragraph of this Section 11.02, if applicable, and shall state that on and after the date fixed for redemption, upon surrender of such Security, a new Security or Securities of such series in Principal amount equal to the unredeemed portion thereof will be issued.

The notice of redemption of Securities of any series to be redeemed at the option of the Issuer shall be given by the Issuer or, at the Issuer's written request, by the Trustee in the name and at the expense of the Issuer.

By 11:00 a.m. (New York City time) on the redemption date specified in the notice of redemption given as provided in this Section, the Issuer will deposit with the Trustee or with one or more paying agents (or, if the Issuer is acting as its own paying agent, set aside, segregate and hold in trust as provided in Section 3.03) an amount of money sufficient to redeem on the redemption date all the Securities of such series so called for redemption at the appropriate redemption price, together with accrued interest to the date fixed for redemption. If less than all the outstanding Securities of a series are to be redeemed, the Issuer will deliver to the Trustee at least 70 days (unless a shorter period shall be satisfactory to the Trustee) prior to the date fixed for redemption an Officers' Certificate stating the aggregate Principal amount of Securities to be redeemed.

In the case of the redemption of all of the Securities of a series outstanding, the Issuer shall notify the Trustee in writing of the redemption date 45 days (unless a shorter period shall be satisfactory to the Trustee) prior to the redemption date.

If less than all the Securities of a series are to be redeemed, the Trustee shall select, pro rata or by lot or in such manner as it shall deem appropriate and fair, Securities of such series to be redeemed in whole or in part. Securities of a series may be redeemed in part in multiples equal to the minimum authorized denomination for Securities of such series or any multiple thereof. The Trustee shall promptly notify the Issuer in writing of the Securities of such series selected for redemption and, in the case of any Securities of such series selected for partial redemption, the Principal amount thereof to be redeemed. For all purposes of this Indenture, unless the context otherwise requires, all provisions relating to the redemption of Securities of any series shall relate, in the case of any Security redeemed or to be redeemed only in part, to the portion of the Principal amount of such Security which has been or is to be redeemed.

Section 11.03 *Payment of Securities Called for Redemption.* If notice of redemption has been given as above provided, the Securities or portions of Securities specified in such notice shall become due and payable on the date and at the place stated in such notice at the applicable redemption price, together with interest accrued to the date fixed for redemption, and on and after said date (unless the Issuer shall default in the payment of such Securities at the redemption price, together with interest accrued to said date) interest on the Securities or portions of Securities so called for redemption shall cease to accrue and, except as provided in Section 5.05 and Section 9.04, such Securities shall cease from and after the date fixed for redemption to be entitled to any benefit or security under this Indenture, and the Holders thereof shall have no right in respect of such Securities except the right to receive the redemption price thereof and unpaid interest to the date fixed for redemption. On presentation and surrender of such Securities at a place of payment specified in said notice, said Securities or the specified portions thereof shall be paid and redeemed by the Issuer at the applicable redemption price, together with interest accrued thereon to the date fixed for redemption; provided that any semiannual payment of interest becoming due on the date fixed for redemption shall be payable to the Holders of such Securities registered as such on the relevant record date subject to the terms and provisions of Section 2.07 hereof.

If any Security called for redemption shall not be so paid upon surrender thereof for redemption, the Principal shall, until paid or duly provided for, bear interest from the date fixed for redemption at the rate of interest or Yield to Maturity (in the case of an Original Issue Discount Security) borne by the Security.

Upon presentation of any Security redeemed in part only, the Issuer shall execute and the Trustee shall authenticate and deliver to or on the order of the Holder thereof, at the expense of the Issuer, a new Security or Securities of such series, of authorized denominations, in Principal amount equal to the unredeemed portion of the Security so presented, pursuant to Sections 2.04, 2.05 and 2.06.

Section 11.04 *Exclusion of Certain Securities from Eligibility for Selection for Redemption.* Securities shall be excluded from eligibility for selection for redemption if they are identified by registration and certificate number in a written statement signed by an authorized officer of the Issuer and delivered to the Trustee at least 40 days prior to the last date on which notice of redemption may be given as being owned of record and beneficially by, and not pledged or hypothecated by either (a) the Issuer or (b) an entity specifically identified in such written statement directly or indirectly controlling or controlled by or under direct or indirect common control with the Issuer.

Section 11.05 *Conversion Arrangement On Call For Redemption*. In connection with any redemption of Securities, the Issuer shall deposit the amount due in connection with such redemption as required by Section 11.02 or it may arrange for the purchase and conversion of any Securities called for redemption by an agreement with one or more investment bankers or other purchasers to purchase such Securities and to make the deposit required of it by Section 11.02 on its behalf by paying to the Trustee or the Paying Agent in trust for the Securityholders, on or before 10:00 a.m. New York time on the redemption date, an amount no less than the redemption price, together with interest, if any, accrued to the redemption date of such Securities, in immediately available funds. Notwithstanding anything to the contrary contained in this Article 11, the obligation of the Issuer to pay the redemption price of such Securities, including all accrued interest, if any, shall be deemed to be satisfied and discharged to the extent such amount is so paid by such purchasers. If such an agreement is entered into, any Securities not duly surrendered for conversion by the Holders thereof may, at the option of the Issuer, be deemed, to the fullest extent permitted by law, acquired by such purchasers from such Holders and (notwithstanding anything to the contrary contained in Article 12) surrendered by such purchasers for conversion, all as of immediately prior to the close of business on the last day on which Securities of such series called for redemption may be converted in accordance with this Indenture and the terms of such Securities, subject to payment of the above amount aforesaid. The Trustee or the Paying Agent shall hold and pay to the Securityholders whose Securities are selected for redemption any such amount paid to it in the same manner as it would monies deposited with it by the Issuer for the redemption of Securities. Without the Trustee's and the Paying Agent's prior written consent, no arrangement between the Issuer and such purchasers for the purchase and conversion of any Securities shall increase or otherwise affect any of the powers, duties, responsibilities or obligations of the Trustee as set forth in this Indenture, and the Issuer agrees to indemnify the Trustee from, and hold it harmless against, any loss, liability or expense arising out of or in connection with any such arrangement for the purchase and conversion of any Securities between the Issuer and such purchasers, including the costs and expenses incurred by the Trustee and the Paying Agent in the defense of any claim or liability arising out of or in connection with the exercise or performance of any of its powers, duties, responsibilities or obligations under this Indenture.

## **ARTICLE 12 CONVERSION OF SECURITIES**

Section 12.01 *Applicability of Article*. Securities of any series which are convertible into Capital Stock at the option of the Securityholder shall be convertible in accordance with their terms and (unless otherwise specified as contemplated by Section 2.03 for Securities of any series) in accordance with this Article. Each reference in this Article 12 to "a Security" or "the Securities" refers to the Securities of the particular series that is convertible into Capital Stock. Each reference in this Article to "Capital Stock" into which Securities of any series are convertible refers to the class of Capital Stock into which the Securities of such series are convertible in accordance with their terms (as specified as contemplated by Section 2.03). If more than one series of Securities with conversion privileges are outstanding at any time, the provisions of this Article 12 shall be applied separately to each such series.

Section 12.02 *Right of Securityholders to Convert Securities*. Subject to and upon compliance with the terms of the Securities and the provisions of Section 11.05 and this Article 12, at the option of the Holder thereof, any Security of any series of any authorized denomination, or any portion of the Principal amount thereof which is \$1,000 or any integral multiple of \$1,000, may, at any time during the period specified in the Securities of such series, or in case such Security or portion thereof shall have been called for redemption, then in respect of such Security or portion thereof until and including, but not after (unless the Issuer shall default in payment due upon the redemption thereof) the close of business on the Business Day prior to the date fixed for redemption except that in the case of redemption at the option of the Securityholder, if specified in the terms of such Securities, such right shall terminate upon receipt of written notice of the exercise of such option, be converted into duly authorized, validly issued, fully paid and nonassessable shares of Capital Stock, as specified in such Security, at the conversion rate for each \$1,000 Principal amount of Securities (such initial conversion rate reflecting an initial conversion price specified in such Security) in effect on the conversion date, or, in case an adjustment in the conversion rate has taken place pursuant to the provisions of Section 12.05, then at the applicable conversion rate as so adjusted, upon surrender of the Security or Securities, the Principal amount of which is so to be converted, to the Issuer at any time during usual business hours at the office or agency to be maintained by it in accordance with the provisions of Section 3.02, accompanied by a written notice of election to convert as provided in Section 12.03 and, if so required by the Issuer and the Trustee, by a written instrument or instruments of transfer in form satisfactory to the Issuer and the Trustee duly executed by the registered Holder or his attorney duly authorized in writing. All Securities surrendered for conversion shall, if surrendered to the Issuer or any conversion agent, be delivered to the Trustee for cancellation and cancelled by it, or shall, if surrendered to the Trustee, be cancelled by it, as provided in Section 2.10.

