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

FORM 8-K

CURRENT REPORT

**PURSUANT TO SECTION 13 OR 15(D) OF THE
SECURITIES EXCHANGE ACT OF 1934**

Date of report (Date of earliest event reported): May 31, 2012 (May 25, 2012)

DELCATH SYSTEMS, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or Other Jurisdiction
of Incorporation)

001-16133
(Commission
File Number)

06-1245881
(IRS Employer
Identification Number)

810 Seventh Avenue, 35th Floor, New York, New York, 10019
(Address of principal executive offices, including zip code)

(212) 489-2100
(Registrant's telephone number, including area code)

NONE
(Former name or former address, if changed since last report)

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

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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Item 1.01. Entry into a Material Definitive Agreement.

On May 25, 2012, Delcath Systems, Inc. (the "Company") entered into an underwriting agreement, dated May 25, 2012 (the "Underwriting Agreement") with Cowen and Company, LLC and Wedbush Securities Inc. as Representatives of the Several Underwriters (collectively, the "Underwriters"). The Underwriting Agreement provides for the sale to the Underwriters of up to 15,333,340 units (the "Units") consisting of one share of the Company's common stock, par value \$0.01 per share (the "Common Stock"), and one warrant to purchase 0.3 of a share of Commons Stock (the "Warrants"), at a combined price to the Underwriters of \$1.41 per Unit, including an overallotment option of 2,000,000 shares of Common Stock and/or Warrants to purchase an additional 600,000 shares of Common Stock (the "Offering"). The shares and warrants were offered and sold under a prospectus supplement filed with the Securities and Exchange Commission pursuant to Rule 424(b) of the Securities Act of 1933, as amended, (the "Securities Act") in connection with an offering pursuant to the Company's shelf registration statement on Form S-3 (File Number 333-178819). The Offering closed on May 31, 2012.

The Warrants became exercisable immediately upon issuance and will expire three years from the date of issuance. The exercise price of the Warrants is \$1.65 per share of Common Stock, subject to certain adjustments. The Company does not plan on applying to list the Warrants on the NADSDAQ Capital Market, any other national securities exchange or any other nationally recognized trading system. This description of the Offering is a summary only, is not intended to be complete, and is qualified in its entirety by reference to the Underwriting Agreement and the Form of Warrant, which are filed as exhibits 1.1 and 4.1, respectively, to this Current Report on Form 8-K.

The net proceeds to us from the offering are approximately \$21.2 million after underwriting discounts and commissions and other estimated offering expenses payable by us, and excluding any proceeds we may receive upon exercise of the warrants to be issued in the offering.

Skadden, Arps, Slate, Meagher & Flom LLP, New York counsel to the Company, has issued an opinion to the Company, dated May 31, 2012, regarding the securities to be sold in the Offering. A copy of the opinion is filed as Exhibit 5.1 to this Current Report on Form 8-K.

Item 7.01. Regulation FD Disclosure.

On May 31, 2012, the Company issued a press release announcing the closing of the Offering of 15,333,340 Units pursuant to the Underwriting Agreement at a public offering price of \$1.50 per Unit before underwriters' discounts and offering expenses. The 15,333,340 Units includes the full exercise of the Underwriters' over-allotment option of 2,000,000 shares of Common Stock and/or Warrants to purchase an additional 600,000 shares of Common Stock. A copy of the press release is attached as Exhibit 99.1 to this Current Report on Form 8-K and is

incorporated into this Item 7.01 by reference. This information is not deemed to be “filed” for the purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and is not incorporated by reference into any Securities Act registration statements.

Item 9.01. Financial Statements and Exhibits.

The following exhibit is filed herewith:

(d) Exhibits.

| <u>Exhibit No.</u> | <u>Description</u> |
|--------------------|--|
| 1.1 | Underwriting Agreement, dated May 25, 2012, between the Company, Cowen and Company, LLC and Wedbush Securities Inc. as Representatives of the Several Underwriters |
| 4.1 | Form of Warrant to purchase shares of Common Stock |
| 5.1 | Opinion of Skadden, Arps, Slate, Meagher & Flom LLP |
| 23.1 | Consent of Skadden, Arps, Slate, Meagher & Flom LLP (included in Exhibit 5.1) |
| 99.1 | Press Release of Delcath Systems, Inc., dated May 31, 2012 |

SIGNATURES

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

DELCATH SYSTEMS, INC.

Dated: May 31, 2012

By: /s/ Peter J. Graham

Name: Peter J. Graham

Title: Executive Vice President, General Counsel

EXHIBIT INDEX

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DEL CATH SYSTEMS, INC.

13,333,340 Shares of Common Stock

and

Warrants to Purchase 4,000,002 Shares of Common Stock

UNDERWRITING AGREEMENT

May 25, 2012

COWEN AND COMPANY, LLC
599 Lexington Avenue
New York, NY 10022

WEDBUSH SECURITIES INC.
One Bush Street
17th Floor
San Francisco, CA 94104

as Representatives of the Several Underwriters

Ladies and Gentlemen:

1. *INTRODUCTORY*. Delcath Systems, Inc., a Delaware corporation (the “Company”), proposes to sell, pursuant to the terms of this Agreement, to each of the Underwriters named in Schedule IV hereto (collectively, the “Underwriters”), for whom Cowen and Company, LLC and Wedbush Securities Inc. are acting as representatives (the “Representatives”) an aggregate of (i) 13,333,340 shares (the “Firm Stock”) of common stock, \$0.01 par value of the Company (the “Common Stock”), and (ii) warrants (the “Firm Warrants”) to purchase 4,000,002 of shares of Common Stock (the “Firm Warrant Shares”). The Company also proposes to sell to the Underwriters, upon the terms and conditions set forth in Section 3 hereof, up to an additional (i) 2,000,000 shares of Common Stock (the “Optional Stock”) and/or (ii) warrants (the “Optional Warrants”) to purchase up to 600,000 shares of Common Stock (the “Optional Warrant Shares”). The Firm Stock and the Optional Stock are hereinafter collectively referred to as the “Stock”, the Firm Warrants and the Optional Warrants are collectively referred to as the “Warrants” and the Firm Warrant Shares together with the Optional Warrant Shares are collectively referred to as the “Warrant Shares”. The Stock, the Warrants and the Warrant Shares are collectively referred to as the “Securities.” The Firm Stock and the Firm Warrants shall be sold together as a fixed combination, each consisting of one share of the Common Stock and one Warrant to purchase 0.30 of a share of Common Stock. The Optional Stock and the Optional Warrants may be sold either together or separately in any combination to be determined by the Underwriters. The Shares and the Warrants shall be immediately separable and transferable upon issuance. The terms of the Warrants are set forth in the form of Warrant attached as Exhibit A hereto.

2. **REPRESENTATIONS AND WARRANTIES OF THE COMPANY.** The Company represents and warrants to the Underwriters, as of the date hereof and as of each Closing Date (as defined below), and agrees with the Underwriters, that:

(a) *Filing of Registration Statement.* The Company has prepared and filed, in conformity with the requirements of the Securities Act of 1933, as amended (the “*Securities Act*”), and the published rules and regulations thereunder (the “*Rules and Regulations*”) adopted by the Securities and Exchange Commission (the “*Commission*”), a registration statement, including a prospectus, on Form S-3 (File No. 333-178819), which became effective on February 13, 2012, relating to the Securities and the offering thereof (the “*Offering*”) from time to time in accordance with Rule 415(a)(1)(x) of the Rules and Regulations, and such amendments thereof as may have been required to the date of this Agreement. The term “*Registration Statement*” as used in this Agreement means the aforementioned registration statement, as amended at the time of such registration statement’s effectiveness for purposes of Section 11 of the Securities Act, as such section applies to the Underwriters (the “*Effective Time*”), including (i) all documents filed as a part thereof or incorporated or deemed to be incorporated by reference therein and (ii) any information in the corresponding Base Prospectus (as defined below) or a prospectus supplement filed with the Commission pursuant to Rule 424(b) under the Securities Act, to the extent such information is deemed pursuant to Rule 430A (“*Rule 430A*”), 430B (“*Rule 430B*”) or 430C (“*Rule 430C*”) under the Securities Act to be a part thereof at the Effective Time. If the Company has filed an abbreviated registration statement to register additional Securities pursuant to Rule 462(b) under the Rules and Regulations (the “*Rule 462(b) Registration Statement*”), then any reference herein to the term “*Registration Statement*” shall also be deemed to include such Rule 462(b) Registration Statement. For purposes of this Agreement, all references to the Registration Statement, the Base Prospectus, the Prospectus (as defined in below) or any amendment or supplement to any of the foregoing shall be deemed to include the copy filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval System (“*EDGAR*”). All references in this Agreement to amendments or supplements to the Registration Statement, the Base Prospectus or the Prospectus shall be deemed to mean and include the subsequent filing of any document under the Securities Exchange Act of 1934, as amended (the “*Exchange Act*”) and which is deemed to be incorporated therein by reference.

(b) *Effectiveness of Registration Statement; Certain Defined Terms.* The Company and the transactions contemplated by this Agreement meet the requirements and comply with the conditions for the use of Form S-3 under the Securities Act. The aggregate market value of the Company’s voting and non-voting common equity held by non-affiliates of the Company was at least \$75 million within 60 days prior to March 6, 2012 (the date of filing the Company’s 2011 Annual Report on Form 10-K with the Commission). The Company has complied, to the Commission’s satisfaction, with all requests of the Commission for additional or supplemental information. No stop order preventing or suspending use of the Registration Statement or the Prospectus or the effectiveness of the Registration Statement has been issued by the Commission, and no proceedings for such purpose pursuant to Section 8A of the Securities Act against the Company or related to the Offering have been instituted or are pending or, to the Company’s knowledge, are contemplated or threatened by the Commission, and any request received by the Company on the part of the Commission for additional information has been complied with. As used in this Agreement:

(1) “*Base Prospectus*” means the prospectus included in the Registration Statement at the Effective Time.

(2) “*Disclosure Package*” means (i) the Base Prospectus, (ii) the Prospectus most recently filed with the Commission before the Time of Sale, including any preliminary prospectus deemed to be a part thereof, (iii) each Issuer Free Writing Prospectus, if any, filed or used by the Company on or before the Time of Sale and listed on Schedule I hereto (other than a roadshow that is an Issuer Free Writing Prospectus but is not required to be filed under Rule 433 of the Rules and Regulations) and (iv) the information included on Schedule II hereto all considered together.

(3) “*Final Prospectus*” means the final prospectus supplement to the Base Prospectus relating to the Securities in the form it was first filed with the Commission pursuant to Rules 424(b) and 430B of the Rules and Regulations in the form heretofore delivered to the Underwriters.

(4) “*Issuer Free Writing Prospectus*” means any “issuer free writing prospectus,” as defined in Rule 433 of the Rules and Regulations relating to the Securities in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company’s records pursuant to Rule 433(g) of the Rules and Regulations.

(5) “*Prospectus*” means the Final Prospectus, or any preliminary prospectus supplement or prospectus subject to completion included in the Registration Statement or filed with the Commission pursuant to Rule 424(b) of the Rules and Regulations, including the Base Prospectus.

(6) “*Time of Sale*” means 8:30 a.m., New York time, on the date of this Agreement.

(c) *Contents of Registration Statement.* The Registration Statement complied when it became effective, complies as of the date hereof and, as amended or supplemented, at the Time of Sale and at all times during which a prospectus is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) in connection with any sale of Securities (the “*Prospectus Delivery Period*”), will comply, in all material respects, with the requirements of the Securities Act and the Rules and Regulations; the Registration Statement did not, as of the Effective Time, contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein not misleading, *provided*, that the Company makes no representation or warranty in this Section 2(c) with respect to statements in or omissions from the Registration Statement in reliance upon, and in conformity with, written information furnished to the Company by the Underwriters specifically for inclusion therein, which information the parties hereto agree is limited to the Underwriters’ Information (as defined in Section 17 hereof).

(d) *Contents of Prospectus.* The Final Prospectus will comply, as of the date that it is filed with the Commission, the date of its delivery to prospective purchasers and at all times during the Prospectus Delivery Period, in all material respects, with the requirements of the Securities Act; at no time during the period that begins on the date the Final Prospectus is filed

with the Commission and ends at the end of the Prospectus Delivery Period will the Prospectus, as then amended or supplemented, 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 under which they were made, not misleading, *provided*, that the Company makes no representation or warranty with respect to statements in or omissions from the Prospectus in reliance upon, and in conformity with, written information furnished to the Company by the Underwriters specifically for inclusion therein, which information the parties hereto agree is limited to the Underwriters' Information.

(e) *Incorporated Documents.* Each of the documents incorporated or deemed to be incorporated by reference in the Registration Statement, at the time such document was filed with the Commission or at the time such document became effective, as applicable, complied, in all material respects, with the requirements of the Exchange Act, were filed on a timely basis with the Commission and did 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 under which they were made, not misleading.

(f) *Disclosure Package.* The Disclosure Package, as of the Time of Sale, did not, and at each Closing Date will not, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; *provided*, that the Company makes no representations or warranty in this [Section 2\(f\)](#) with respect to statements in or omissions from the Disclosure Package in reliance upon, and in conformity with, written information furnished to the Company by the Underwriters specifically for inclusion therein, which information the parties hereto agree is limited to the Underwriters' Information.