The initial conversion price or conversion rate in respect of a series of Securities shall be as specified in the Securities of such series. The conversion price or conversion rate will be subject to adjustment on the terms set forth in Section 12.05 or such other or different terms, if any, as may be specified by Section 2.03 for Securities of such series. Provisions of this Indenture that apply to conversion of all of a Security also apply to conversion of a portion of it.

Section 12.03 *Issuance of Shares of Capital Stock on Conversion* As promptly as practicable after the surrender, as herein provided, of any Security or Securities for conversion, the Issuer shall deliver or cause to be delivered at its said office or agency to or upon the written order of the Holder of the Security or Securities so surrendered a certificate or certificates representing the number of duly authorized, validly issued, fully paid and nonassessable shares of Capital Stock into which such Security or Securities may be converted in accordance with the terms thereof and the provisions of this Article 12. Prior to delivery of such certificate or certificates, the Issuer shall require a written notice at its said office or agency from the Holder of the Security or Securities so surrendered stating that the Holder irrevocably elects to convert such Security or Securities, or, if less than the entire Principal amount thereof is to be converted, stating the portion thereof to be converted. Such notice shall also state the name or names (with address and social security or other taxpayer identification number) in which said certificate or certificates are to be issued. Such conversion shall be deemed to have been made at the time that such Security or Securities shall have been surrendered for conversion and such notice shall have been received by the Issuer or the Trustee, the rights of the Holder of such Security or Securities as a Securityholder shall cease at such time, the person or persons entitled to receive the shares of Capital Stock upon conversion of such Security or Securities shall be treated for all purposes as having become the record holder or holders of such shares of Capital Stock at such time and such conversion shall be at the conversion rate in effect at such time. In the case of any Security of any series which is converted in part only, upon such conversion, the Issuer shall execute and the Trustee shall authenticate and deliver to the Holder thereof, as requested by such Holder, a new Security or Securities of such series of authorized denominations in aggregate Principal amount equal to the unconverted portion of such Security.

If the last day on which a Security may be converted is not a Business Day in a place where a conversion agent is located, the Security may be surrendered to that conversion agent on the next succeeding day that is a Business Day.

The Issuer will not be required to deliver certificates for shares of Capital Stock upon conversion while its stock transfer books are closed for a meeting of shareholders or for the payment of dividends or for any other purpose, but certificates for shares of Capital Stock shall be delivered as soon as the stock transfer books shall again be opened.

Section 12.04 *No Payment or Adjustment for Interest or Dividends.* Unless otherwise specified as contemplated by Section 2.03 for Securities of such series, Securities surrendered for conversion during the period from the close of business on any regular record date (or special record date for payment of defaulted interest) next preceding any interest payment date to the opening of business on such interest payment date (except Securities called for redemption on a redemption date within such period) when surrendered for conversion must be accompanied by payment of an amount equal to the interest thereon which the registered Holder is to receive on such interest payment date. Payment of interest shall be made, as of such interest payment date or such date, as the case may be, to the Holder of record of the Securities as of such regular, or special record date, as applicable. Except where Securities surrendered for conversion must be accompanied by payment as described above, no interest on converted Securities will be payable by the Issuer on any interest payment date subsequent to the date of conversion. No other payment or adjustment for interest or dividends is to be made upon conversion. Notwithstanding the foregoing, upon conversion of any Original Issue Discount Security, the fixed number of shares of Capital Stock into which such Security is convertible delivered by the Issuer to the Holder thereof shall be applied, first, to pay the accrued original issue discount attributable to the period from the date of issuance to the date of conversion of such Security, and, second, to pay the balance of the Principal amount of such Security.

Section 12.05 *Adjustment of Conversion Rate.* Unless otherwise specified as contemplated by Section 2.03 for Securities of such series, the conversion rate for Securities in effect at any time shall be subject to adjustment as follows:

(a) In case the Issuer shall (i) declare a dividend or make a distribution on the class of Capital Stock into which Securities of such series are convertible in shares of its Capital Stock, (ii) subdivide the outstanding shares of the class of Capital Stock into which Securities of such series are convertible into a greater number of shares, (iii) combine the outstanding shares of the class of Capital Stock into which Securities of such series are convertible into a smaller number of shares or (iv) issue by reclassification of the shares of the class of Capital Stock into which Securities of such series are convertible (including any such reclassification in connection with a consolidation or merger in which the Issuer is the continuing corporation) any shares, the conversion rate for the Securities of such series in effect at the time of the record subdivision, combination or reclassification, shall be proportionately adjusted so that the Holder of any Security of such series surrendered for conversion after such time shall be entitled to receive the number and kind of shares which he would have owned or have been entitled to receive had such Security been converted immediately prior to such time. Similar adjustments shall be made whenever any event listed above shall occur.

(b) In case the Issuer shall fix a record date for the issuance of rights or warrants to all holders of the class of Capital Stock into which Securities of such series are convertible entitling them (for a period expiring within 45 days after such record date) to subscribe for or purchase shares of such class of Capital Stock (or securities convertible into shares of such class of Capital Stock) at a price per share (or, in the case of a right or warrant to purchase securities convertible into such class of Capital Stock, having a conversion price per share, after adding thereto the exercise price, computed on the basis of the maximum number of shares of such class of Capital Stock issuable upon conversion of such convertible securities, per share of such class of Capital Stock, so issuable) less than the current market price per share of such class of Capital Stock (as defined in subsection (e) below) on the date on which such issuance was declared or otherwise announced by the Issuer (the "**Determination Date**"), the number of shares of such class of Capital Stock into which each \$1,000 Principal amount of Securities shall be convertible after such record date shall be determined by multiplying the number of shares of such class of Capital Stock into which such Principal amount of Securities was convertible immediately prior to such record date by a fraction, of which the numerator shall be the number of shares of such class of Capital Stock outstanding on the Determination Date plus the number of additional shares of such class of Capital Stock offered for subscription or purchase (or in the case of a right or warrant to purchase securities convertible into such class of Capital Stock, the aggregate number of additional shares of such class of Capital Stock into which the convertible securities so offered are initially convertible), and of which the denominator shall be the number of shares of such class of Capital Stock outstanding on the Determination Date plus the number of shares of such class of Capital Stock obtained by dividing the aggregate offering price of the total number of shares so offered (or, in the case of a right or warrant to purchase securities convertible into such class of Capital Stock, the aggregate initial conversion price of the convertible securities so offered, after adding thereto the aggregate exercise price of such rights or warrants computed on the basis of the maximum number of shares of such class of Capital Stock issuable upon conversion of such convertible securities) by such current market price. Shares of such class of Capital Stock of the Issuer owned by or held for the account of the Issuer shall not be deemed outstanding for the purpose of any such computation. Such adjustment shall be made successively whenever such a record date is fixed; and to the extent that shares of such class of Capital Stock are not delivered (or securities convertible into shares of such class of Capital Stock are not delivered) after the expiration of such rights or warrants (or, in the case of rights or warrants to purchase securities convertible into such class of Capital Stock once exercised, the expiration of the conversion right of such securities) the conversion rate shall be readjusted to the conversion rate which would then be in effect had the adjustments made upon the issuance of such rights or warrants (or securities convertible into shares) been made upon the basis of delivery of only the number of shares actually delivered. In the event that such rights or warrants are not so issued, the conversion rate shall again be adjusted to be the conversion rate which would then be in effect if such record date had not been fixed.

(c) In case the Issuer shall fix a record date for the making of a distribution to all holders of the class of Capital Stock into which Securities of such series are convertible (including any such distribution made in connection with a consolidation or merger in which the Issuer is the continuing corporation) of evidences of its indebtedness or assets (excluding any cash dividends paid from retained earnings and dividends payable in Capital Stock for which adjustment is made pursuant to subsection (a) above or (d) below) or subscription rights or warrants (excluding subscription rights or warrants to purchase the class of Capital Stock into which Securities of such series are convertible), the number of shares of such class of Capital Stock into which each \$1,000 Principal amount of Securities of such series shall be convertible after such record date shall be determined by multiplying the number of shares of such class of Capital Stock into which such Principal amount of Securities was convertible immediately prior to such record date by a fraction, of which the numerator shall be the fair market value of the assets of the Issuer, after deducting therefrom all liabilities of the Issuer and all preferences (including accrued but unpaid dividends) in respect of classes of Capital Stock having a preference with respect to the assets of the Issuer over such class of Capital Stock (all as determined by the Board of Directors, whose determination shall be conclusive, and described in a certificate signed by chairman of the Issuer's Board of Directors, its president, any vice president, its treasurer, any assistant treasurer, its secretary or any assistant secretary, filed with the Trustee and each conversion agent) on such record date, and of which the denominator shall be such fair market value after deducting therefrom such liabilities and preferences, less the fair market value (as determined by the Board of Directors, whose determination shall be conclusive, and described in a statement filed with the Trustee and each conversion agent) of the assets or evidences of indebtedness, so distributed or of such subscription rights or warrants applicable, so distributed. Such adjustment shall be made successively whenever such a record date is fixed; and in the event that such distribution is not so made, the conversion rate shall again be adjusted to the conversion rate which would then be in effect if such record date had not been fixed.

(d) In case the Issuer shall, by dividend or otherwise, distribute to all holders of its Capital Stock cash (excluding any dividend or distribution in connection with the liquidation, dissolution or winding up of the Issuer, whether voluntary or involuntary), then, in such case, unless the Issuer elects to reserve such cash for distribution to the Holders of the Securities upon the conversion of the Securities so that any such Holder converting Securities will receive upon such conversion, in addition to the shares of Capital Stock to which such Holder is entitled, the amount of cash which such Holder would have received if such Holder had, immediately prior to the record date for such distribution of cash, converted its Securities into Capital Stock, the conversion rate shall be adjusted so that the same shall equal the rate determined by multiplying the conversion rate in effect immediately prior to the record date by a fraction of which the denominator shall be the current market price of the Capital Stock (determined as provided in Section 12.05(e) on the record date less the amount of cash so distributed (and not excluded as provided above) applicable to one share of Capital Stock and the numerator shall be such current market price of the Capital Stock (determined as provided in Section 12.05(e)), such adjustment to be effective immediately prior to the opening of business on the day following the record date; provided, however, that in the event the portion of the cash so distributed applicable to one share of Capital Stock is equal to or greater than the current market price of the Capital Stock (determined as provided in (e)Section 12.05(e)) on the record date, in lieu of the foregoing adjustment, adequate provision shall be made so that each Securityholder shall have the right to receive upon conversion the amount of cash such Holder would have received had such Holder converted each Security on the record date. If such dividend or distribution is not so paid or made, the conversion rate shall again be adjusted to be the conversion rate which would then be in effect if such dividend or distribution had not been declared.



(e) For the purpose of any computation under subsections (b) and (d) above and Section 12.06, the current market price per share of the Capital Stock on any date as of which such price is to be computed shall mean the average of the Closing Prices for the 30 consecutive Business Days commencing 45 Business Days before such date.

(f) No adjustment in the conversion rate shall be required unless such adjustment would require a cumulative increase or decrease of at least 1% in such rate; provided, however, that any adjustments which by reason of this subsection (f) are not required to be made shall be carried forward and taken into account in any subsequent adjustment; and *provided further*, that adjustments shall be required and made in accordance with the provisions of this Article 12 (other than this subsection (f)) not later than such time as may be required in order to preserve the tax-free nature of a States income tax purposes to the Holders of Securities or the class of Capital Stock into which such Securities are convertible. All calculations under this Article 12 shall be made to the nearest cent or to the nearest one-thousandth of a share, as the case may be. Anything in this Section 12.05 to the contrary notwithstanding, the Issuer shall be entitled to make such adjustments in the conversion rate, in addition to those required by this Section 12.05, as it in its discretion shall determine to be advisable in order that any stock dividend, subdivision of shares, distribution of rights to purchase stock or securities, or distribution of securities convertible into or exchangeable for stock hereafter made by the Issuer to its shareholders shall not be taxable for United States income tax purposes.

(g) Whenever the conversion rate is adjusted, as herein provided, the Issuer shall promptly file with the Trustee and with the office or agency maintained by the Issuer for the conversion of Securities of such series pursuant to Section 3.02, a certificate of a firm of independent public accountants of recognized national standing selected by the Board of Directors (who may be the regular accountants employed by the Issuer) setting forth the conversion rate after such adjustment and setting forth a brief statement of the facts requiring such adjustment and a computation thereof. Such certificate shall be conclusive evidence of the correctness of such adjustment. Neither the Trustee nor any conversion agent shall be under any duty or responsibility with respect to any such certificate or any facts or computations set forth therein, except to exhibit said certificate from time to time to any Securityholder of such series desiring to inspect the same. The Issuer shall promptly cause a notice setting forth the adjusted conversion rate to be mailed to the Holders of Securities of such series, as their names and addresses appear upon the register of the Issuer.

(h) In the event that at any time, as a result of shares of any other class of Capital Stock becoming issuable in exchange or substitution for or in lieu of shares of the class of Capital Stock into which such Securities are convertible or as a result of an adjustment made pursuant to subsection (a) above, the Holder of any Security of such series thereafter surrendered for conversion shall become entitled to receive any shares of the Issuer other than shares of the class of Capital Stock into which the Issuer of such series are convertible, thereafter the number of such other shares so receivable upon conversion of any Security shall be subject to adjustment from time to time in a manner and on terms as nearly equivalent as practicable to the provisions with respect to the class of Capital Stock into which the Securities of such series are convertible contained in subsections (a) to (f), inclusive, above, and the provisions of this Article 12 with respect to the class of Capital Stock into which the Securities of such series are convertible shall apply on like terms to any such other shares.

(i) The conversion rate with respect to any Original Issue Discount Security, the terms of which provide for convertibility, shall not be adjusted during the term of such Original Issue Discount Security for accrued original issue discount.

(j) In the event that the Securities of any series are convertible into more than one class of Capital Stock, the provisions of this Section 12.05 shall apply separately to events affecting each such class.

Section 12.06 *No Fractional Shares to Be Issued.* No fractional shares of Capital Stock shall be issued upon conversions of Securities. If more than one Security of any series shall be surrendered for conversion at one time by the same Holder, the number of full shares which shall be issuable upon conversion thereof shall be computed on the basis of the aggregate Principal amount of the Securities of such series (or specified portions thereof to the extent permitted hereby) so surrendered. Instead of a fraction of a share of Capital Stock which would otherwise be issuable upon conversion of any Security or Securities (or specified portions thereof), the Issuer shall pay a cash adjustment in respect of such fraction of a share in an amount equal to the same fractional interest of the current market price (as defined in Section 12.05) per share of Capital Stock on the Business Day next preceding the day of conversion.

Section 12.07 *Preservation of Conversion Rights Upon Consolidation, Merger, Sale or Conveyance.* In case of any consolidation of the Issuer with, or merger of the Issuer into, any other corporation (other than a consolidation or merger in which the Issuer is the continuing corporation), or in the case of any sale or transfer of all or substantially all of the assets of the Issuer, the corporation formed by such consolidation or the corporation into which the Issuer shall have been merged or the corporation which shall have acquired such assets, as the case may be, shall execute and deliver to the Trustee, a supplemental indenture, subject to the provisions of Article 12 and ARTICLE 8 as they relate to supplemental indentures, providing that the Holder of each Security then Outstanding of a series which was convertible into Capital Stock shall have the right thereafter to convert such Security into the kind and amount of shares of stock and other securities and property, including cash, receivable upon such consolidation, merger, sale or transfer by a holder of the number of shares of Capital Stock of the Issuer into which such Securities might have been converted immediately prior to such consolidation, merger, sale or transfer. Such supplemental indenture shall conform to the provisions of the Trust Indenture Act of 1939 as then in effect and shall provide for adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Article 12. Neither the Trustee nor any conversion agent shall be under any responsibility to determine the correctness of any provision contained in any such supplemental indenture relating either to the kind or amount of shares of stock or other securities or property receivable by Securityholders upon the conversion of their Securities after any such consolidation, merger, sale or transfer, or to any adjustment to be made with respect there to and, subject to the provisions of Article 5, may accept as conclusive evidence of the correctness of any such provisions, and shall be protected in relying upon, an Opinion of Counsel with respect thereto. If in the case of any such consolidation, merger, sale or transfer, the stock or other securities and property receivable by a Holder of the Securities includes stock or other securities and property of a corporation other than the successor or purchasing corporation, then such supplemental indenture shall also be executed by such other corporation and shall contain such additional provisions to protect the interests of the Holders of the Securities as the Board of Directors shall reasonably consider necessary. The above provisions of this Section 12.07 shall similarly apply to successive consolidations, mergers, sales or transfers.