(g) *Distributed Materials; Conflict with Registration Statement.* Other than the Base Prospectus and each Prospectus, the Company has not made, used, prepared, authorized, approved or referred to and will not make, use, prepare, authorize, approve or refer to any "written communication" (as defined in Rule 405 under the Securities Act) that constitutes an offer to sell or a solicitation of an offer to buy the Securities other than (i) any document not constituting a prospectus pursuant to Section 2(a)(10)(a) of the Securities Act or Rule 134 under the Securities Act or (ii) the documents listed on [Schedule I](#) hereto and other written communications approved in advance by the Underwriters.

(h) *Issuer Free Writing Prospectuses.* Each Issuer Free Writing Prospectus, if any, conformed or will conform in all material respects to the requirements of the Securities Act and the Rules and Regulations on the date of first use, and the Company has complied or will comply with any filing requirements applicable to such Issuer Free Writing Prospectus pursuant to the Rules and Regulations. Each Issuer Free Writing Prospectus, if any, when considered together with the Disclosure Package, as of its issue date and at all subsequent times through the completion of the Prospectus Delivery Period 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, including any document incorporated by reference therein and any prospectus supplement deemed to be a part thereof that has not been superseded or modified; or includes an untrue statement of a material fact or omitted or would omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances prevailing at the subsequent time, not misleading; *provided*, that

the Company makes no representation or warranty with respect to statements in or omissions from any Issuer Free Writing Prospectus in reliance upon, and in conformity with, written information furnished to the Company by the Underwriters specifically for inclusion therein, which information the parties hereto agree is limited to the Underwriters' Information.

(i) *Not an Ineligible Issuer.* (1) At the earliest time after the filing of the Registration Statement that the Company or another offering participant made a bona fide offer (within the meaning of Rule 164(h)(2) under the Securities Act) of the Securities and (2) at the date hereof, the Company was not and is not an "ineligible issuer," as defined in Rule 405 ("Rule 405") under the Securities Act.

(j) *Due Incorporation.* The Company and each Subsidiary (defined below) has been duly organized and is validly existing as a corporation in good standing under the laws of its jurisdiction of organization, with the corporate power and authority to own its properties and to conduct its business as currently being conducted and as described in the Registration Statement, the Final Prospectus and the Disclosure Package. The Company and each Subsidiary is duly qualified to transact business and is in good standing as a foreign corporation or other legal entity in each other jurisdiction in which its ownership or leasing of property or the conduct of its business requires such qualification, except where the failure to be so qualified and in good standing or have such power or authority (i) would not have, individually or in the aggregate, a material adverse effect upon, the general affairs, business, operations, prospects, properties, financial condition, or results of operations of the Company, taken as a whole, or (ii) impair in any material respect the power or ability of the Company to perform its obligations under this Agreement or to consummate any transactions contemplated by this Agreement, including the issuance and sale of the Securities (any such effect as described in clauses (i) or (ii), a "Material Adverse Effect").

(k) *Subsidiaries.* The Company has no subsidiaries (as defined in Rule 405 of the Securities Act) other than those entities listed on Schedule V hereto (each a "Subsidiary" and collectively, the "Subsidiaries"). The Company, directly or indirectly, owns all of the issued and outstanding capital stock or other equity interests of each Subsidiary and, except as otherwise described in the Disclosure Package, does not own any beneficial interest, directly or indirectly, in any other corporation, partnership, joint venture or other business entity.

(l) *Due Authorization and Enforceability.* The Company has the full right, power and authority to enter into this Agreement and the Warrants and to perform and discharge its obligations hereunder and thereunder; and this Agreement and the Warrants have been duly authorized, executed and delivered by the Company, and each constitutes the valid, legal and binding obligation of the Company, enforceable against the Company in accordance with their respective terms, except as rights to indemnity hereunder may be limited by federal or state securities laws and except as such enforceability may be limited by applicable bankruptcy, insolvency, reorganization or similar laws affecting the rights of creditors generally and subject to general principles of equity.

(m) *The Stock.* The issuance of the Stock has been duly and validly authorized by the Company and when issued, delivered and paid for in accordance with the terms of this Agreement, will have been duly and validly issued and will be fully paid and nonassessable, will not be subject to any statutory or contractual preemptive rights or other rights to subscribe for or purchase or acquire any shares of Common Stock of the Company, which have not been waived

or complied with and will conform in all material respects to the description thereof contained in the Disclosure Package and the Final Prospectus and such description conforms in all material respects to the rights set forth in the instruments defining the same. The Warrant Shares have been duly authorized and reserved for issuance pursuant to the terms of the Warrants, and when issued by the Company upon valid exercise of the Warrants and payment of the exercise price, will be duly and validly issued, fully paid and nonassessable and free of any preemptive or similar rights and will conform to the description thereof and contained in the Disclosure Package and the Final Prospectus.

(n) *Capitalization.* The information set forth under the caption “Capitalization” in the Disclosure Package and the Final Prospectus is fairly presented on a basis consistent with the Company’s financial statements. The authorized capital stock of the Company conforms as to legal matters to the description thereof contained in the Final Prospectus under the caption “Description of Securities We Are Offering” and in the Disclosure Package. The issued and outstanding shares of capital stock of the Company have been duly authorized and validly issued, are fully paid and nonassessable, and have been issued in compliance with all federal and state securities laws. None of the outstanding shares of Common Stock was issued in violation of any preemptive rights, rights of first refusal or other similar rights to subscribe for or purchase or acquire any securities of the Company. There are no authorized or outstanding shares of capital stock, options, warrants, preemptive rights, rights of first refusal or other rights to purchase, or equity or debt securities convertible into or exchangeable for, any capital stock of the Company other than those described in the Final Prospectus and the Disclosure Package. The description of the Company’s stock option, stock bonus and other stock plans or arrangements, and the options or other rights granted thereunder, as described in the Final Prospectus and the Disclosure Package, accurately and fairly present the information required to be shown with respect to such plans, arrangements, options and rights.

(o) *No Conflict.* The execution, delivery and performance by the Company of this Agreement and the Warrants and the consummation of the transactions contemplated hereby, and thereby including the issuance and sale by the Company of the Securities, will not conflict with or result in a breach or violation of, or constitute a default under (nor constitute any event which with notice, lapse of time or both would result in any breach or violation of or constitute a default under), give rise to any right of termination or other right or the cancellation or acceleration of any right or obligation or loss of a benefit under, or give rise to the creation or imposition of any lien, encumbrance, security interest, claim or charge upon any property or assets of the Company or any Subsidiary pursuant to (i) any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company or any Subsidiary is a party or by which any of them or any of their respective properties may be bound or to which any of the property or assets of the Company or any Subsidiary is subject, (ii) result in any violation of the provisions of the charter or by-laws of the Company or any Subsidiary, or (iii) result in any violation of any law, statute, rule, regulation, judgment, order or decree of any court or governmental agency or body, domestic or foreign, having jurisdiction over the Company or any Subsidiary or any of their properties or assets.

(p) *No Consents Required.* No approval, authorization, consent or order of or filing, qualification or registration with, any court or governmental agency or body, foreign or domestic, which has not been made, obtained or taken and is not in full force and effect, is required in connection with the execution, delivery and performance of this Agreement or the

Warrants by the Company, the issuance and sale of the Securities or the consummation by the Company of the transactions contemplated hereby or thereby other than (i) as may be required under the Securities Act, (ii) any necessary qualification of the Securities under the securities or blue sky laws of the various jurisdictions in which the Securities are being offered, (iii) under the rules and regulations of the Financial Industry Regulatory Authority (“FINRA”) or (iv) the NASDAQ Capital Market in connection with the distribution of the Securities.

(q) *Preemptive Rights.* Except as otherwise described in the Registration Statement, the Final Prospectus and the Disclosure Package, there are no preemptive rights or other rights (other than rights which have been waived in writing in connection with the transactions contemplated by this Agreement or otherwise satisfied) to subscribe for or to purchase any shares of Common Stock or shares of any other capital stock or other equity interests of the Company, or any agreement or arrangement between the Company and any of the Company’s stockholders, or to the Company’s knowledge, between or among any of the Company’s stockholders, which grant special rights with respect to any shares of the Company’s capital stock or which in any way affect any stockholder’s ability or right freely to alienate or vote such shares.

(r) *Registration Rights.* Except as otherwise described in the Registration Statement, Final Prospectus and the Disclosure Package, there are no contracts, agreements or understandings between the Company and any person granting such person the right (other than rights which have been waived in writing in connection with the transactions contemplated by this Agreement or otherwise satisfied) to require the Company to register any securities with the Commission.

(s) *Lock-Up Agreements.* The Company has received copies of the executed Lock-Up Agreements, substantially in the form of Exhibit B hereto (the “*Lock-Up Agreements*”) executed by each person listed on Schedule III hereto, and such Lock-Up Agreements shall be in full force and effect on each Closing Date.

(t) *Independent Accountants.* Ernst & Young LLP (“*E&Y LLP*”), whose reports on the consolidated financial statements of the Company are incorporated by reference in the Registration Statement, the Final Prospectus and the Disclosure Package, is (A) an independent public accounting firm within the meaning of the Securities Act, (B) a registered public accounting firm (as defined in Section 2(a)(12) of the Sarbanes-Oxley Act of 2002 (the “*Sarbanes-Oxley Act*”)), and (C) to the Company’s knowledge, not in violation of the auditor independence requirements of the Sarbanes-Oxley Act.

(u) *Financial Statements.* The financial statements of the Company, together with the related schedules and notes thereto, included or incorporated by reference in the Final Prospectus and the Disclosure Package, 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 (i) the financial condition of the Company as of the dates indicated and (ii) the consolidated results of operations, stockholders’ equity and changes in cash flows of the Company for the periods therein specified; and such financial statements and related schedules and notes thereto have been prepared in conformity with United States generally accepted accounting principles, consistently applied throughout the periods involved (except as otherwise stated therein and subject, in the case of unaudited financial statements, to the absence of footnotes and normal year-end adjustments). There are no other financial statements (historical or pro forma) that are required to be included or incorporated by reference in the Registration Statement, the Final

Prospectus or the Disclosure Package; and all disclosures contained in the Registration Statement, the Disclosure Package and the Final Prospectus regarding “non-GAAP financial measures” (as such term is defined by the rules and regulations of the Commission) comply with Regulation G of the Exchange Act and Item 10(e) of Regulation S-K under the Securities Act, to the extent applicable, and present fairly the information shown therein and the Company’s basis for using such measures.

(v) *Absence of Material Changes.* Subsequent to the respective dates as of which information is given in the Registration Statement, the Final Prospectus and the Disclosure Package, and except as may be otherwise stated or incorporated by reference in the Registration Statement, the Final Prospectus and the Disclosure Package, there has not been (i) any Material Adverse Effect, (ii) any transaction which is material to the Company or any Subsidiary, (iii) any obligation, direct or contingent (including any off-balance sheet obligations), incurred by the Company or any Subsidiary, which is material to the Company, (iv) any dividend or distribution of any kind declared, paid or made on the capital stock of the Company, (v) any change in the capital stock (other than a change in the number of outstanding shares of Common Stock due to the issuance of shares upon the exercise of outstanding options or warrants or the conversion of convertible indebtedness), or material change in the short-term debt or long-term debt of the Company or any Subsidiary (other than upon conversion of convertible indebtedness) or any issuance of options, warrants, convertible securities or other rights to purchase the capital stock (other than grants of stock options under the Company’s stock option plans existing on the date hereof) of the Company or any Subsidiary.

(w) *Legal Proceedings.* There are no legal or governmental actions, suits, claims or proceedings pending or, to the Company’s knowledge, threatened or contemplated to which the Company or any Subsidiary is or would be a party or of which any of their respective properties is or would be subject at law or in equity, before or by any federal, state, local or foreign governmental or regulatory commission, board, body, authority or agency, or before or by any self-regulatory organization or other non-governmental regulatory authority (including, without limitation, the Food and Drug Administration of the U.S. Department of Health and Human Services (the “FDA”)) which are required to be described in the Registration Statement, the Disclosure Package or the Final Prospectus and are not so described therein, or which, singularly or in the aggregate, if resolved adversely to the Company or any Subsidiary, would reasonably be likely to result in a Material Adverse Effect or prevent or materially and adversely affect the ability of the Company to consummate the transactions contemplated hereby.

(x) *No Violation.* Neither the Company nor any Subsidiary is in breach or violation of or in default (nor has any event occurred which with notice, lapse of time or both would result in any breach or violation of, or constitute a default) (i) under the provisions of its charter or bylaws (or analogous governing instrument, as applicable) or (ii) in the performance or observance of any term, covenant, obligation, agreement or condition contained in any indenture, mortgage, deed of trust, bank loan or credit agreement or other evidence of indebtedness, or any license, lease, contract or other agreement or instrument to which the Company or any Subsidiary is a party or by which it or any of its properties may be bound or affected, or (iii) in the performance or observance of any statute, law, rule, regulation, ordinance, judgment, order or decree of any court, regulatory body, administrative agency, governmental body, arbitrator or other authority having jurisdiction over the Company or any Subsidiary or any of its properties, as applicable (including, without limitation, those administered by the FDA or by any foreign, federal, state or

local governmental or regulatory authority performing functions similar to those performed by the FDA), except, with respect to clauses (ii) and (iii) above, to the extent any such contravention has been waived or would not result in a Material Adverse Effect.

(y) *Permits*. The Company and each Subsidiary has made all filings, applications and submissions required by, and owns or possesses all approvals, licenses, certificates, certifications, clearances, consents, exemptions, marks, notifications, orders, permits and other authorizations issued by, the appropriate federal, state or foreign regulatory authorities (including, without limitation, the FDA, and any other foreign, federal state or local government or regulatory authorities performing functions similar to those performed by the FDA) necessary to conduct its business as described in the Disclosure Package and the Final Prospectus (collectively, “*Permits*”), except for such Permits which the failure to obtain would not have a Material Adverse Effect (the “*Immaterial Permits*”), and is in compliance in all material respects with the terms and conditions of all such Permits other than the Immaterial Permits (the “*Required Permits*”). All such Required Permits held by the Company or any Subsidiary are valid and in full force and effect. Neither the Company nor any Subsidiary has received any notice of any proceedings relating to revocation or modification of, any such Required Permit, which, individually or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would have a Material Adverse Effect.

(z) *Not an Investment Company*. Neither the Company nor any Subsidiary is or, after giving effect to the offering and sale of the Securities and the application of the proceeds thereof as described in the Disclosure Package and the Final Prospectus, will be (i) required to register as an “investment company” as defined in the Investment Company Act of 1940, as amended (the “*Investment Company Act*”), and the rules and regulations of the Commission thereunder or (ii) a “business development company” (as defined in Section 2(a)(48) of the Investment Company Act).

(aa) *No Price Stabilization*. Neither the Company nor any Subsidiary nor, to the Company’s knowledge, any of the Company’s or any Subsidiary’s officers, directors, affiliates or controlling persons has taken or will take, directly or indirectly, any action designed to or that might be reasonably expected to cause or result in, or which has constituted or which might reasonably be expected to constitute the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Securities.

(bb) *Good Title to Property*. The Company and each Subsidiary has good and marketable title to all property (whether real or personal) described in the Registration Statement, the Disclosure Package and the Final Prospectus as being owned by it, in each case free and clear of all liens, claims, security interests, other encumbrances or defects (collectively, “*Liens*”), except such as are described in the Registration Statement, the Disclosure Package and the Final Prospectus and those that would not, individually or in the aggregate materially affect the value of such property and do not materially interfere with the use made and proposed to be made of such property by the Company or any Subsidiary. All of the property described in Disclosure Package and the Final Prospectus as being held under lease by the Company or any Subsidiary is held thereby under leases that are in full force and effect.

(cc) *Intellectual Property Rights*. The Company and each Subsidiary owns or possesses the right to use all patents, trademarks, trademark registrations, service marks, service mark registrations, trade names, copyrights, licenses, inventions, software, databases, know-how,

Internet domain names, trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems or procedures, and other intellectual property (collectively, "*Intellectual Property*") necessary to carry on their respective businesses as currently conducted, and as proposed to be conducted and described in the Disclosure Package and the Final Prospectus, and neither the Company nor any Subsidiary is aware of any claim to the contrary or any challenge by any other person to the rights of the Company or any Subsidiary with respect to the foregoing except for those that could not have a Material Adverse Effect. The Intellectual Property licenses described in the Disclosure Package and the Final Prospectus are, to the knowledge of the Company, valid, binding upon, and enforceable by or against the parties thereto in accordance to their terms. The Company and each Subsidiary has complied in all material respects with, and is not in breach nor has received any asserted or threatened claim of breach of, any Intellectual Property license, and neither the Company nor any Subsidiary has knowledge of any breach or anticipated breach by any other person to any Intellectual Property license. The Company's and each Subsidiary's businesses as now conducted and as proposed to be conducted, to the knowledge of the Company, do not and will not infringe or conflict with any patents, trademarks, service marks, trade names, copyrights, trade secrets, licenses or other Intellectual Property or franchise right of any person. Neither the Company nor any Subsidiary has received notice of any material claim against the Company or any Subsidiary alleging the infringement by the Company or any Subsidiary of any patent, trademark, service mark, trade name, copyright, trade secret, license in or other intellectual property right or franchise right of any person. The Company and each Subsidiary has taken all reasonable steps to protect, maintain and safeguard its rights in all Intellectual Property, including the execution of appropriate intellectual property assignment, nondisclosure and confidentiality agreements, and no current or former employee or contractor is in violation of any such agreement or has retained any rights in such Intellectual Property. The consummation of the transactions contemplated by this Agreement will not result in the loss or impairment of or payment of any additional amounts with respect to, nor require the consent of any other person in respect of, the Company's or any Subsidiary's right to own, use, or hold for use any of the Intellectual Property as owned, used or held for use in the conduct of the businesses as currently conducted. Neither the Company nor any Subsidiary has entered into any agreement to indemnify any third party against a claim of intellectual property infringement. The Company and each Subsidiary has duly and properly filed or caused to be filed with the United States Patent and Trademark Office (the "*PTO*") and applicable foreign and international patent authorities all patent applications owned by the Company or any Subsidiary (collectively, the "*Company Patent Applications*"). To the knowledge of the Company, the Company each Subsidiary has complied with the PTO's duty of candor and disclosure for the Company Patent Applications and has made no material misrepresentation in the Company Patent Applications. Neither the Company nor any Subsidiary is aware of any information material to a determination of patentability regarding the Company Patent Applications not called to the attention of the PTO or similar foreign authority. Neither the Company nor any Subsidiary is aware of any information not called to the attention of the PTO or similar foreign authority that would preclude the grant of a patent for the Company Patent Applications. Neither the Company nor any Subsidiary has knowledge of any information that would preclude the Company or any Subsidiary, as applicable, from having clear title to the Company Patent Applications. Neither the Company nor any Subsidiary has used any open source software in any Company product. The Company and each Subsidiary is in compliance with all relevant local, state, federal, and foreign laws related to the collection, storage and distribution of personally identifiable information and with all Company and any Subsidiary

privacy policies and all applicable agreements. The consummation of the transactions contemplated by this Agreement will not violate any Company or any Subsidiary privacy obligations nor require the Company or any Subsidiary to provide any notice to, or seek any consent from, any employee, customer, supplier, service provide or other third party.

(dd) *No Labor Disputes*. No labor problem or dispute with the employees of the Company or any Subsidiary exists, or, to the Company's knowledge, is threatened or imminent, which would reasonably be expected to result in a Material Adverse Effect. Neither the Company nor any Subsidiary is aware that any key employee or significant group of employees of the Company or any Subsidiary plans to terminate employment with the Company or any Subsidiary. Neither the Company nor any Subsidiary has engaged in any unfair labor practice; except for matters which would not, individually or in the aggregate, result in a Material Adverse Effect, (i) there is (A) no unfair labor practice complaint pending or, to the Company's knowledge, threatened against the Company or any Subsidiary before the National Labor Relations Board, and no grievance or arbitration proceeding arising out of or under collective bargaining agreements is pending or to the Company's knowledge, threatened, (B) no strike, labor dispute, slowdown or stoppage pending or, to the Company's knowledge, threatened against the Company and (C) no union representation dispute currently existing concerning the employees of the Company or any Subsidiary and (ii) to the Company's knowledge, (A) no union organizing activities are currently taking place concerning the employees of the Company and (B) there has been no violation of any federal, state, local or foreign law relating to discrimination in the hiring, promotion or pay of employees, any applicable wage or hour laws or any provision of the Employee Retirement Income Security Act of 1974 ("*ERISA*") or the rules and regulations promulgated thereunder concerning the employees of the Company or any Subsidiary.

(ee) *Taxes*. The Company and each Subsidiary has (i) timely filed all necessary federal, state, local and foreign income and franchise tax returns (or timely filed applicable extensions therefore) that have been required to be filed and (ii) is not in default in the payment of any taxes which were payable pursuant to said returns or any assessments with respect thereto, other than any which the Company or any Subsidiary is contesting in good faith and for which adequate reserves have been provided and reflected in the Company's financial statements included in the Registration Statement, the Disclosure Package and the Final Prospectus. Neither the Company nor any Subsidiary has any tax deficiency that has been or, to the knowledge of the Company, is reasonably likely to be asserted or threatened against it that would result in a Material Adverse Effect.

(ff) *ERISA*. The Company and each Subsidiary is in compliance in all material respects with all presently applicable provisions of ERISA; no "reportable event" (as defined in ERISA) has occurred with respect to any "pension plan" (as defined in ERISA) for which the Company or any Subsidiary would have any liability; neither the Company nor any Subsidiary has incurred and does not expect to incur liability under (i) Title IV of ERISA with respect to termination of, or withdrawal from, any "pension plan" or (ii) Sections 412 or 4971 of the Internal Revenue Code of 1986, as amended, including the regulations and published interpretations thereunder (the "*Code*"); and each "pension plan" for which the Company or any Subsidiary would have any liability that is intended to be qualified under Section 401(a) of the Code is so qualified in all material respects and nothing has occurred, whether by action or by failure to act, which would cause the loss of such qualification.

(gg) *Compliance with Environmental Laws.* The Company and each Subsidiary (i) is in compliance with any and all applicable foreign, federal, state and local laws, orders, rules, regulations, directives, decrees and judgments relating to the use, treatment, storage and disposal of hazardous or toxic substances or waste and protection of human health and safety or the environment which are applicable to their businesses (“*Environmental Laws*”), (ii) has received and is in compliance with all permits, licenses or other approvals required of them under applicable Environmental Laws to conduct its business; and (iii) is in compliance with all terms and conditions of any such permit, license or approval, except where such noncompliance with Environmental Laws, failure to receive required permits, licenses or other approvals or failure to comply with the terms and conditions of such permits, licenses or approvals would not, individually or in the aggregate, result in a Material Adverse Effect. There are no costs or liabilities associated with Environmental Laws (including, without limitation, any capital or operating expenditures required for clean-up, closure of properties or compliance with Environmental Laws or any permit, license or approval, any related constraints on operating activities and any potential liabilities to third parties) which would, individually or in the aggregate, result in a Material Adverse Effect.

(hh) *Insurance.* The Company and each Subsidiary maintains or is covered by insurance provided by recognized, financially sound and reputable institutions with insurance policies in such amounts and covering such risks as is adequate for the conduct of its business and the value of its properties and as is customary for companies engaged in similar businesses in similar industries. All such insurance is fully in force on the date hereof and will be fully in force as of each Closing Date. Neither the Company nor any Subsidiary has 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 from similar insurers as may be necessary to continue its business at a cost that would not have a Material Adverse Effect.

(ii) *Accounting Controls.* The Company and each Subsidiary maintains a system of internal accounting controls sufficient to provide reasonable assurances that (i) transactions are executed in accordance with management’s general or specific authorization; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles and to maintain accountability for assets; (iii) access to assets is permitted only in accordance with management’s general or specific authorization; and (iv) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences.

(jj) *Disclosure Controls.* The Company and each Subsidiary has established, maintains and evaluates “disclosure controls and procedures” (as such term is defined in Rule 13a-15(e) and 15d-15(e) under the Exchange Act), which (i) are designed to ensure that material information relating to the Company is made known to the Company’s and any Subsidiary’s principal executive officer and its principal financial officer by others within those entities, (ii) have been evaluated for effectiveness as of the end of the last fiscal period covered by the Registration Statement; and (iii) such disclosure controls and procedures are effective in all material respects to perform the functions for which they were established. There are no significant deficiencies and material weaknesses in the design or operation of internal controls which could adversely affect the Company’s or any Subsidiary’s ability to record, process, summarize, and report financial data to management and the Board of Directors of the Company. The Company is not aware of any fraud, whether or not material, that involves management or

other employees who have a role in the Company's or any Subsidiary's internal controls; and since the date of the most recent evaluation of such disclosure controls and procedures, there have been no significant changes in internal controls or in other factors that could significantly affect internal controls, including any corrective actions with regard to significant deficiencies and material weaknesses.

(kk) *Contracts; Off-Balance Sheet Interests.* There is no document, contract, permit or instrument, or off-balance sheet transaction (including without limitation, any "variable interests" in "variable interest entities," as such terms are defined in Financial Accounting Standards Board Interpretation No. 46) of a character required by the Securities Act or the Rules and Regulations to be described in the Registration Statement, the Disclosure Package or the Final Prospectus or to be filed as an exhibit to the Registration Statement or document incorporated by reference therein, which is not described or filed as required. The contracts described in the immediately preceding sentence to which the Company or any Subsidiary is a party have been duly authorized, executed and delivered by the Company or such Subsidiary, constitute valid and binding agreements of the Company or such Subsidiary, are enforceable against and by the Company or such Subsidiary in accordance with the terms thereof and are in full force and effect on the date hereof.

(ll) *No Undisclosed Relationships.* No relationship, direct or indirect, exists between or among the Company on the one hand and the directors, officers, stockholders, customers or suppliers of the Company or any of their affiliates on the other hand, which is required to be described in the Registration Statement, Disclosure Package and the Final Prospectus or a document incorporated by reference therein and which has not been so described.

(mm) *Brokers Fees.* There are no contracts, agreements or understandings between the Company and any person (other than this Agreement) that would give rise to a valid claim against the Company or the Underwriters for a brokerage commission, finder's fee or other like payment in connection with the offering and sale of the Securities.

(nn) *Forward-Looking Statements.* No forward-looking statements (within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act) contained in either the Disclosure Package or the Final Prospectus has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith.

(oo) *NASDAQ; Exchange Act Registration.* The Common Stock is registered pursuant to Section 12(b) and/or 12(g) of the Exchange Act and is listed on the NASDAQ Capital Market, and the Company has taken no action designed to, or reasonably likely to have the effect of, termination the registration of the Common Stock under the Exchange Act or delisting the Common Stock from the NASDAQ Capital Market, nor has the Company received any notification that the Commission or the NASDAQ Capital Market is contemplating terminating such registration or listing. The Company has complied in all material respects with the applicable requirements of the NASDAQ Capital Market for maintenance of inclusion of the Common Stock thereon. The Company has filed a notification of the listing of the Stock and the Warrant Shares on the NASDAQ Capital Market.