Section 12.08 Notice to Security Holders of a Series Prior to Taking Certain Types of Action. With respect to the Securities of any series, in case:

(a) the Issuer shall authorize the issuance to all holders of the class of Capital Stock into which Securities of such series are convertible of rights or warrants to subscribe for or purchase shares of its Capital Stock or of any other right;

(b) the Issuer shall authorize the distribution to all holders of the class of Capital Stock into which Securities of such series are convertible of evidences of its indebtedness or assets (except for the exclusions with respect to certain dividends set forth in Section 12.05(c));

(c) of any subdivision, combination or reclassification of the class of Capital Stock into which Securities of such series are convertible or of any consolidation or merger to which the Issuer is a party and for which approval by the shareholders of the Issuer is required, or of the sale or transfer of all or substantially all of the assets of the Issuer; or

(d) of the voluntary or involuntary dissolution, liquidation or winding up of the Issuer; then the Issuer shall cause to be filed with the Trustee and at the office or agency maintained for the purpose of conversion of Securities of such series pursuant to Section 3.02, and shall cause to be mailed to the Holders of Securities of such series, at their last addresses as they shall appear upon the register of the Issuer, at least 10 days prior to the applicable record date hereinafter specified, a notice stating (i) the date as of which the holders of such class of Capital Stock to be entitled to receive any such rights, warrants or distribution are to be determined, or (ii) the date on which any such subdivision, combination, reclassification, consolidation, merger, sale, transfer, dissolution, liquidation, winding up or other action is expected to become effective, and the date as of which it is expected that holders of record of such class of Capital Stock shall be entitled to exchange their Capital Stock of such class for securities or other property, if any, deliverable upon such subdivision, combination, reclassification, consolidation, merger, sale, transfer, dissolution, liquidation, winding up or other action. The failure to give the notice required by this Section 12.08 or any defect therein shall not affect the legality or validity of any distribution, right, warrant, subdivision, combination, reclassification, consolidation, merger, sale, transfer, dissolution, liquidation, winding up or other action, or the vote upon any of the foregoing. Such notice shall also be published by and at the expense of the Issuer not later than the aforesaid filing date at least once in an Authorized Newspaper.

Section 12.09 *Covenant to Reserve Shares for Issuance on Conversion of Securities*. The Issuer covenants that at all times it will reserve and keep available out of each class of its authorized Capital Stock, free from preemptive rights, solely for the purpose of issue upon conversion of Securities of any series as herein provided, such number of shares of Capital Stock of such class as shall then be issuable upon the conversion of all Outstanding Securities of such series. The Issuer covenants that an shares of Capital Stock which shall be so issuable shall, when issued or delivered, be duly and validly issued shares of the class of authorized Capital Stock into which Securities of such series are convertible, and shall be fully paid and nonassessable, free of all liens and charges and not subject to preemptive rights and that, upon conversion, the appropriate capital stock accounts of the Issuer will be duly credited.

Section 12.10 *Compliance with Governmental Requirements*. The Issuer covenants that if any shares of Capital Stock required to be reserved for purposes of conversion of Securities hereunder require registration or listing with or approval of any governmental authority under any Federal or State law, pursuant to the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, or any national or regional securities exchange on which such Capital Stock is listed at the time of delivery of any shares of such Capital Stock, before such shares may be issued upon conversion, the Issuer will use reasonable efforts to cause such shares to be duly registered, listed or approved, as the case may be.

Section 12.11 *Payment of Taxes Upon Certificates for Shares Issued Upon Conversion*. The issuance of certificates for shares of Capital Stock upon the conversion of Securities shall be made without charge to the converting Securityholders for any tax (including, without limitation, all documentary and stamp taxes) in respect of the issuance and delivery of such certificates, and such certificates shall be issued in the respective names of, or in such names as may be directed by, the Holders of the Securities converted; provided, however, that the Issuer shall not be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of any such certificate in a name other than that of the Holder of the Security converted, and the Issuer 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 the Issuer the amount of such tax or shall have established to the satisfaction of the Issuer that such tax has been paid.

Section 12.12 *Trustee's Duties with Respect to Conversion Provisions*. The Trustee and any conversion agent shall not at any time be under any duty or responsibility to any Securityholder to determine whether any facts exist which may require any adjustment of the conversion rate or conversion price, or with respect to the nature or extent of any such adjustment when made, or with respect to the method employed, or herein or in any supplemental indenture provided to be employed, in making the same. Neither the Trustee nor any conversion agent shall be accountable with respect to the registration under securities laws, listing, validity or value (or the kind or amount) of any shares of Capital Stock, or of any other securities or property, which may at any time be issued or delivered upon the conversion of any Security; and neither the Trustee nor any conversion agent makes any representation with respect thereto. Neither the Trustee nor any conversion agent shall be responsible for any failure of the Issuer to make any cash payment or to issue, transfer or deliver any shares of stock or stock certificates or other securities or property upon the surrender of any Security for the purpose of conversion; and the Trustee, subject to the provisions of Article 5, and any conversion agent shall not be responsible for any failure of the Issuer to comply with any of the covenants of the Issuer contained in this Article 12.

**ARTICLE 13**  
**SUBORDINATION OF SECURITIES**

Section 13.01 *Agreement Of Subordination*. The Issuer covenants and agrees, and each Holder of Securities issued hereunder by his acceptance thereof likewise covenants and agrees, that all Securities shall be issued subject to the provisions of this ARTICLE 13; and each Holder, whether upon original issue or upon transfer or assignment thereof, accepts and agrees to be bound by such provisions.

The payment of the principal of, premium, if any, and interest on all Securities issued hereunder shall, to the extent and in the manner hereinafter set forth, be subordinated and subject in right of payment to the prior payment in full of all Senior Indebtedness, whether outstanding at the date of this Indenture or thereafter incurred.

The provisions of this ARTICLE 13 define the subordination of the Securities, as obligations of the Issuer, with respect to Senior Indebtedness of the Issuer, as defined for the Issuer.

No provision of this ARTICLE 13 shall prevent the occurrence of any default or Event of Default hereunder.

Section 13.02 *Payments to Holders*. In the event and during the continuation of any default in the payment of principal, premium, interest or any other payment due on any Senior Indebtedness of the Issuer continuing beyond the period of grace, if any, specified in the instrument or lease evidencing such Senior Indebtedness of the Issuer, then, unless and until such default shall have been cured or waived or shall have ceased to exist, no payment shall be made by the Issuer with respect to the principal of, or premium, if any, or interest on the Securities, except payments made pursuant to Article 9 hereof from amounts deposited with the Trustee pursuant thereto prior to the happening of such default.

Upon any payment by the Issuer, or distribution of assets of the Issuer of any kind or character, whether in cash, property or securities, to creditors upon any dissolution or winding-up or liquidation or reorganization of the Issuer, whether voluntary or involuntary or in bankruptcy, insolvency, receivership or other proceedings, all amounts due or to become due upon all Senior Indebtedness of the Issuer shall first be paid in full, or payment thereof provided for in money in accordance with its terms, before any payment is made on account of principal (including, if applicable, any cash due upon conversion the Securities), premium, if any, or interest on the Securities (except payments made pursuant to ARTICLE 9 hereof from amounts deposited with the Trustee pursuant thereto prior to the happening of such dissolution, winding-up, liquidation or reorganization); and upon any such dissolution or winding-up or liquidation or reorganization any payment by the Issuer, or distribution of assets of the Issuer of any kind or character, whether in cash, property or securities, to which the holders of the Securities or the Trustee would be entitled, except for the provisions of this ARTICLE 13, shall (except as aforesaid) be paid by the Issuer or by any receiver, trustee in bankruptcy, liquidating trustee, agent or other Person making such payment or distribution, or by the holders of the Securities or by the Trustee under this Indenture if received by them or it, directly to the holders of Senior Indebtedness of the Issuer (pro rata to such holders on the basis of the respective amounts of Senior Indebtedness of the Issuer held by such holders, as calculated by the Issuer) or their representative or representatives, or to the trustee or trustees under any indenture pursuant to which any instruments evidencing any Senior Indebtedness of the Issuer may have been issued, as their respective interests may appear, to the extent necessary to pay all Senior Indebtedness of the Issuer in full, in money or money's worth, after giving effect to any concurrent payment or distribution to or for the holders of Senior Indebtedness of the Issuer, before any payment or distribution is made to the holders of the Securities or to the Trustee.

In the event that, notwithstanding the foregoing, any payment or distribution of assets of the Issuer of any kind or character, whether in cash, property or securities, prohibited by the foregoing, shall be received by the Trustee or the holders of the Securities before all Senior Indebtedness of the Issuer is paid in full, or provision is made for such payment in money in accordance with its terms, such payment or distribution shall be held in trust for the benefit of and shall be paid over or delivered to the holders of Senior Indebtedness of the Issuer or their representative or representatives, or to the trustee or trustees under any indenture pursuant to which any instruments evidencing any Senior Indebtedness of the Issuer may have been issued, as their respective interests may appear, as calculated by the Issuer, for application to the payment of all Senior Indebtedness of the Issuer remaining unpaid to the extent necessary to pay all Senior Indebtedness of the Issuer in full in money in accordance with its terms, after giving effect to any concurrent payment or distribution to or for the holders of such Senior Indebtedness.

For purposes of this ARTICLE 13, the words, "cash, property or securities" shall not be deemed to include shares of stock of the Issuer as reorganized or readjusted, or securities of the Issuer or any other corporation provided for by a plan of reorganization or readjustment, the payment of which is subordinated at least to the extent provided in this ARTICLE 13 with respect to the Securities to the payment of all Senior Indebtedness of the Issuer which may at the time be outstanding; provided that (i) the Senior Indebtedness of the Issuer is assumed by the new corporation, if any, resulting from any such reorganization or readjustment, and (ii) the rights of the holders of the Senior Indebtedness of the Issuer (other than leases) and of leases which are assumed are not, without the consent of such holders, altered by such reorganization or readjustment. The consolidation of the Issuer with, or the merger of the Issuer into, another corporation or the liquidation or dissolution of the Issuer following the conveyance or transfer of its property as an entirety, or substantially as an entirety, to another corporation upon the terms and conditions provided for in ARTICLE 8 hereof shall not be deemed a dissolution, winding-up, liquidation or reorganization for the purposes of this Section 13.02 if such other corporation shall, as a part of such consolidation, merger, conveyance or transfer, comply with the conditions stated in ARTICLE 8 hereof. Nothing in this Section 13.02 shall apply to claims of, or payments to, the Trustee under or pursuant to Section 5.06.

Section 13.03 *Subrogation Of Securities*. Subject to the payment in full of all Senior Indebtedness of the Issuer, the rights of the holders of the Securities shall be subrogated to the rights of the holders of Senior Indebtedness of the Issuer to receive payments or distributions of cash, property or securities of the Issuer applicable to the Senior Indebtedness of the Issuer until principal (including, if applicable, any cash due upon conversion the Securities), premium, if any, and interest on the Securities on the Securities shall be paid in full; and, for the purposes of such subrogation, no payments or distributions to the holders of the Senior Indebtedness of the Issuer of any cash, property or securities to which the holders of the Securities or the Trustee would be entitled except for the provisions of this ARTICLE 13 to or for the benefit of the holders of Senior Indebtedness of the Issuer by holders of the Securities or the Trustee, shall, as between the Issuer, its creditors other than holders of Senior Indebtedness of the Issuer, and the holders of the Securities, be deemed to be a payment by the Issuer to or on account of the Senior Indebtedness of the Issuer. It is understood that the provisions of this ARTICLE 13 are and are intended solely for the purpose of defining the relative rights of the holders of the Securities, on the one hand, and the holders of the Senior Indebtedness of the Issuer, on the other hand.

Nothing contained in this ARTICLE 13 or elsewhere in this Indenture or in the Securities is intended to or shall impair, as between the Issuer, its creditors other than the holders of its Senior Indebtedness, and the holders of the Securities, the obligation of the Issuer, which is absolute and unconditional, to pay to the holders of the Securities the principal (including, if applicable, any cash due upon conversion the Securities), premium, if any, and interest on the Securities as and when the same shall become due and payable in accordance with their terms, or is intended to or shall affect the relative rights of the holders of the Securities and creditors of the Issuer other than the holders of its Senior Indebtedness, nor shall anything herein or therein prevent the Trustee or the holder of any Security from exercising all remedies otherwise permitted by applicable law upon default under this Indenture, subject to the rights, if any, under this ARTICLE 13 of the holders of Senior Indebtedness of the Issuer in respect of cash, property or securities of the Issuer received upon the exercise of any such remedy.

Upon any payment or distribution of assets of the Issuer referred to in this ARTICLE 13, the Trustee, subject to the provisions of Section 5.01, and the holders of the Securities shall be entitled to rely upon any order or decree made by any court of competent jurisdiction in which such dissolution, winding-up, liquidation or reorganization proceedings are pending, or a certificate of the receiver, trustee in bankruptcy, liquidating trustee, agent or other Person making such payment or distribution, delivered to the Trustee or to the holders of the Securities, for the purpose of ascertaining the Persons entitled to participate in such distribution, the holders of the Senior Indebtedness and other indebtedness of the Issuer, the amount thereof or payable thereon, the amount or amounts paid or distributed thereon and all other facts pertinent thereto or to this ARTICLE 13.

Section 13.04 *Authorization By Holders*. Each holder of a Security by his or her acceptance thereof authorizes and directs the Trustee on his or her behalf to take such action as may be necessary or appropriate to effectuate the subordination provided in this ARTICLE 13 appoints the Trustee his attorney-in-fact for any and all such purposes.

Section 13.05 *Notice to Trustee*. The Issuer shall give promptly written notice to a Responsible Officer of the Trustee of any fact known to the Issuer which would prohibit the making of any payment of monies to or by the Trustee in respect of the Securities pursuant to the provisions of this ARTICLE 13. Notwithstanding the provisions of this ARTICLE 13 or any other provision of this Indenture, the Trustee shall not be charged with knowledge of the existence of any facts which would prohibit the making of any payment of amounts to or by the Trustee in respect of the Securities pursuant to the provisions of this ARTICLE 13, unless and until a Responsible Officer of the Trustee shall have received written notice thereof at the Corporate Trust Office of the Trustee from the Issuer or a holder or holders of Senior Indebtedness or from any trustee thereof; and before the receipt of any such written notice, the Trustee, subject to the provisions of Section 5.01, shall be entitled in all respects to assume that no such facts exist; *provided* that if on a date not fewer than three Business Days prior to the date upon which by the terms hereof any such amounts may become payable for any purpose (including, without limitation, the payment of principal (including, if applicable, any cash due upon conversion of the Securities), premium, if any, and interest on any Security) the Trustee shall not have received, with respect to such monies, the notice provided for in this Section 13.05, then, anything herein contained to the contrary notwithstanding, the Trustee shall have full power and authority to receive such amounts and to apply the same to the purpose for which they were received, and shall not be affected by any notice to the contrary which may be received by it on or after such prior date. Notwithstanding anything to the contrary hereinbefore set forth, nothing shall prevent any payment or delivery by the Issuer or the Trustee to the Holders of amounts in connection with a redemption of Securities if (i) notice of such redemption has been given pursuant to ARTICLE 11 or Section 9.01 hereof prior to the receipt by the Trustee of written notice as aforesaid, and (ii) such notice of redemption is given not earlier than 60 days before the redemption date.

The Trustee conclusively shall be entitled to rely on the delivery to it of a written notice by a Person representing himself to be a holder of Senior Indebtedness of the Issuer (or a trustee on behalf of such holder) to establish that such notice has been given by a holder of Senior Indebtedness of the Issuer or a trustee on behalf of any such holder or holders. In the event that the Trustee determines in good faith that further evidence is required with respect to the right of any Person as a holder of Senior Indebtedness of the Issuer to participate in any payment or distribution pursuant to this ARTICLE 13, the Trustee may request such Person to furnish evidence to the reasonable satisfaction of the Trustee as to the amount of Senior Indebtedness of the Issuer held by such Person, the extent to which such Person is entitled to participate in such payment or distribution and any other facts pertinent to the rights of such Person under this ARTICLE 13, and if such evidence is not furnished the Trustee may defer any payment to such Person pending judicial determination as to the right of such Person to receive such payment.

Section 13.06 *Trustee's Relation to Senior Indebtedness*. The Trustee in its individual capacity shall be entitled to all the rights set forth in this ARTICLE 13 in respect of any Senior Indebtedness of the Issuer at any time held by it, to the same extent as any other holder of Senior Indebtedness of the Issuer and nothing elsewhere in this Indenture shall deprive the Trustee of any of its rights as such holder.