(pp) *Sarbanes-Oxley Act.* The Company, each Subsidiary, and to the Company's knowledge, all of the Company's and each Subsidiary's directors or officers, in their capacities as such, are in compliance in all material respects with all applicable effective provisions of the

Sarbanes-Oxley Act and any related rules and regulations promulgated by the Commission. Each of the principal executive officer and the principal financial officer of the Company (or each former principal executive officer of the Company and each former principal financial officer of the Company as applicable) has made all certifications required by Sections 302 and 906 of the Sarbanes-Oxley Act with respect to all reports, schedules, forms, statements and other documents required to be filed by it with the Commission. For purposes of the preceding sentence, “principal executive officer” and “principal financial officer” shall have the meanings given to such terms in the Sarbanes-Oxley Act.

(qq) *Corporate Records*. The minute books of the Company and each Subsidiary, representing all existing records of all meetings and actions of the board of directors (including, Audit, Compensation and Stock Option, and Nominating Committees) and stockholders of the Company and each Subsidiary (collectively, the “*Corporate Records*”) through the date of the latest meeting and action have been made available to the Underwriters and counsel for the Underwriters. All such Corporate Records are complete and accurately reflect, in all material respects, all transactions referred to in such Corporate Records. There are no material transactions, agreements or other actions that have been consummated by the Company or any Subsidiary that are not properly approved and/or recorded in the Corporate Records of the Company and the Subsidiaries.

(rr) *Foreign Corrupt Practices*. Neither the Company, any Subsidiary, nor, to the Company’s knowledge, any other person associated with or acting on behalf of the Company or any Subsidiary, including without limitation any director, officer, agent or employee of the Company or any Subsidiary, has, directly or indirectly, while acting on behalf of the Company or any Subsidiary (i) used any corporate funds for unlawful contributions, gifts, entertainment or other unlawful expenses relating to political activity or failed to disclose fully any contribution in violation of law, (ii) made any payment to any federal or state governmental officer or official, or other person charged with similar public or quasi-public duties, other than payments required or permitted by the laws of the United States or any jurisdiction thereof, (iii) violated or is in violation of any provision of the U.S. Foreign Corrupt Practices Act of 1977, as amended or (iv) made any bribe, rebate, payoff, influence payment, kickback or other unlawful payment.

(ss) *Statistical or Market-Related Data*. Any statistical, industry-related and market-related data included or incorporated by reference in the Registration Statement, the Final Prospectus or the Disclosure Package, are based on or derived from sources that the Company reasonably and in good faith believes to be reliable and accurate, and such data agree with the sources from which they are derived.

(tt) *Money Laundering Laws*. The operations of the Company and each Subsidiary are and have been conducted at all times in compliance in all material respects with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all jurisdictions, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any governmental agency (collectively, the “*Money Laundering Laws*”) and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any Subsidiary with respect to the Money Laundering Laws is pending, or to the knowledge of the Company, threatened against the Company or any Subsidiary.

(uu) *OFAC*. Neither the Company, the Subsidiaries, nor, to the knowledge of the Company, any director, officer, agent, employee or affiliate of the Company or any Subsidiary is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department (“*OFAC*”); and the Company will not directly or indirectly use the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any affiliate, joint venture partner or other person or entity, which, to the Company’s knowledge, will use such proceeds for the purpose of financing the activities of any person currently subject to any U.S. sanctions administered by *OFAC*.

(vv) *Margin Securities*. The Company does not own any “margin securities” as that term is defined in Regulation U of the Board of Governors of the Federal Reserve System (the “*Federal Reserve Board*”), and none of the proceeds of the sale of the Securities will be used, directly or indirectly, for the purpose of purchasing or carrying any margin security, for the purpose of reducing or retiring any indebtedness which was originally incurred to purchase or carry any margin security or for any other purpose which might cause any of the Securities to be considered a “purpose credit” within the meanings of Regulation T, U or X of the Federal Reserve Board.

(ww) *Rated Securities*. At the Time of Sale there were, and as of each Closing Date there will be, no securities of or guaranteed by the Company that are rated by a “nationally recognized statistical rating organization,” as that term is defined in Rule 436(g)(2) promulgated under the Securities Act.

(xx) *FINRA*. There are no affiliations or associations between (i) any member of *FINRA* and (ii) the Company or any of the Company’s officers, directors or 5% or greater securityholders or any beneficial owner of the Company’s unregistered equity securities that were acquired at any time on or after the one hundred eightieth (180th) day immediately preceding the date the Registration Statement was initially filed with the Commission, except as set forth in the Registration Statement, the Disclosure Package and the Final Prospectus.

(yy) *Exchange Act Requirements*. The Company has filed in a timely manner all reports required to be filed pursuant to Sections 13(a), 13(e), 14 and 15(d) of the Exchange Act during the preceding 12 months (except to the extent that Section 15(d) requires reports to be filed pursuant to Sections 13(d) and 13(g) of the Exchange Act, which shall be governed by the next clause of this sentence); and the Company has filed in a timely manner all reports required to be filed pursuant to Sections 13(d) and 13(g) of the Exchange Act since January 1, 2007, except where the failure to timely file could not reasonably be expected individually or in the aggregate to have a Material Adverse Effect.

(zz) *Trading Market*. No approval of the shareholders of the Company under the rules and regulations of any trading market (including Rule 5635 of the NASDAQ Marketplace Rules) is required for the Company to issue and deliver the Securities to prospective purchasers.

(aaa) *Regulatory Compliance*.

- a. The clinical, pre-clinical and other studies and tests conducted by or on behalf of or sponsored by the Company or any Subsidiary or in which the Company or any Subsidiary or products or product candidates have participated that are described in the Registration Statement, the Disclosure Package and the Final Prospectus

were and, if still pending, are being conducted in accordance in all material respects with all applicable federal, state or foreign statutes, laws, rules and regulations, as applicable (including, without limitation, those administered by the FDA or by any foreign, federal, state or local governmental or regulatory authority performing functions similar to those performed by the FDA and current Good Laboratory and Good Clinical Practices) and in accordance in all material respects with experimental protocols, procedures and controls pursuant to, where applicable, accepted professional and scientific standards. The descriptions in the Registration Statement, the Final Prospectus and the Disclosure Package of the results of such studies, tests and trials are accurate and complete in all material respects and fairly present the published data derived from such studies, tests and trials. Neither the Company nor any Subsidiary has received any notices or other correspondence from the FDA or any other foreign, federal, state or local governmental or regulatory authority performing functions similar to those performed by the FDA with respect to any ongoing clinical or pre-clinical studies or tests requiring the termination, suspension or material modification of such studies, tests or preclinical or clinical trials, which termination, suspension or material modification would reasonably be expected to result in a Material Adverse Effect. To the Company's knowledge, no filing or submission to the FDA or any other federal, state or foreign regulatory body, that is intended to be the basis for any approval, contains any material misstatement or omission. The Company and each Subsidiary is in compliance with all applicable federal, state, local and foreign laws, regulations, orders and decrees governing their business as prescribed by the FDA, or any other federal, state or foreign agencies or bodies, including those bodies and agencies engaged in the regulation of pharmaceuticals or biohazardous substances or materials, except where noncompliance would not, singly or in the aggregate, result in a Material Adverse Effect.

- b. Neither the Company nor any Subsidiary has received any written notice or other communication from the FDA or any other foreign, federal, state or local governmental or regulatory authority performing functions similar to those performed by the FDA regarding non-compliance with the Federal Food, Drug, and Cosmetic Act ("FDCA") and applicable FDA regulations or similar laws, statutes, ordinances, rules, or regulations of any other foreign, federal, state or local governmental or regulatory authority, including, but not limited to, any regulatory or warning letter, untitled letter, adverse inspection finding, finding of deficiency, any other compliance or enforcement action. To the Company's knowledge, there has not been any non-compliance with or violation of any statute, law, rule, regulation, ordinance, judgment, injunction, writ, order or decree of any court, regulatory body, administrative agency, governmental body, arbitrator or other authority having jurisdiction over the Company, any Subsidiary or any of their properties, as applicable (including, without limitation, the Public Health Service Act, the FDCA and those administered by the FDA or by any foreign, federal, state or local governmental or regulatory authority performing functions similar to those performed by the FDA), that could reasonably be expected to require the issuance of any such communication, or an investigation, corrective action or enforcement action by the FDA or similar governmental or regulatory authorities. To the Company's knowledge, no review or investigation by governmental or regulatory authorities is pending and no such review or investigation has been threatened.

- c. Neither the Company, any Subsidiary nor, to the Company's knowledge, any of their respective directors, officers, employees or agents has been convicted of any crime or has been the subject of an FDA debarment proceeding. Neither the Company nor any Subsidiary has been nor is now subject to FDA's Applications Integrity Policy. To the Company's knowledge, neither the Company, any Subsidiary nor any of its directors, officers, employees or agents, has made, or caused the making of, any false statements on, or material omissions from, any applications, approvals, reports or other submissions to the FDA or any other governmental or regulatory authority, or made any false statements on, or material omissions from, any other records or documentation prepared or maintained to comply with the requirements of the FDA or any other governmental or regulatory authority.
- d. Neither the Company, any Subsidiary nor, to the Company's knowledge, any of their respective directors, officers, employees or agents, have with respect to each of the following statutes, or regulations promulgated thereto: (i) engaged in activities under 42 U.S.C. §§ 1320a-7 or 1395nn; (ii) knowingly engaged in any activities under 42 U.S.C. § 1320a-7a or the Federal False Claims Act, 31 U.S.C. § 3729; or (iii) knowingly and willfully engaged in any activities under 42 U.S.C. § 1320a-7b, which are, as applicable, prohibited, cause for civil penalties, or mandatory or permissive exclusion from Medicare, Medicaid, or any other State Health Care Program or Federal Health Care Program.

Any certificate signed by any officer of the Company and delivered to the Underwriters or to counsel for the Underwriters in connection with the Offering shall be deemed a representation and warranty by the Company to the Underwriters as to the matters covered thereby.

3. *PURCHASE, SALE AND DELIVERY OF OFFERED SECURITIES.* On the basis of the representations, warranties and agreements herein contained, but subject to the terms and conditions herein set forth, the Company agrees to sell to the Underwriters, and the Underwriters agree, severally and not jointly, to purchase from the Company the respective numbers of shares of Firm Stock and Firm Warrants set forth opposite the names of the Underwriters on Schedule IV hereto.

The purchase price per share to be paid by the Underwriters to the Company for the Firm Stock will be \$1.4006 per share (the "*Per Share Purchase Price*") and each Firm Warrant shall be \$0.0094 per Warrant (the "*Per Warrant Purchase Price*" and together with the Per Share Purchase Price, the "*Purchase Price*").

The Company will deliver to the Underwriters, for their respective accounts, (i) the Firm Stock through the facilities of The Depository Trust Company and (ii) the Firm Warrants in physical, certificated form, in each such case, issued in such names and in such denominations as the Underwriters may direct by notice in writing to the Company given at or prior to 12:00 Noon, New York time, on the second (2nd) full business day preceding the Closing Date against payment of the aggregate Purchase Price therefor by wire transfer in federal (same day) funds

to an account at a bank acceptable to the Underwriters payable to the order of the Company all at the offices of LeClairRyan, A Professional Corporation, 885 Third Avenue, New York, New York 10022. Time shall be of the essence, and delivery at the time and place specified pursuant to this Agreement is a further condition of the obligations of each Underwriter hereunder. The time and date of the delivery and closing shall be at 10:00 A.M., New York time, on May 31, 2012. The time and date of such payment and delivery are herein referred to as the "Closing Date". The Closing Date and the location of delivery of, and the form of payment for, the Firm Stock and the Firm Warrants may be varied by agreement among the Company and the Underwriters.

For the purpose of covering any over-allotments in connection with the distribution and sale of the Firm Stock and Firm Warrants as contemplated by the Prospectus, the Underwriters may purchase all or less than all of the Optional Stock and/or the Optional Warrants. The price per share to be paid for the Optional Stock shall be the Per Share Purchase Price and the price per warrant to be paid for the Optional Warrants shall be the Per Warrant Purchase Price. The Company agrees to sell to the Underwriters the number of shares of Optional Stock and/or the number of Optional Warrants specified in the written notice delivered by the Underwriters to the Company described below and the Underwriters agree, severally and not jointly, to purchase such shares of Optional Stock and/or Optional Warrants. Such shares of Optional Stock and/or Optional Warrants shall be purchased from the Company for the account of each Underwriter in the same proportion as the number of shares of Firm Stock and Firm Warrants set forth opposite such Underwriter's name on Schedule IV bears to the total number of shares of Firm Stock and the total number of Firm Warrants (subject to adjustment by the Underwriters to eliminate fractions). The option granted hereby may be exercised as to all or any part of the Optional Stock and/or the Optional Warrants at any time, and from time to time, not more than thirty (30) days subsequent to the date of this Agreement. No Optional Stock shall be sold and delivered unless the Firm Stock previously has been, or simultaneously is, sold and delivered and no Optional Warrants shall be sold and delivered unless the Firm Warrants previously have been, or simultaneously are, sold and delivered. The right to purchase the Optional Stock and/or the Optional Warrants or any portion thereof may be surrendered and terminated at any time upon notice by the Underwriters to the Company.

The option granted hereby may be exercised by written notice being given to the Company by the Underwriters setting forth the number of shares of the Optional Stock and/or the number of Optional Warrants to be purchased by the Underwriters and the date and time for delivery of and payment for the Optional Stock and/or the Optional Warrants. Each date and time for delivery of and payment for the Optional Stock and/or Optional Warrants (which may be the Closing Date, but not earlier) is herein called the "Option Closing Date" and shall in no event be earlier one (1) business day nor later than five (5) business days after written notice is given. The Option Closing Date and the Closing Date are herein called the "Closing Dates."

The Company will deliver to the Underwriters, for their respective accounts, (i) the Optional Stock through the facilities of The Depository Trust Company and/or (ii) the Optional Warrants in physical, certificated form, in each such case, issued in such names and in such denominations as the Underwriters may direct by notice in writing to the Company given at or prior to 5:00 p.m., New York time, on first (1st) business day preceding the Option

Closing Date against payment of the aggregate purchase price therefor by wire transfer in federal (same day) funds to an account at a bank acceptable to the Underwriters payable to the order of the Company, all at the offices of LeClairRyan, A Professional Corporation, 885 Third Avenue, New York, New York 10022. Time shall be of the essence, and delivery at the time and place specified pursuant to this Agreement is a further condition of the obligations of each Underwriter hereunder. The Option Closing Date and the location of delivery of, and the form of payment for, the Optional Stock and/or the Optional Warrants may be varied by agreement among the Company and the Underwriters.

The Company is advised by the Underwriters that the Underwriters intend (i) to make a public offering of the Firm Stock and the Firm Warrants as soon after the effectiveness of this Agreement as in the Underwriters' judgment is advisable and (ii) initially offer the Firm Stock and the Firm Warrants upon the terms set forth in the Prospectus. The Underwriters may from time to time increase or decrease the public offering price after the initial public offering to such extent as the Underwriters may determine.

4. *FURTHER AGREEMENTS OF THE COMPANY.* The Company agrees with the Underwriters:

(a) To prepare the Rule 462(b) Registration Statement, if necessary, in a form approved by the Underwriters and file such Rule 462(b) Registration Statement with the Commission by 10:00 p.m., New York time, on the date hereof, and the Company shall at the time of filing either pay to the Commission the filing fee for the Rule 462(b) Registration Statement or give irrevocable instructions for the payment of such fee pursuant to Rule 111(b) under the Rules and Regulations; to prepare the Prospectus in a form approved by the Underwriters containing information previously omitted at the time of effectiveness of the Registration Statement in reliance on Rules 430A, 430B or 430C of the Rules and Regulations and to file such Prospectus pursuant to Rule 424(b) of the Rules and Regulations not later than the second business (2nd) day following the execution and delivery of this Agreement or, if applicable, such earlier time as may be required by Rule 430A of the Rules and Regulations; prior to the termination of the Offering, to notify the Underwriters immediately of the Company's intention to file or prepare any supplement or amendment to any Registration Statement or to the Final Prospectus and to make no amendment or supplement to the Registration Statement, the Disclosure Package or to the Final Prospectus to which the Underwriters shall reasonably object by notice to the Company after a reasonable period to review; prior to the termination of the Offering, to advise the Underwriters, promptly after it receives notice thereof, of the time when any amendment to any Registration Statement has been filed or becomes effective or any supplement to the Disclosure Package or the Final Prospectus or any amended Prospectus has been filed and to furnish the Representatives with copies thereof; to timely file all material required to be filed by the Company with the Commission pursuant to Rules 433(d) or 163(b)(2) of the Rules and Regulations, as the case may be; to file promptly all reports and any definitive proxy or information statements required to be filed by the Company with the Commission pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act subsequent to the date of the Prospectus and for so long as the delivery of a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) of the Rules and Regulations) is required in connection with the offering or sale of the Securities; to advise the Underwriters, promptly after it receives notice thereof, of the issuance by the Commission of any stop order or of any order preventing or suspending the use of any Issuer Free Writing Prospectus or the Prospectus, of the suspension of the qualification of the Securities for offering or sale in any jurisdiction, of the

initiation or threatening of any proceeding for any such purpose, or of any request by the Commission for the amending or supplementing of the Registration Statement, the Disclosure Package or the Final Prospectus or for additional information; and, in the event of the issuance of any stop order or of any order preventing or suspending the use of any Issuer Free Writing Prospectus or the Prospectus or suspending any such qualification, and promptly to use its best efforts to obtain the withdrawal of such order.

(b) The Company represents and agrees that, unless it obtains the prior consent of the Representatives, and the Underwriters represent and agree that, unless the Underwriters obtain the prior consent of the Company, no party has made nor will, other than a final term sheet prepared and filed pursuant to Section 4(c) hereof, make any offer relating to the Securities that would constitute a “free writing prospectus” as defined in Rule 405 of the Rules and Regulations (each, a “*Permitted Free Writing Prospectus*”). The Company represents that it has treated and agrees that it will treat each Permitted Free Writing Prospectus as an Issuer Free Writing Prospectus, comply with the requirements of Rules 164 and 433 of the Rules and Regulations applicable to any Issuer Free Writing Prospectus, including the requirements relating to timely filing with the Commission, legending and record keeping and will not take any action that would result in the Underwriters or the Company being required to file with the Commission pursuant to Rule 433(d) of the Rules and Regulations a free writing prospectus prepared by or on behalf of such Underwriters that such Underwriters otherwise would not have been required to file thereunder.

(c) If at any time prior to the expiration of nine (9) months after the later of (i) the latest effective date of the Registration Statement or (ii) the date of the Prospectus, when a prospectus relating to the Stock and Warrants is required to be delivered (or in lieu thereof, the notice referred to in Rule 173(a) of the Rules and Regulations) any event occurs or condition exists as a result of which the Prospectus as then amended or supplemented would include any untrue statement of a material fact, or omit to state any material fact necessary to make the statements therein, in light of the circumstances under which they were made when the Prospectus is delivered (or in lieu thereof, the notice referred to in Rule 173(a) of the Rules and Regulations), not misleading, or if it is necessary at any time to amend or supplement any Registration Statement or the Prospectus or to file under the Exchange Act any document incorporated by reference in the Prospectus to comply with the Securities Act or the Exchange Act, that the Company will promptly notify the Underwriters thereof and upon its request will prepare an appropriate amendment or supplement or upon its request make an appropriate filing pursuant to Section 13 or 14 of the Exchange Act in form and substance satisfactory to the Underwriters which will correct such statement or omission or effect such compliance and will use its best efforts to have any amendment to any Registration Statement declared effective as soon as possible. The Company will furnish without charge to the Underwriters and to any dealer in securities as many copies as the Underwriters may from time to time reasonably request of such amendment or supplement. In case the Underwriters are required to deliver a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) of the Rules and Regulations) relating to the Stock and Warrants nine (9) months or more after the later of (i) the latest effective date of the Registration Statement or (ii) the date of the Prospectus, the Company upon the request of the Underwriters will prepare promptly an amended or supplemented Prospectus as may be necessary to permit compliance with the requirements of Section 10(a)(3) of the Securities Act and deliver to such Underwriters as many copies as such Underwriters may reasonably request of such amended or supplemented Prospectus complying with Section 10(a)(3) of the Securities Act.

(d) If the Disclosure Package is being used to solicit offers to buy the Securities at a time when the Prospectus is not yet available to prospective purchasers and any event shall occur as a result of which, in the judgment of the Company or in the reasonable opinion of the Underwriters, it becomes necessary to amend or supplement the Disclosure Package in order to make the statements therein, in the light of the circumstances then prevailing, not misleading, or to make the statements therein not conflict with the information contained or incorporated by reference in the Registration Statement then on file and not superseded or modified, or if it is necessary at any time to amend or supplement the Disclosure Package to comply with any law, the Company promptly will either (i) prepare, file with the Commission (if required) and furnish to the Underwriters and any dealers an appropriate amendment or supplement to the Disclosure Package or (ii) prepare and file with the Commission an appropriate filing under the Exchange Act which shall be incorporated by reference in the Disclosure Package so that the Disclosure Package as so amended or supplemented will not, in the light of the circumstances then prevailing, be misleading or conflict with the Registration Statement then on file, or so that the Disclosure Package will comply with law.

(e) If at any time following issuance of an Issuer Free Writing Prospectus there occurred or occurs an event or development as a result of which such Issuer Free Writing Prospectus conflicted or will conflict with the information contained in the Registration Statement or Prospectus, including any document incorporated by reference therein and any prospectus supplement deemed to be a part thereof and not superseded or modified or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances prevailing at the subsequent time, not misleading, the Company has promptly notified or will promptly notify the Underwriters so that any use of the Issuer Free Writing Prospectus may cease until it is amended or supplemented and has promptly amended or will promptly amend or supplement, at its own expense, such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission.

(f) For so long as delivery of a prospectus by the Underwriters or a dealer may be required under the Act, to deliver promptly to the Underwriters in New York City such number of the following documents as the Underwriters shall reasonably request: (i) any Issuer Free Writing Prospectus, (ii) the Prospectus (the delivery of the documents referred to in clauses (i) and (ii) of this Section 4(g) to be made not later than 10:00 a.m., New York time, on the business day following the execution and delivery of this Agreement), (iii) conformed copies of any amendment to the Registration Statement (excluding exhibits), (iv) any amendment or supplement to the Disclosure Package or the Prospectus (the delivery of the documents referred to in clauses (iii) and (iv) of this Section 4(g) to be made not later than 10:00 a.m., New York time, on the business day following the date of such amendment or supplement), and (v) any document incorporated by reference in the Disclosure Package or the Final Prospectus (excluding exhibits thereto) after the date hereof (the delivery of the documents referred to in clause (v) of this Section 4(g) to be made not later than 10:00 a.m., New York time, on the business day following the date of such document); provided that filing with the Commission on EDGAR any document specified in Section 4(g)(iii) or (v) shall constitute delivery to the Underwriters.

(g) To make generally available to its shareholders as soon as practicable, but in any event not later than sixteen (16) months after the effective date of each Registration Statement (as defined in Rule 158(c) of the Rules and Regulations), an earnings statement of the Company (which need not be audited) complying with Section 11(a) of the Securities Act and the Rules and Regulations (including, at the option of the Company, Rule 158).

(h) To take promptly from time to time such actions as the Underwriters may reasonably request to qualify the Stock and Warrants for offering and sale under the securities or Blue Sky laws of such jurisdictions (domestic or foreign) as the Underwriters may designate and to continue such qualifications in effect, and to comply with such laws, for so long as required to permit the offer and sale of Stock and Warrants in such jurisdictions; *provided* that the Company shall not be obligated to qualify as a foreign corporation in any jurisdiction in which it is not so qualified or to file a general consent to service of process in any jurisdiction.

(i) Upon request, during the period of five (5) years from the date hereof, to deliver to the Underwriters, (i) as soon as they are available, copies of all reports or other communications furnished to shareholders, and (ii) as soon as they are available, copies of any reports and financial statements furnished or filed with the Commission or any national securities exchange on which the Common Stock is listed. However, so long as the Company is subject to the reporting requirements of either Section 13 or Section 15(d) of the Exchange Act and is timely filing reports with the Commission on EDGAR, it is not required to furnish such reports or statements to the Underwriters.

(j) That the Company will not, except pursuant to that certain Sales Agreement, dated as of December 29, 2011, between the Company and Cowen and Company, LLC (the "Sales Agreement"), subject to clause 4(k) below, for a period of ninety (90) days from the date of this Agreement (the "*Lock-Up Period*"), without the prior written consent of the Representatives, directly or indirectly offer, sell, assign, transfer, pledge, contract to sell, or otherwise dispose of, any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, other than the Company's sale of the Securities hereunder and the issuance of restricted Common Stock or options to acquire Common Stock pursuant to the Company's employee benefit plans, qualified stock option plans or other employee compensation plans as such plans are in existence on the date hereof and described in the Prospectus and the issuance of Common Stock pursuant to the valid exercises of options, warrants or rights outstanding on the date hereof and upon exercise of the Warrants. The Company will cause each person listed in Schedule III to furnish to the Representatives, on or prior to the date hereof, the Lock-Up Agreement substantially in the form of Exhibit B hereto. The Company also agrees that during such period, other than for the sale of the Securities hereunder, the Company will not file any registration statement, preliminary prospectus or prospectus, or any amendment or supplement thereto, under the Securities Act for any such transaction or which registers, or offers for sale, Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, except for (i) a registration statement on Form S-8 relating to employee benefit plans or (ii) a resale registration statement on Form S-3 relating to Common Stock issuable upon valid exercises of warrants outstanding on the date hereof to the extent such shares of Common Stock are not otherwise registered under an existing and effective shelf registration statement on Form S-3. The Company hereby agrees that (i) if it issues an earnings release or material news, or if a material event relating to the Company occurs, during the last seventeen (17) days of the Lock-Up Period, or (ii) if prior to the expiration

of the Lock-Up Period, the Company announces that it will release earnings results during the sixteen (16)-day period beginning on the last day of the Lock-Up Period, the restrictions imposed by this Section 4(k) or the letter shall continue to apply until the expiration of the eighteen (18)-day period beginning on the issuance of the earnings release or the occurrence of the material news or material event. The Company will provide the Representatives (in accordance with Section 14 herein) notice of any such announcement that gives rise to an extension of the Lock-Up Period.

(k) That the Company will not, for a period of thirty (30) days from the date of this Agreement, without the prior written consent of the Representatives, directly or indirectly offer, sell, assign, transfer, pledge, contract to sell, or otherwise dispose of, any shares of Common Stock pursuant to the Sales Agreement.