With respect to the holders of Senior Indebtedness of the Issuer, the Trustee undertakes to perform or to observe only such of its covenants and obligations as are specifically set forth in this ARTICLE 13, and no implied covenants or obligations with respect to the holders of Senior Indebtedness of the Issuer shall be read into this Indenture against the Trustee. The Trustee shall not be deemed to owe any fiduciary duty to the holders of Senior Indebtedness of the Issuer and the Trustee shall not be liable to any holder of Senior Indebtedness of the Issuer if it shall pay over or deliver to holders of Securities, the Issuer or any other Person money or assets to which any holder of Senior Indebtedness of the Issuer shall be entitled by virtue of this ARTICLE 13 or otherwise.

Section 13.07 *No Impairment Of Subordination*. No right of any present or future holder of any Senior Indebtedness to enforce subordination as herein provided shall at any time in any way be prejudiced or impaired by any act or failure to act on the part of the Issuer or by any act or failure to act, in good faith, by any such holder, or by any noncompliance by the Issuer with the terms, provisions and covenants of this Indenture, regardless of any knowledge thereof which any such holder may have or otherwise be charged with.

Section 13.08 *Rights Of Trustee*. Nothing in this ARTICLE 13 shall apply to claims of or payments to, the Trustee pursuant to Section 5.06.



IN WITNESS WHEREOF, the parties hereto have caused this Indenture to be duly executed, as of the first date written above.

CORBUS PHARMACEUTICALS HOLDINGS, INC., as Issuer

By: \_\_\_\_\_  
Name:  
Title:

•, as Trustee

By: \_\_\_\_\_  
Name:  
Title:

**FORM OF NOTE**

UNLESS AND UNTIL IT IS EXCHANGED IN WHOLE OR IN PART FOR SECURITIES IN DEFINITIVE REGISTERED FORM, THIS SECURITY MAY NOT BE TRANSFERRED EXCEPT AS A WHOLE BY THE DEPOSITARY TO A NOMINEE OF THE DEPOSITARY OR BY A NOMINEE OF THE DEPOSITARY TO THE DEPOSITARY OR ANOTHER NOMINEE OF THE DEPOSITARY OR BY THE DEPOSITARY OR ANY SUCH NOMINEE TO A SUCCESSOR DEPOSITARY OR A NOMINEE OF SUCH SUCCESSOR DEPOSITARY. UNLESS THIS SECURITY IS PRESENTED BY AN AUTHORIZED REPRESENTATIVE OF THE DEPOSITARY TRUST COMPANY, A NEW YORK CORPORATION (“**DTC**”), TO THE COMPANY OR ITS AGENT FOR REGISTRATION OF TRANSFER, EXCHANGE OR PAYMENT, AND ANY SECURITY ISSUED IS REGISTERED IN THE NAME OF CEDE & CO. OR IN SUCH OTHER NAME AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC (AND ANY PAYMENT IS MADE TO CEDE & CO. OR TO SUCH OTHER ENTITY AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC), ANY TRANSFER, PLEDGE OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL INASMUCH AS THE REGISTERED OWNER HEREOF, CEDE & CO., HAS AN INTEREST HEREIN.

**CORBUS PHARMACEUTICALS HOLDINGS, INC.**  
**• % Subordinated Note Due •**

No. • CUSIP No.: •  
\$ •

CORBUS PHARMACEUTICALS HOLDINGS, INC., a Delaware corporation (“**Issuer**”, which term includes any successor corporation), for value received promises to pay to CEDE & CO. or its registered assigns, the principal sum of • on •.

Interest Payment Dates: • and • (each, an “**Interest Payment Date**”), commencing on •. Interest Record Dates: • and • (each, an “**Interest Record Date**”).

Reference is made to the further provisions of this Security contained herein, which will for all purposes have the same effect as if set forth at this place.

IN WITNESS WHEREOF, the Issuer has caused this Security to be signed manually or by facsimile by its duly authorized officer.

CORBUS PHARMACEUTICALS HOLDINGS, INC.

By: \_\_\_\_\_  
Name:  
Title:

This is one of the series designated herein and referred to in the within-mentioned Indenture.

•, as Trustee

By: \_\_\_\_\_  
Authorized Signatory

**(REVERSE OF SECURITY)**  
CORBUS PHARMACEUTICALS HOLDINGS, INC.  
●% Subordinated Note Due ●

1. Interest.

CORBUS PHARMACEUTICALS HOLDINGS, INC., a Delaware corporation (the “**Issuer**”), promises to pay interest on the Principal amount of this Security at the rate per annum shown above. Cash interest on the Securities will accrue from the most recent date to which interest has been paid or, if no interest has been paid, from ●. The Issuer will pay interest semi-annually in arrears on each Interest Payment Date, commencing ●. Interest will be computed on the basis of a 360-day year of twelve 30-day months.

The Issuer shall pay interest on overdue Principal from time to time on demand at the rate borne by the Securities and on overdue installments of interest (without regard to any applicable grace periods) to the extent lawful.

2. Method of Payment

The Issuer shall pay interest on the Securities (except defaulted interest) to the persons who are the registered Holders at the close of business on the Interest Record Date immediately preceding the Interest Payment Date notwithstanding any transfer or exchange of such Security subsequent to such Interest Record Date and prior to such Interest Payment Date. Holders must surrender Securities to the Trustee to collect Principal payments. The Issuer shall pay Principal and interest in money of the United States that at the time of payment is legal tender for payment of public and private debts (“**U.S. Legal Tender**”). However, the payments of interest, and any portion of the Principal (other than interest payable at maturity or on any redemption or repayment date or the final payment of Principal) shall be made by the Paying Agent, upon receipt from the Issuer of immediately available funds by 11:00 a.m., New York City time (or such other time as may be agreed to between the Issuer and the Paying Agent or the Issuer), directly to a Holder (by Federal funds wire transfer or otherwise) if the Holder has delivered written instructions to the Trustee 15 days prior to such payment date requesting that such payment will be so made and designating the bank account to which such payments shall be so made and in the case of payments of Principal surrenders the same to the Trustee in exchange for a Security or Securities aggregating the same principal amount as the unredeemed Principal amount of the Securities surrendered.

3. Paying Agent.

Initially, ● (the “**Trustee**”) will act as Paying Agent. The Issuer may change any Paying Agent without notice to the Holders.

4. Indenture.

The Issuer issued the Securities under an Indenture, dated as of ● (the “**Indenture**”), between the Issuer and the Trustee. Capitalized terms herein are used as defined in the Indenture unless otherwise defined herein. The terms of the Securities include those stated in the Indenture and those made part of the Indenture by reference to the Trust Indenture Act of 1939 (15 U.S.C. Sections 77aaa-77bbb) (the “**TIA**”), as in effect on the date of the Indenture until such time as the Indenture is qualified under the TIA, and thereafter as in effect on the date on which the Indenture is qualified under the TIA. Notwithstanding anything to the contrary herein, the Securities are subject to all such terms, and Holders of Securities are referred to the Indenture and the TIA for a statement of them. To the extent the terms of the Indenture and this Security are inconsistent, the terms of the Indenture shall govern.

5. Subordination.

The indebtedness of the Issuer evidenced by this Security, including the Principal hereof and interest hereon, is, to the extent and in the manner set forth in the Indenture, subordinate and junior in right of payment to the Company's obligations to holders of Senior Indebtedness of the Issuer and each Holder of this Security, by acceptance hereof, agrees to and shall be bound by such provisions of the Indenture and all other provisions of the Indenture.

6. Denominations; Transfer; Exchange.

The Securities are in registered form, without coupons, in denominations of \$1,000 and multiples of \$1,000. A Holder shall register the transfer of or exchange Securities in accordance with the Indenture. The Issuer may require a Holder, among other things, to furnish appropriate endorsements and transfer documents and to pay certain transfer taxes or similar governmental charges payable in connection therewith as permitted by the Indenture. The Issuer need not issue, authenticate, register the transfer of or exchange any Securities or portions thereof for a period of fifteen (15) days before such series is selected for redemption, nor need the Issuer register the transfer or exchange of any security selected for redemption in whole or in part.

7. Persons Deemed Owners

The registered Holder of a Security shall be treated as the owner of it for all purposes.

8. Unclaimed Funds.

If funds for the payment of Principal or interest remain unclaimed for two years, the Trustee and the Paying Agent will repay the funds to the Issuer at its written request. After that, all liability of the Trustee and such Paying Agent with respect to such funds shall cease.