(l) To supply the Underwriters with copies of all correspondence to and from, and all documents issued to and by, the Commission in connection with the registration of the Stock and Warrants under the Securities Act or any of the Registration Statement, the Prospectus, or any amendment or supplement thereto or document incorporated by reference therein.

(m) Prior to the latest of the Closing Dates, not to issue any press release or other communication directly or indirectly or hold any press conference with respect to the Company, its condition, financial or otherwise, or earnings, business affairs or business prospects (except for routine oral marketing communications in the ordinary course of business and consistent with the past practices of the Company and of which the Underwriters are notified), without the prior written consent of the Representatives, unless in the judgment of the Company and its counsel, and after notification to the Representatives, such press release or communication is required by law.

(n) Until the Underwriters shall have notified the Company of the completion of the resale of the Stock and Warrants, that the Company will not, and will cause its affiliated purchasers (as defined in Regulation M under the Exchange Act) not to, either alone or with one or more other persons, bid for or purchase, for any account in which it or any of its affiliated purchasers has a beneficial interest, any Stock and Warrants, or attempt to induce any person to purchase any Stock and Warrants, and not to, and to cause its affiliated purchasers not to, make bids or purchase for the purpose of creating actual, or apparent, active trading in or of raising the price of the Stock and Warrants.

(o) To at all times comply in all material respects with all applicable provisions of the Sarbanes-Oxley Act in effect from time to time.

(p) To maintain, at its expense, a registrar and transfer agent for the Stock and Warrant Shares.

(q) To apply the net proceeds from the sale of the Stock and Warrants as set forth in the Registration Statement, the Disclosure Package and the Final Prospectus under the heading "Use of Proceeds," and except as disclosed in the Disclosure Package, the Company does not intend to use any of the proceeds from the sale of the Stock and Warrants hereunder to repay any outstanding debt owed to any affiliate of the Underwriters. The Company shall not invest, or otherwise use the proceeds of the Offering in such a manner as would require the Company to be or become an "investment company" within the meaning of the Investment Company Act and the rules and regulations thereunder.

(r) To use its best efforts to list, subject to notice of issuance, and to maintain the listing of the Stock and Warrant Shares on the NASDAQ Capital Market.

5. *PAYMENT OF EXPENSES.* The Company agrees to pay, or reimburse if paid by the Underwriters, whether or not the transactions contemplated hereby are consummated or this Agreement is terminated: (a) the costs incident to the authorization, issuance, sale, preparation and delivery of the Securities and any taxes payable in that connection; (b) the costs incident to the registration of the Securities under the Securities Act; (c) the costs incident to the preparation, printing and distribution of the Registration Statement, the Base Prospectus, any Issuer Free Writing Prospectus, the Disclosure Package, the Final Prospectus, any amendments, supplements and exhibits thereto or any document incorporated by reference therein and the costs of printing, reproducing and distributing this Agreement and any closing documents by mail, telex or other means of communications; (d) the fees and expenses (including related fees and expenses of counsel for the Underwriters) incurred in connection with securing any required review by FINRA of the terms of the sale of the Securities and any filings made with FINRA; (e) any applicable listing or other fees in connection with listing the Stock and the Warrant Shares on the NASDAQ Capital Market; (f) the fees and expenses (including related fees and expenses of counsel to the Underwriters) of qualifying the Stock and Warrants under the securities laws of the several jurisdictions as provided in Section 4(i) and of preparing, printing and distributing wrappers, Blue Sky Memoranda and Legal Investment Surveys; (g) the cost of preparing and printing stock certificates; (h) all fees and expenses of the registrar and transfer agent of the Common Stock; (i) 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 Securities, 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 officers of the Company and such consultants, including the cost of any aircraft chartered in connection with the road show; (k) the fees and other disbursements of counsel to the Underwriters; and (l) all other costs and expenses incident to the offering of the Securities or the performance of the obligations of the Company under this Agreement (including, without limitation, the fees and expenses of the Company's counsel and the Company's independent accountants; *provided that*, except to the extent otherwise provided in this Section 5 and in Section 9, the Underwriters shall pay their own costs and expenses, any transfer taxes on the resale of any Securities by it and the expenses of advertising any offering of the Securities made by the Underwriters; *provided further that* in no event shall the Company be obligated to reimburse the Underwriters pursuant to this Section 5 in an amount in excess of \$125,000 in the aggregate. In compliance with the guidelines of FINRA, the aggregate maximum discount, commission or agency fees or other items constituting underwriting compensation to be received by any FINRA member or independent broker-dealer will not exceed 8% of the aggregate amount of the Stock and Warrants offered pursuant to this Agreement.

6. *CONDITIONS OF UNDERWRITERS' OBLIGATIONS.* The obligations of the Underwriters hereunder are subject to the accuracy, when made and as of the Time of Sale and on each Closing Date, of the representations and warranties of the Company contained herein, to the

accuracy of the statements of the Company made in any certificates pursuant to the provisions hereof, to the performance by the Company of its obligations hereunder, and to each of the following additional terms and conditions:

(a) The Registration Statement has become effective under the Securities Act, and no stop order suspending the effectiveness of the Registration Statement or any part thereof, preventing or suspending the use of any Base Prospectus, the Prospectus or any Permitted Free Writing Prospectus or any part thereof shall have been issued and no proceedings for that purpose or pursuant to Section 8A under the Securities Act shall have been initiated or threatened by the Commission, and all requests for additional information on the part of the Commission (to be included or incorporated by reference in the Registration Statement or the Prospectus or otherwise) shall have been complied with to the reasonable satisfaction of the Underwriters; the Rule 462(b) Registration Statement, if any, each Issuer Free Writing Prospectus and the Prospectus shall have been filed with the Commission within the applicable time period prescribed for such filing by, and in compliance with, the Rules and Regulations and in accordance with Section 4(a), and the Rule 462(b) Registration Statement, if any, shall have become effective immediately upon its filing with the Commission; and FINRA shall have raised no objection to the fairness and reasonableness of the terms of this Agreement or the transactions contemplated hereby.

(b) The Underwriters shall not have discovered and disclosed to the Company on or prior to each Closing Date that the Registration Statement or any amendment or supplement thereto contains an untrue statement of a fact which, in the opinion of counsel for the Underwriters, is material or omits to state any fact which, in the opinion of such counsel, is material and is required to be stated therein or is necessary to make the statements therein not misleading, or that the Disclosure Package, any Issuer Free Writing Prospectus or the Final Prospectus or any amendment or supplement thereto contains an untrue statement of fact which, in the opinion of such counsel, is material or omits to state any fact which, in the opinion of such counsel, is material and is necessary in order to make the statements, in the light of the circumstances in which they were made, not misleading.

(c) All corporate action incident to the authorization, form and validity of each of this Agreement, the Stock, the Warrants, the Warrant Shares, the Registration Statement, the Disclosure Package, each Issuer Free Writing Prospectus and the Final Prospectus and the transactions contemplated hereby shall be reasonably satisfactory in all material respects to counsel for the Underwriters, and the Company shall have furnished to such counsel all Company documents and information that it may reasonably request to enable it to pass upon such matters.

(d) Skadden, Arps, Slate, Meagher & Flom LLP shall have furnished to the Underwriters such counsel's written opinion and a negative assurance letter, as counsel to the Company, addressed to the Representatives and dated each Closing Date, in the form set forth on Exhibit C-1 and C-2 hereto.

(e) Greenberg Traurig LLP shall have furnished to the Underwriters such counsel's written opinion, as special intellectual property counsel to the Company, addressed to the Underwriters and dated each Closing Date, in the form set forth on Exhibit D hereto.

(f) The Underwriters shall have received from LeClairRyan, A Professional Corporation, counsel for the Underwriters, such opinion or opinions, dated each Closing Date, with respect to such matters as the Underwriters may reasonably require, and the Company shall have furnished to such counsel such documents as it requests for enabling it to pass upon such matters.

(g) At the time of the execution of this Agreement, the Underwriters shall have received from E&Y LLP, a letter, addressed to the Underwriters, executed and dated such date, in form and substance satisfactory to the Underwriters (A) confirming that they are an independent registered accounting firm with respect to the Company within the meaning of the Securities Act and the Rules and Regulations and PCAOB and (B) stating the conclusions and findings of such firm, of the type ordinarily included in accountants' "comfort letters" to underwriters, with respect to the financial statements and certain financial information contained or incorporated by reference in the Registration Statement, the Disclosure Package and the Final Prospectus.

(h) On the effective date of any post-effective amendment to the Registration Statement and on each Closing Date, the Underwriters shall have received a letter (the "bring-down letter") from E&Y LLP, addressed to the Underwriters and dated each Closing Date confirming, as of the date of the bring-down letter (or, with respect to matters involving changes or developments since the respective dates as of which specified financial information is given in the Disclosure Package and the Final Prospectus, as the case may be, as of a date not more than three (3) business days prior to the date of the bring-down letter), the conclusions and findings of such firm, of the type ordinarily included in accountants' "comfort letters" to underwriters, with respect to the financial information and other matters covered by its letter delivered to the Underwriters concurrently with the execution of this Agreement pursuant to Section 6(h).

(i) The Company shall have furnished to the Representatives a certificate, dated each Closing Date, of its Chairman of the Board or President and its Chief Financial Officer stating that (i) such officers have carefully examined the Registration Statement, the Disclosure Package, any Permitted Free Writing Prospectus and the Final Prospectus, (ii) to the best of their knowledge after reasonable investigation, as of each Closing Date, the representations and warranties of the Company in this Agreement are true and correct and the Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied hereunder at or prior to each Closing Date, and (iii) there has not been, subsequent to the date of the most recent audited financial statements included or incorporated by reference in the Disclosure Package, any material adverse change in the financial position or results of operations of the Company, or any change or development that, singularly or in the aggregate, would involve a material adverse change or a prospective material adverse change, in or affecting the condition (financial or otherwise), results of operations, business, assets or prospects of the Company taken as a whole, except as set forth in the Final Prospectus.

(j) Since the date of the latest audited financial statements included in the Disclosure Package or incorporated by reference in the Disclosure Package as of the date hereof, (i) the Company shall not have sustained any loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as set forth in the Disclosure Package, and (ii) there shall not have been any change in the capital stock (other than a change in number

of Common Stock shares outstanding due to the issuance of shares upon exercise of options or warrants) or long-term debt of the Company, or any change, or any development involving a prospective change, in or affecting the business, general affairs, management, financial position, stockholders' equity or results of operations of the Company, otherwise than as set forth in the Disclosure Package, the effect of which, in any such case described in clause (i) or (ii) of this Section 6(j), is, in the judgment of the Underwriters, so material and adverse as to make it impracticable or inadvisable to proceed with the sale or delivery of the Stock and the Warrants on the terms and in the manner contemplated in the Disclosure Package.

(k) No action shall have been taken and no law, statute, rule, regulation or order shall have been enacted, adopted or issued by any governmental agency or body which would prevent the issuance or sale of the Stock and Warrants or materially and adversely affect or potentially materially and adversely affect the business or operations of the Company; and no injunction, restraining order or order of any other nature by any federal or state court of competent jurisdiction shall have been issued which would prevent the issuance or sale of the Stock and Warrants or materially and adversely affect or potentially materially and adversely affect the business or operations of the Company.

(l) Subsequent to the execution and delivery of this Agreement there shall not have occurred any of the following: (i) trading in securities generally on the New York Stock Exchange, NASDAQ Global Market or NASDAQ Capital Market or in the over-the-counter market, or trading in the Common Stock of the Company on any exchange or in the over-the-counter market, shall have been suspended or materially limited, (ii) a banking moratorium shall have been declared by Federal or state authorities or a material disruption has occurred in commercial banking or securities settlement or clearance services in the United States, (iii) the United States shall have been the subject of an act of terrorism or there shall have been an outbreak of or escalation in hostilities involving the United States, or there shall have been a declaration of a national emergency or war by the United States or (iv) there shall have occurred such a material adverse change in general economic, political or financial conditions (or the effect of international conditions on the financial markets in the United States shall be such) as to make it, in the judgment of the Underwriters, impracticable or inadvisable to proceed with the sale or delivery of the Stock and Warrants on the terms and in the manner contemplated in the Disclosure Package and the Final Prospectus.

(m) The NASDAQ Capital Market shall have approved the Stock and the Warrant Shares for listing therein, subject only to official notice of issuance.

(n) The Representatives shall have received on and as of each Closing Date satisfactory evidence of the good standing of the Company in its jurisdiction of incorporation and its good standing as a foreign corporation in such other jurisdictions as the Representatives may reasonably request, in each case in writing or any standard form of telecommunication from the appropriate governmental authorities of such jurisdictions.

(o) The Representatives shall have received the written Lock-Up Agreements, substantially in the form of Exhibit B hereto, of the persons listed in Schedule III to this Agreement.

(p) The Representatives shall have received on the Closing Date a Secretary's Certificate of the Company.

(q) On or prior to each Closing Date, the Company shall have furnished to the Representatives such further certificates and documents as the Representatives may reasonably request.

All opinions, letters, evidence and certificates mentioned above or elsewhere in this Agreement shall be deemed to be in compliance with the provisions hereof only if they are in form and substance reasonably satisfactory to counsel for the Underwriters.

7. INDEMNIFICATION AND CONTRIBUTION.

(a) The Company agrees to indemnify, defend and hold harmless each Underwriter, its respective partners, directors and officers, any person who controls such Underwriter within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act, and the successors and assigns of all of the foregoing persons, from and against any loss, damage, expense, liability or claim (including the reasonable cost of investigation) which, jointly or severally, such Underwriter or any such person may incur under the Securities Act, the Exchange Act, the common law or otherwise, insofar as such loss, damage, expense, liability or claim 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 in the Registration Statement as amended by any post-effective amendment thereof by the Company) or arises out of or is based upon any omission or alleged omission to state a material fact required to be stated therein or necessary to make the statements therein not misleading, except insofar as any such loss, damage, expense, liability or claim arises out of or is based upon any untrue statement or alleged untrue statement of a material fact contained in, and in conformity with information concerning the Underwriters furnished in writing by or on behalf of the Underwriters to the Company expressly for use in, the Registration Statement or arises out of or is based upon any omission or alleged omission to state a material fact in the Registration Statement in connection with such information, which material fact was not contained in such information and which material fact was required to be stated in such Registration Statement or was necessary to make such information not misleading or (ii) any untrue statement or alleged untrue statement of a material fact included in any Prospectus (the term Prospectus for the purpose of this Section 7 being deemed to include the Base Prospectus, the Prospectus and any amendments or supplements to the foregoing), in any Permitted Free Writing Prospectus, in any "issuer information" (as defined in Rule 433 under the Securities Act) of the Company or in any Prospectus together with any combination of one or more of the Permitted Free Writing Prospectuses, if any, or arises out of or is based upon any omission or alleged omission 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, except, with respect to such Prospectus or Permitted Free Writing Prospectus, insofar as any such loss, damage, expense, liability or claim arises out of or is based upon any untrue statement or alleged untrue statement of a material fact contained in, and in conformity with information concerning the Underwriters furnished in writing by or on behalf of the Underwriters to the Company expressly for use in, such Prospectus or Permitted Free Writing Prospectus or arises out of or is based upon any omission or alleged omission to state a material fact in such Prospectus or Permitted Free Writing Prospectus in connection with such information, which material fact was not contained in such information and which material fact was necessary in order to make the statements in such information, in the light of the circumstances under which they were made, not misleading.

(b) Each Underwriter agrees, severally and not jointly, to indemnify, defend and hold harmless the Company, its directors and officers, and any person who controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act, and the successors and assigns of all of the foregoing persons, from and against any loss, damage, expense, liability or claim (including the reasonable cost of investigation) which, jointly or severally, the Company or any such person may incur under the Securities Act, the Exchange Act, the common law or otherwise, insofar as such loss, damage, expense, liability or claim arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in, and in conformity with information concerning the Underwriters furnished in writing by or on behalf of the Underwriters to the Company expressly for use in, the Registration Statement (or in the Registration Statement as amended by any post-effective amendment thereof by the Company), or arises out of or is based upon any omission or alleged omission to state a material fact in such Registration Statement in connection with such information, which material fact was not contained in such information and which material fact was required to be stated in such Registration Statement or was necessary to make such information not misleading or (ii) any untrue statement or alleged untrue statement of a material fact contained in, and in conformity with information concerning the Underwriters furnished in writing by or on behalf of the Underwriters to the Company expressly for use in, a Prospectus or a Permitted Free Writing Prospectus, or arises out of or is based upon any omission or alleged omission to state a material fact in such Prospectus or Permitted Free Writing Prospectus in connection with such information, which material fact was not contained in such information and which material fact was necessary in order to make the statements in such information, in the light of the circumstances under which they were made, not misleading.

(c) If any action, suit or proceeding (each, a “*Proceeding*”) is brought against a person (an “*indemnified party*”) in respect of which indemnity may be sought against the Company or an Underwriter (as applicable, the “*indemnifying party*”) pursuant to subsection (a) or (b), respectively, of this Section 7, such indemnified party shall promptly notify such indemnifying party in writing of the institution of such Proceeding and such indemnifying party shall assume the defense of such Proceeding, including the employment of counsel reasonably satisfactory to such indemnified party and payment of all fees and expenses; provided, however, that the omission to so notify such indemnifying party shall not relieve such indemnifying party from any liability which such indemnifying party may have to any indemnified party or otherwise. The indemnified party or parties shall have the right to employ its or their own counsel in any such case, but the fees and expenses of such counsel shall be at the expense of such indemnified party or parties unless the employment of such counsel shall have been authorized in writing by the indemnifying party in connection with the defense of such Proceeding or the indemnifying party shall not have, within a reasonable period of time in light of the circumstances, employed counsel to defend such Proceeding or such indemnified party or parties shall have reasonably concluded that there may be defenses available to it or them which are different from, additional to or in conflict with those available to such indemnifying party (in which case such indemnifying party shall not have the right to direct the defense of such Proceeding on behalf of the indemnified party or parties), in any of which events such fees and expenses shall be borne by such indemnifying party and paid as incurred (it being understood,

however, that such indemnifying party shall not be liable for the expenses of more than one separate counsel (in addition to any local counsel) in any one Proceeding or series of related Proceedings in the same jurisdiction representing the indemnified parties who are parties to such Proceeding). The indemnifying party shall not be liable for any settlement of any Proceeding effected without its written consent, such consent not to be unreasonably withheld, but, if settled with its written consent, such indemnifying party agrees to indemnify and hold harmless the indemnified party or parties from and against any loss or liability by reason of such settlement. 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 the second sentence of this Section 7(c), then 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 60 business days after receipt by such indemnifying party of the aforesaid request, (ii) such indemnifying party shall not have fully reimbursed the indemnified party in accordance with such request prior to the date of such settlement and (iii) such indemnified party shall have given the indemnifying party at least 30 days' prior notice of its intention to settle. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement of any pending or threatened Proceeding in respect of which any indemnified party is or could have been a party and indemnity could have been sought hereunder by such indemnified party, unless such settlement includes an unconditional release of such indemnified party from all liability on claims that are the subject matter of such Proceeding and does not include an admission of fault or culpability or a failure to act by or on behalf of such indemnified party.

(d) If the indemnification provided for in this Section 7 is unavailable to an indemnified party under subsections (a) and (b) of this Section 7 or insufficient to hold an indemnified party harmless in respect of any losses, damages, expenses, liabilities or claims referred to therein, then each applicable indemnifying party shall contribute to the amount paid or payable by such indemnified party as a result of such losses, damages, expenses, liabilities or claims (i) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and the Underwriters on the other hand from the offering of the Securities 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 of the Underwriters on the other in connection with the statements or omissions which resulted in such losses, damages, expenses, liabilities or claims, as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Underwriters on the other shall be deemed to be in the same respective proportions as the total proceeds from the offering (net of underwriting discounts and commissions but before deducting expenses) received by the Company, and the total underwriting discounts and commissions received by the Underwriters, bear to the aggregate public offering price of the Securities. The relative fault of the Company on the one hand and of the Underwriters on the other shall be determined by reference to, among other things, whether the untrue statement or alleged untrue statement of a material fact or omission or alleged omission relates to information supplied by the Company or by the Underwriters 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, damages, expenses, liabilities and claims referred to in this subsection shall be deemed to include any legal or other fees or expenses reasonably incurred by such party in connection with investigating, preparing to defend or defending any Proceeding.

(e) The Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to this Section 7 were determined by pro rata allocation or by any other method of allocation that does not take account of the equitable considerations referred to in subsection (d) above. Notwithstanding the provisions of this Section 7, the Underwriters shall not be required to contribute any amount in excess of the amount by which the total price at which the Securities underwritten by such Underwriters and distributed to the public were offered to the public exceeds the amount of any damage which such Underwriters have otherwise been required to pay by reason of such untrue statement or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

(f) The indemnity and contribution agreements contained in this Section 7 and the covenants, warranties and representations of the Company contained in this Agreement shall remain in full force and effect regardless of any investigation made by or on behalf of each Underwriter, its respective partners, directors or officers or any person (including each partner, director or officer of such person) who controls such Underwriter within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act, or by or on behalf of the Company, its directors or officers or any person who controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act, and shall survive any termination of this Agreement or the issuance and delivery of the Stock and Warrants. The Company and the Underwriters agree promptly to notify each other of the commencement of any Proceeding against them and, in the case of the Company, against any of the Company's officers or directors in connection with the issuance and sale of the Stock and Warrants, or in connection with the Registration Statement, the Base Prospectus, the Prospectus or any Permitted Free Writing Prospectus.

8. *TERMINATION*. The obligations of the Underwriters hereunder may be terminated by the Representatives, in their absolute discretion by notice given to the Company prior to delivery of and payment for the Firm Stock and the Firm Warrants if, prior to that time, any of the events described in Sections 6(j), 6(k) or 6(l) have occurred or if the Underwriters shall decline to purchase the Securities for any reason permitted under this Agreement.

9. *REIMBURSEMENT OF UNDERWRITERS' EXPENSES*. Notwithstanding anything to the contrary in this Agreement, if the sale of the Securities is not consummated because any condition to the obligations of the Underwriters set forth in Section 6 is not satisfied or because of the refusal, inability or failure on the part of the Company to perform any agreement herein or to satisfy any condition or to comply with the provisions hereof, then in addition to the payment of amounts in accordance with Section 5, the Company shall reimburse the Underwriters for the fees and expenses of Underwriters' counsel and for such other out-of-pocket expenses as shall have been reasonably incurred by it in connection with this Agreement and the proposed purchase of the Securities, including, without limitation, travel and lodging expenses of the Underwriters, and upon demand the Company shall pay the full amount thereof to the Underwriters.

10. *SUBSTITUTION OF UNDERWRITERS*. If any Underwriter or Underwriters shall default in its or their obligations to purchase Securities hereunder on any Closing Date and the aggregate number of shares of Stock and/or Warrants which such defaulting Underwriter or Underwriters agreed but failed to purchase does not exceed ten percent (10%) of the total number of Securities to be purchased by all Underwriters on such Closing Date, the other Underwriters shall be obligated severally, in proportion to their respective commitments hereunder, to purchase the shares and/or Warrants which such defaulting Underwriter or Underwriters agreed but failed to purchase on such Closing Date. If any Underwriter or Underwriters shall so default and the aggregate number of shares of Stock and/or Warrants with respect to which such default or defaults occur is more than ten percent (10%) of the total number of shares of Stock and/or Warrants to be purchased by all Underwriters on such Closing Date and arrangements satisfactory to the Representatives and the Company for the purchase of such shares of Stock and/or Warrants by other persons are not made within forty-eight (48) hours after such default, this Agreement shall terminate.

If the remaining Underwriters or substituted Underwriters are required hereby or agree to take up all or part of the shares of Stock and/or Warrants of a defaulting Underwriter or Underwriters on such Closing Date as provided in this Section 10, (i) the Company shall have the right to postpone such Closing Dates for a period of not more than five (5) full business days in order that the Company may effect whatever changes may thereby be made necessary in the Registration Statements or the Prospectus, or in any other documents or arrangements, and the Company agrees promptly to file any amendments to the Registration Statements or supplements to the Prospectus which may thereby be made necessary, and (ii) the respective numbers of shares of Stock and/or Warrants to be purchased by the remaining Underwriters or substituted Underwriters shall be taken as the basis of their underwriting obligation for all purposes of this Agreement. Nothing herein contained shall relieve any defaulting Underwriter of its liability to the Company or the other Underwriters for damages occasioned by its default hereunder. Any termination of this Agreement pursuant to this Section 10 shall be without liability on the part of any non-defaulting Underwriter or the Company, except that the representations, warranties, covenants, indemnities, agreements and other statements set forth in Section 2, the obligations with respect to expenses to be paid or reimbursed pursuant to Sections 0 and 9 and the provisions of Section 7 and Sections 11 through 20, inclusive, shall not terminate and shall remain in full force and effect.

11. *ABSENCE OF FIDUCIARY RELATIONSHIP*. The Company acknowledges and agrees that:

(a) the Underwriters' responsibility to the Company is solely contractual in nature, the Underwriters have been retained solely to act as an underwriter in connection with the sale of the Securities and no fiduciary, advisory or agency relationship between the Company and the Underwriters has been created in respect of any of the transactions contemplated by this Agreement, irrespective of whether the Underwriters have advised or are advising the Company on other matters;

(b) the price of the Stock and the terms of the Warrants set forth in this Agreement were established by the Company following discussions and arms-length negotiations with the Underwriters, and the Company is capable of evaluating and understanding, and understands and accepts, the terms, risks and conditions of the transactions contemplated by this Agreement;

(c) it has been advised that the Underwriters and their respective affiliates are engaged in a broad range of transactions which may involve interests that differ from those of the Company and that the Underwriters have no obligation to disclose such interests and transactions to the Company by virtue of any fiduciary, advisory or agency relationship; and

(d) it waives, to the fullest extent permitted by law, any claims it may have against the Underwriters for breach of fiduciary duty or alleged breach of fiduciary duty and agrees that the Underwriters shall have no liability (whether direct or indirect) to the Company in respect of such a fiduciary duty claim or to any person asserting a fiduciary duty claim on behalf of or in right of the Company, including stockholders, employees or creditors of the Company.