9. Legal Defeasance and Covenant Defeasance.

The Issuer may be discharged from its obligations under the Securities and under the Indenture with respect to the Securities except for certain provisions thereof, and may be discharged from obligations to comply with certain covenants contained in the Securities and in the Indenture with respect to the Securities, in each case upon satisfaction of certain conditions specified in the Indenture.

10. Amendment; Supplement; Waiver.

Subject to certain exceptions, the Securities and the provisions of the Indenture relating to the Securities may be amended or supplemented with the written consent of the Holders of at least a majority in aggregate Principal amount of the Securities then outstanding, and any existing Default or Event of Default or compliance with certain provisions may be waived with the consent of the Holders of a majority in aggregate Principal amount of the Securities then outstanding. Without notice to or consent of any Holder, the parties thereto may amend or supplement the Indenture and the Securities to, among other things, cure any ambiguity, defect or inconsistency, provide for uncertificated Securities in addition to or in place of certificated Securities or comply with any requirements of the Commission in connection with the qualification of the Indenture under the Trust Indenture Act, or make any other change that does not adversely affect the rights of any Holder of a Security.

11. Defaults and Remedies.

If an Event of Default (other than certain bankruptcy Events of Default with respect to the Issuer) occurs and is continuing, the Trustee or the Holders of at least 25% in aggregate Principal amount of Securities then outstanding may declare all of the Securities to be due and payable immediately in the manner and with the effect provided in the Indenture. If a bankruptcy Event of Default with respect to the Issuer occurs and is continuing, all the Securities shall be immediately due and payable immediately in the manner and with the effect provided in the Indenture without any notice or other action on the part of the Trustee or any Holder. Holders of Securities may not enforce the Indenture or the Securities except as provided in the Indenture. The Trustee is not obligated to enforce the Indenture or the Securities unless it has received indemnity satisfactory to it. The Indenture permits, subject to certain limitations therein provided, Holders of a majority in aggregate Principal amount of the Securities then outstanding to direct the Trustee in its exercise of any trust or power. The Trustee may withhold from Holders of Securities notice of certain continuing Defaults or Events of Default if it determines that withholding notice is in their interest.

12. Conversion.

Reference is made to the Indenture, including, without limitation, provisions giving the Holder of this Security the right to convert this Security into Capital Stock of the Issuer on the terms and subject to the limitations as more fully specified in the Indenture. The initial conversion rate for this Security is •. This conversion rate is subject to modification as provided in the Indenture. Such further provisions shall for all purposes have the same effect as though fully set forth at this place.

13. Trustee Dealings with Issuer.

The Trustee under the Indenture, in its individual or any other capacity, may become the owner or pledgee of Securities and may otherwise deal with the Issuer as if it were not the Trustee.

14. No Recourse Against Others.

No stockholder, director, officer, employee or incorporator, as such, of the Issuer or any successor Person thereof shall have any liability for any obligation under the Securities or the Indenture or for any claim based on, in respect of or by reason of, such obligations or their creation. Each Holder of a Security by accepting a Security waives and releases all such liability. The waiver and release are part of the consideration for the issuance of the Securities.

15. Authentication.

This Security shall not be valid until the Trustee manually signs the certificate of authentication on this Security.

16. Abbreviations and Defined Terms.

Customary abbreviations may be used in the name of a Holder of a Security or an assignee, such as: TEN COM (= tenants in common), TEN ENT (= tenants by the entireties), JT TEN (= joint tenants with right of survivorship and not as tenants in common), CUST (= Custodian), and U/G/M/A (= Uniform Gifts to Minors Act).

17. CUSIP Numbers.

Pursuant to a recommendation promulgated by the Committee on Uniform Security Identification Procedures, the Issuer has caused CUSIP numbers to be printed on the Securities as a convenience to the Holders of the Securities. No representation is made as to the accuracy of such numbers as printed on the Securities and reliance may be placed only on the other identification numbers printed hereon.

18. Governing Law.

The laws of the State of New York shall govern the Indenture and this Security thereof.



**ASSIGNMENT FORM**

I or we assign and transfer this Security to

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(Print or type name, address and zip code of assignee or transferee)

(Insert Social Security or other identifying number of assignee or transferee)

and irrevocably appoint \_\_\_\_\_ agent to transfer this Security on the books of the Issuer. The agent may substitute another to act for him.

Dated: \_\_\_\_\_ Signed: (Signed exactly as name appears on the other side of this Security)

Signature Guarantee: \_\_\_\_\_  
Participant in a recognized Signature Guarantee Medallion Program (or other signature guarantor program reasonably acceptable to the Trustee)

April 7, 2020

Corbus Pharmaceuticals Holdings, Inc.  
500 River Ridge Drive  
Norwood, MA 02062

Re: Shelf Registration on Form S-3

Ladies and Gentlemen:

This opinion is being furnished to you in connection with the Registration Statement on Form S-3 (the "Registration Statement"), including the base prospectus that is part of the Registration Statement (the "Prospectus") and the sale agreement prospectus that is part of the Registration Statement (the "ATM Prospectus"), filed by Corbus Pharmaceuticals Holdings, Inc., a Delaware corporation (the "Company"), with the Securities and Exchange Commission (the "Commission") on April 7, 2020 under the Securities Act of 1933, as amended (the "Securities Act").

The Prospectus provides that it will be supplemented in the future by one or more prospectus supplements (each, a "Prospectus Supplement"). The Prospectus, as supplemented by the various Prospectus Supplements, will provide for the issuance and sale by the Company from time to time of up to \$200,000,000 aggregate offering price of (i) shares of the Company's common stock, par value \$0.0001 per share (the "Common Stock"), (ii) shares of the Company's preferred stock, par value \$0.0001 per share (the "Preferred Stock"), in one or more series or classes, (iii) warrants to purchase shares of Common Stock or Preferred Stock (the "Warrants"), (iv) the Company's senior debt securities and subordinated debt securities (collectively, the "Debt Securities"), which may be issued pursuant to a senior debt indenture (the "Senior Debt Indenture") between the Company and the trustee to be named therein (the "Senior Debt Trustee") and a subordinated debt indenture (the "Subordinated Debt Indenture," and together with the Senior Debt Indenture, the "Indentures") between the Company and the trustee to be named therein (the "Subordinated Debt Trustee" and, together with the Senior Debt Trustee, the "Trustees"), (v) subscription rights to purchase Common Stock or Debt Securities (the "Subscription Rights") or (vi) units composed of any of the foregoing (the "Units"). The Common Stock, Preferred Stock, Warrants, Debt Securities, Subscription Rights and Units are collectively referred to herein as the "Securities." The Warrants may be issued pursuant to a warrant agreement (the "Warrant Agreement") between the Company and a bank or trust company as warrant agent. Any Preferred Stock may be exchangeable for and/or convertible into shares of Common Stock or another series of Preferred Stock. Any Debt Securities may be exchangeable and/or convertible into shares of Common Stock or Preferred Stock. The Units may be issued pursuant to a Unit Agreement (the "Unit Agreement") between the Company and a bank or trust company as unit agent. The Securities are being registered for offering and sale from time to time pursuant to Rule 415 under the Securities Act.

The ATM Prospectus relates to the sale by the Company of shares of common stock having an aggregate offering price of up to \$75,000,000 (the "ATM Shares") under a sale agreement dated as of April 7, 2020 (the "Sale Agreement") between the Company and Jefferies LLC.

In rendering our opinions set forth below, we have reviewed the Registration Statement and the exhibits thereto. We have also reviewed such corporate documents and records of the Company, such certificates of public officials and officers of the Company and such other matters as we have deemed necessary or appropriate for purposes of this opinion. In our examination, we have assumed: (i) the authenticity of original documents and the genuineness of all signatures; (ii) the conformity to the originals of all documents submitted to us as copies; (iii) the truth, accuracy and completeness of the information, representations and warranties contained in the instruments, documents, certificates and records we have reviewed; and (iv) the legal capacity for all purposes relevant hereto of all natural persons and, with respect to all parties to agreements or instruments relevant hereto other than the Company, that such parties had the requisite power and authority (corporate or otherwise) to execute, deliver and perform such agreements or instruments, that such agreements or instruments have been duly authorized by all requisite action (corporate or otherwise), executed and delivered by such parties and that such agreements or instruments are the valid, binding and enforceable obligations of such parties. As to any facts material to the opinions expressed herein that were not independently established or verified, we have relied upon oral or written statements and representations of officers and other representatives of the Company.

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Based on the foregoing, and subject to the assumptions, limitations and qualifications set forth herein, we are of the opinion that:

1. With respect to shares of Common Stock (other than the ATM Shares), when (a) the issuance and the terms of the sale of the shares of Common Stock have been duly authorized by the Board of Directors of the Company in conformity with the Company's certificate of incorporation and bylaws; (b) such shares have been issued and delivered against payment of the purchase price therefor in an amount in excess of the par value thereof, in accordance with the applicable definitive purchase, underwriting or similar agreement, and as contemplated by the Registration Statement, the Prospectus and the related Prospectus Supplement; and (c) to the extent such shares of Common Stock are to be issued upon the conversion, exchange or exercise of any Preferred Stock, Warrants or Debt Securities, when such shares have been duly issued and delivered as contemplated by the terms of the applicable Preferred Stock, the Warrant Agreement relating to such Warrants or the Indenture relating to such Debt Securities, respectively, the shares of Common Stock will be validly issued, fully paid and nonassessable.

2. With respect to the ATM Shares, (a) when the Registration Statement has become effective under the Securities Act, and (b) when the ATM Shares have been issued and sold in accordance with the Sale Agreement, and as described in the Registration Statement and ATM Prospectus, the ATM Shares will be validly issued, fully paid and nonassessable.

3. With respect to any particular series of shares of Preferred Stock, when (a) the issuance and the terms of the sale of the shares of Preferred Stock have been duly authorized by the Board of Directors of the Company in conformity with the Company's certificate of incorporation and bylaws; (b) an appropriate certificate of designation relating to a series of the Preferred Stock to be sold under the Registration Statement has been duly authorized and adopted and filed with the Secretary of State of Delaware; (c) the terms of issuance and sale of shares of such series of Preferred Stock have been duly established in conformity with the Company's certificate of incorporation and bylaws so as not to violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company or any of its property; (d) such shares have been issued and delivered against payment of the purchase price therefor in an amount in excess of the par value thereof, in accordance with the applicable definitive purchase, underwriting or similar agreement, and as contemplated by the Registration Statement, the Prospectus and the related Prospectus Supplement; and (e) to the extent such shares of Preferred Stock are to be issued upon the conversion, exchange or exercise of any Preferred Stock, Warrants or Debt Securities, when such shares have been duly issued and delivered as contemplated by the terms of the applicable Preferred Stock, the Warrant Agreement relating to such Warrants or the Indenture relating to such Debt Securities, respectively, the shares of Preferred Stock will be validly issued, fully paid and nonassessable.

4. With respect to Warrants, when (a) the issuance and the terms of the sale of the Warrants have been duly authorized by the Board of Directors of the Company; (b) the terms of the Warrants and of their issuance and sale have been duly established so as not to violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company or any of its property; (c) the Warrants and the applicable Warrant Agreement relating to the Warrants, if any, have been duly executed and countersigned and the Warrants have been issued and sold in accordance with the applicable definitive purchase, underwriting or similar agreement, as contemplated by the Registration Statement, the Prospectus and the related Prospectus Supplement; and (d) the Company has received the applicable consideration for the Warrants as contemplated by the Registration Statement, the Prospectus and the related Prospectus Supplement(s), the Warrants will constitute valid and binding obligations of the Company.

5. With respect to Debt Securities, when (a) the issuance and the terms of the sale of the Debt Securities have been duly authorized by the Board of Directors of the Company; (b) the terms of the Debt Securities and of their issuance and sale have been duly established so as not to violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company or any of its property; (c) the Debt Securities and the applicable Indenture relating to the Debt Securities have been duly executed and countersigned and in the case of the Indenture, duly authenticated by the Trustee, and the Debt Securities have been issued and sold as contemplated by the Registration Statement, the Prospectus and the related Prospectus Supplement; and (d) the Company has received the applicable consideration for the Debt Securities as contemplated by the Registration Statement, the Prospectus and the related Prospectus Supplement(s), the Debt Securities will constitute valid and binding obligations of the Company.

6. With respect to the Subscription Rights, when both: (a) the issuance and the terms of the sale of the Subscription Rights have been duly authorized by the Board of Directors of the Company; (b) the terms of the Subscription Rights and of their issuance and sale have been duly established so as not to violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company or any of its property; and (c) the agreement(s) relating to the Subscription Rights have been duly authorized and validly executed and delivered by the Company, then the Subscription Rights will be valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.

7. With respect to Units, when (a) the issuance and the terms of the sale of the Units have been duly authorized by the Board of Directors of the Company; (b) the terms of the Units and of their issuance and sale have been duly established so as not to violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company or any of its property; (c) the Unit Agreement and the Units have been duly executed and countersigned and the Units have been issued and sold in accordance with the applicable Unit Agreement, as contemplated by the Registration Statement, the Prospectus and the related Prospectus Supplement; and (d) the Company has received the applicable consideration for the Units as contemplated by the Registration Statement, the Prospectus and the related Prospectus Supplement(s), the Units will constitute valid and binding obligations of the Company.

In rendering the opinions set forth above, we have assumed that (i) the Registration Statement (and any applicable post-effective amendment thereto) will have become effective under the Securities Act, a Prospectus Supplement will have been prepared and filed with the Commission describing the Securities offered thereby and such Securities will have been issued and sold in accordance with the terms of such Prospectus Supplement and in compliance with all applicable laws; and (ii) a definitive purchase, underwriting or similar agreement with respect to such Securities (if applicable) will have been duly authorized, executed and delivered by the Company and the other parties thereto; (iii) the Securities will be duly authorized by all necessary corporate action by the Company and any agreement pursuant to which such Securities may be issued will be duly authorized, executed and delivered by the Company and the other parties thereto; (iv) the Company will remain duly organized, validly existing and in good standing under applicable state law; and (v) the Company has reserved a sufficient number of shares of its duly authorized, but unissued, Common Stock and Preferred Stock as is necessary to provide for the issuance of the shares of Common Stock and Preferred Stock pursuant to the Registration Statement.

The opinions set forth above are subject to the following exceptions, limitations and qualifications: (i) the effect of bankruptcy, insolvency, reorganization, fraudulent conveyance, moratorium or other similar laws now or hereafter in effect relating to or affecting the rights and remedies of creditors; (ii) the effect of general principles of equity, including without limitation, concepts of materiality, reasonableness, good faith and fair dealing and the possible unavailability of specific performance or injunctive relief, regardless of whether enforcement is considered in a proceeding in equity or at law, and the discretion of the court before which any proceeding therefor may be brought; and (iii) the unenforceability under certain circumstances under law or court decisions of provisions providing for the indemnification of, or contribution to, a party with respect to liability where such indemnification or contribution is contrary to public policy. We express no opinion concerning the enforceability of any waiver of rights or defenses with respect to stay, extension or usury laws. Our opinion expressed herein is also subject to the qualification that no term or provision shall be included in any certificate of designation relating to any series of the Preferred Stock, Warrant Agreement, Indenture, Unit Agreement or any other agreement or instrument pursuant to which any of the Securities are to be issued that would affect the validity of such opinion.

Our opinion is limited to the federal laws of the United States, the General Corporation Law of the State of Delaware (including reported judicial decisions interpreting the General Corporation Law of the State of Delaware) and the State of New York. We express no opinion as to the effect of the law of any other jurisdiction. Our opinion is rendered as of the date hereof, and we assume no obligation to advise you of changes in law or fact (or the effect thereof on the opinions expressed herein) that hereafter may come to our attention.

We hereby consent to the inclusion of this opinion as Exhibit 5.1 to the Registration Statement and to the references to our firm therein and in the Prospectus and the ATM Prospectus, and in any Prospectus Supplement under the caption "Legal Matters." In giving our consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Very truly yours,

*/s/ Lowenstein Sandler LLP*

LOWENSTEIN SANDLER LLP

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in this Registration Statement of Corbus Pharmaceuticals Holdings, Inc. on Form S-3 to be filed on or about April 7, 2020 of our reports dated March 16, 2020, on our audits of the consolidated financial statements as of December 31, 2019 and 2018 and for each of the years then ended, and the effectiveness of Corbus Pharmaceuticals Holdings, Inc.'s internal control over financial reporting as of December 31, 2019, which reports were included in the Annual Report on Form 10-K filed March 16, 2020. Our report on the effectiveness of the Company's internal control over financial reporting as of December 31, 2019 expresses an adverse opinion because of material weaknesses. We also consent to the reference to our firm under the caption "Experts" in this Registration Statement on Form S-3.

*/s/ EisnerAmper LLP*

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EISNERAMPER LLP  
Philadelphia, Pennsylvania  
April 7, 2020

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