12. *SUCCESSORS; PERSONS ENTITLED TO BENEFIT OF AGREEMENT.* This Agreement shall inure to the benefit of and be binding upon the Underwriters, the Company and their respective successors and assigns. Nothing expressed or mentioned in this Agreement is intended or shall be construed to give any person, other than the persons mentioned in the preceding sentence, any legal or equitable right, remedy or claim under or in respect of this Agreement, or any provisions herein contained, this Agreement and all conditions and provisions hereof being intended to be and being for the sole and exclusive benefit of such persons and for the benefit of no other person; except that the representations, warranties, covenants, agreements and indemnities of the Company contained in this Agreement shall also be for the benefit of the Underwriter indemnified parties, and the indemnities of the Underwriters shall be for the benefit of the Company indemnified parties. It is understood that the Underwriters' responsibility to the Company is solely contractual in nature and the Underwriters do not owe the Company, or any other party, any fiduciary duty as a result of this Agreement. No purchaser of any of the Stock or Warrants from the Underwriters shall be deemed to be a successor or assign by reason merely of such purchase.

13. *SURVIVAL OF INDEMNITIES, REPRESENTATIONS, WARRANTIES, ETC.* The respective indemnities, covenants, agreements, representations, warranties and other statements of the Company and the Underwriters, as set forth in this Agreement or made by them respectively, pursuant to this Agreement, shall remain in full force and effect, regardless of any investigation made by or on behalf of the Underwriters, the Company or any person controlling any of them and shall survive delivery of and payment for the Stock and the Warrants. Notwithstanding any termination of this Agreement, including without limitation any termination pursuant to Section 8, the indemnities, covenants, agreements, representations, warranties and other statements forth in Sections 2, 0, 7 and 9 and Sections 11 through 20, inclusive, of this Agreement shall not terminate and shall remain in full force and effect at all times.

14. *NOTICES.* All statements, requests, notices and agreements hereunder shall be in writing, and:

(a) if to the Representatives, shall be delivered or sent by mail, telex, facsimile transmission or email to Cowen and Company, LLC, 599 Lexington Avenue, 27th Floor, New York, New York 10022, Attention: Head of Equity Capital Markets, Fax: 646-562-1249, with a copy to the General Counsel, Fax: 646-562-1124, and Wedbush Securities, Inc., One Bush Street, 17th Floor, San Francisco, CA 94104 Attention: Equity Capital Markets, Fax: 415-274-6887, with a copy (which shall not constitute notice) to LeClairRyan, A Professional Corporation, 885 Third Avenue, New York, New York 10022, Attention: James T. Seery, Esq., Fax: 973-491-3415, E-mail: james.seery@leclairryan.com; and

(b) if to the Company shall be delivered or sent by mail, telex, facsimile transmission or email to Delcath Systems, Inc., 810 Seventh Avenue, 35th Floor, New York, New York 10019, Attention: General Counsel, Fax: 212-489-2102, with a copy (which shall not constitute notice) to Skadden, Arps, Slate, Meagher & Flom LLP, Four Times Square, New York, New York 10036, Attention: Andrea Nicolas, Esq., Fax: 917-777-3416.

15. *DEFINITION OF CERTAIN TERMS.* For purposes of this Agreement, “*business day*” means any day on which the New York Stock Exchange, Inc. is open for trading.

16. *GOVERNING LAW AND JURISDICTION.* **This Agreement shall be governed by and construed in accordance with the laws of the State of New York, including without limitation Section 5-1401 of the New York General Obligations.** The Company and the Underwriters irrevocably (a) submit to the non-exclusive jurisdiction of the Federal and state courts in the Borough of Manhattan in The City of New York for the purpose of any suit, action or other proceeding arising out of this Agreement or the transactions contemplated by this Agreement, the Registration Statement and the Final Prospectus, (b) agree that all claims in respect of any such suit, action or proceeding may be heard and determined by any such court, (c) waive to the fullest extent permitted by applicable law, any immunity from the jurisdiction of any such court or from any legal process, (d) agree not to commence any such suit, action or proceeding other than in such courts, and (e) waive, to the fullest extent permitted by applicable law, any claim that any such suit, action or proceeding is brought in an inconvenient forum.

17. *UNDERWRITERS' INFORMATION.* The parties hereto acknowledge and agree that, for all purposes of this Agreement, the Underwriters' Information consists solely of the statements concerning the Underwriters contained in the fifth, thirteenth, fourteenth, sixteenth and seventeenth paragraphs in the “Underwriting” section of the Prospectus.

18. *PARTIAL UNENFORCEABILITY.* The invalidity or unenforceability of any section, paragraph, clause or provision of this Agreement shall not affect the validity or enforceability of any other section, paragraph, clause or provision hereof. If any section, paragraph, clause 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.

19. *GENERAL.* 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. In this Agreement, the masculine, feminine and neuter genders and the singular and the plural include one another. The section headings in this Agreement are for the convenience of the parties only and will not affect the construction or interpretation of this Agreement. This Agreement may be amended or modified, and the observance of any term of this Agreement may be waived, only by a writing signed by the Company and the Underwriters.

20. *COUNTERPARTS*. This Agreement may be signed in any number of counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument.

If the foregoing is in accordance with your understanding of the agreement between the Company and the Underwriters, kindly indicate your acceptance in the space provided for that purpose below.

Very truly yours,

DELCATH SYSTEMS, INC.

By: /s/ Peter J. Graham

Name: Peter J. Graham

Title: Executive Vice President, General Counsel

Accepted as of the date first above written:

COWEN AND COMPANY, LLC

By: /s/ Kevin Raidy

Name: Kevin Raidy

Title: Managing Director

WEDBUSH SECURITIES INC.

By: /s/ Scott Smith

Name: Scott Smith

Title: Managing Director

SCHEDULE I

General Use Free Writing Prospectuses

None.

SCHEDULE II

Pricing Information

Firm Stock to be sold: 13,333,340

Firm Warrants to be sold: 13,333,340

Firm Warrant Shares underlying the Firm Warrants: 4,000,002

Public Offering Price Per Unit: \$1.50

Underwriting Discounts and Commissions per Unit: \$0.09

Estimated Net Proceeds to the Company, before expenses: \$18,800,000

Exercise Price of the Warrants: \$1.65 per share

Warrant Term: 3 years

Dilution Per Share to New Investors: \$0.94

SCHEDULE III

Persons Executing Lock-Up Agreements

Eamonn Hobbs
Harold Koplewicz
Robert Ladd
Gabriel Leung
Laura Philips
Roger Stoll Douglas Watson
Agustin Gago
Peter Graham
Harold Mapes
David McDonald
Graham Miao
Krishna Kandarpa
Barbra Keck
John Purpura
Jennifer Simpson

SCHEDULE IV

| <u>Underwriter</u> | <u>Firm Stock</u> | <u>Firm Warrants</u> | <u>Optional Stock</u> | <u>Optional Warrants</u> |
|----------------------------|-----------------------|--------------------------|---------------------------|------------------------------|
| Cowen and Company, LLC | 6,166,670 | 6,166,670 | 925,000 | 925,000 |
| Wedbush Securities Inc. | 6,166,670 | 6,166,670 | 925,000 | 925,000 |
| Roth Capital Partners, LLC | 1,000,000 | 1,000,000 | 150,000 | 150,000 |
| Total | 13,333,340 | 13,333,340 | 2,000,000 | 2,000,000 |

SCHEDULE V

Subsidiaries

1. Delcath Holdings Limited, an Irish non-resident company permitted and residing in Bermuda
2. Delcath Systems Limited, an Irish company
3. Delcath Systems UK Limited, a company organized under the laws of England and Wales

EXHIBIT A

Form of Warrant

EXHIBIT B

Form of Lock-Up Agreement

Name

, 2012

COWEN AND COMPANY, LLC
599 Lexington Avenue
New York, NY 10022

and

WEDBUSH SECURITIES INC.
One Bush Street
17th Floor
San Francisco, CA 94104

Re: Proposed Public Offering by Delcath Systems, Inc.

Dear Sirs:

This Agreement is being delivered to you in connection with the proposed Underwriting Agreement (the "*Underwriting Agreement*") between Delcath Systems, Inc., a Delaware corporation (the "*Company*"), and Cowen and Company, LLC and Wedbush Securities Inc. (together, the "*Underwriters*"), relating to the proposed public offering comprised of shares of Common Stock, par value \$0.01 per share (the "*Common Stock*") and warrants, of the Company.

In order to induce the Underwriters to enter into the Underwriting Agreement, and in light of the benefits that the offering will confer upon the undersigned in its capacity as a securityholder and/or an officer, director or employee of the Company, and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned agrees with the Underwriters that, during the period beginning on the date hereof through and including the date that is the 90th day after the date of the Underwriting Agreement (the "*Lock-Up Period*"), the undersigned will not, without the prior written consent of Cowen and Company, LLC and Wedbush Securities Inc., directly or indirectly, (i) offer, sell, assign, transfer, pledge, contract to sell, or otherwise dispose of, or announce the intention to otherwise dispose of, any shares of Common Stock (including, without limitation, Common Stock which may be deemed to be beneficially owned by the undersigned in accordance with the rules and regulations promulgated under the Securities Act of 1933, as the same may be amended or supplemented from time to time (such shares, the "*Beneficially Owned Shares*")) or securities convertible into or exercisable or exchangeable for Common Stock, (ii) enter into any swap,

hedge or similar agreement or arrangement that transfers in whole or in part, the economic risk of ownership of the Beneficially Owned Shares or securities convertible into or exercisable or exchangeable for Common Stock, whether now owned or hereafter acquired by the undersigned or with respect to which the undersigned has or hereafter acquires the power of disposition, or (iii) engage in any short selling of the Common Stock or securities convertible into or exercisable or exchangeable for Common Stock. If (i) the Company issues an earnings release or material news or a material event relating to the Company occurs during the last 17 days of the Lock-Up Period, or (ii) prior to the expiration of the Lock-Up Period, the Company announces that it will release earnings results during the 16-day period beginning on the last day of the Lock-Up Period, the Lock-Up Period shall be extended and the restrictions imposed by this Agreement shall continue to apply until the expiration of the 18-day period beginning on the issuance of the earnings release or the occurrence of the material news or material event.

The restrictions set forth in the immediately preceding paragraph shall not apply to:

- (1) if the undersigned is a natural person, any transfers made by the undersigned (a) as a bona fide gift to any member of the immediate family (as defined below) of the undersigned or to a trust, family partnership or family company the beneficiaries of which are exclusively the undersigned or members of the undersigned's immediate family, (b) by will or intestate succession upon the death of the undersigned or (c) as a bona fide gift,
- (2) if the undersigned is a corporation, partnership, limited liability company or other business entity, any transfers to any shareholder, partner or member of, or owner of a similar equity interest in, the undersigned, as the case may be, if, in any such case, such transfer is not for value, and
- (3) if the undersigned is a corporation, partnership, limited liability company or other business entity, any transfer made by the undersigned (a) in connection with the sale or other bona fide transfer in a single transaction of all or substantially all of the undersigned's capital stock, partnership interests, membership interests or other similar equity interests, as the case may be, or all or substantially all of the undersigned's assets, in any such case not undertaken for the purpose of avoiding the restrictions imposed by this Agreement or (b) to another corporation, partnership, limited liability company or other business entity so long as the transferee is an affiliate (as defined below) of the undersigned and such transfer is not for value;

provided, however, that in the case of any transfer described in clause (1), (2) or (3) above, it shall be a condition to the transfer that (A) the transferee executes and delivers to the Underwriters, not later than one business day prior to such transfer (which period shall not apply in connection with a transfer pursuant to Section (1)(b)), a written agreement, in substantially the form of this Agreement (it being understood that any references to "immediate family" in the agreement executed by such transferee shall expressly refer only to the immediate family of the undersigned and not to the immediate family of the transferee), and (B) if the undersigned is required to file a report under Section 16(a) of the Securities Exchange Act of 1934, as amended (the "*Exchange Act*"), reporting a reduction in beneficial ownership of shares of Common Stock or Beneficially Owned Shares or any securities convertible into or exercisable or exchangeable for Common Stock or Beneficially Owned Shares during the Lock-Up Period (as the same may be extended as described above), the undersigned shall include a statement in such report to the effect that, in the case of any transfer pursuant to clause (1) above, such transfer is being made as

a gift or by will or intestate succession or, in the case of any transfer pursuant to clause (2) above, such transfer is being made to a shareholder, partner or member of, or owner of a similar equity interest in, the undersigned and is not a transfer for value or, in the case of any transfer pursuant to clause (3) above, such transfer is being made either (a) in connection with the sale or other bona fide transfer in a single transaction of all or substantially all of the undersigned's capital stock, partnership interests, membership interests or other similar equity interests, as the case may be, or all or substantially all of the undersigned's assets or (b) to another corporation, partnership, limited liability company or other business entity that is an affiliate of the undersigned and such transfer is not for value. For purposes of this paragraph, "immediate family" shall mean a spouse, child, grandchild or other lineal descendant (including by adoption), father, mother, brother or sister of the undersigned; and "affiliate" shall have the meaning set forth in Rule 405 under the Securities Act of 1933, as amended. This Agreement shall not apply to the entering into a written trading plan designed to comply with Section 10b5-1 of the Exchange Act, provided no sales are made pursuant to such plan during the Lock-Up Period.

In addition, the restrictions set forth herein shall not apply to sales of Common Stock:

- (1) pursuant to any Rule 10b5-1 plan, a copy of which has been provided to the Underwriters prior to the date hereof,
- (2) constituting restricted stock outstanding prior to the date hereof that vests during the Lock-Up Period, solely to the extent necessary to generate proceeds to fund any income taxes resulting from such vesting, and
- (3) issued upon the exercise of stock options granted prior to the date hereof and scheduled to expire within six (6) months of the date hereof, solely to the extent necessary to generate proceeds to fund the exercise price thereof and any income taxes resulting from such exercise.

The undersigned further agrees that (i) it will not, during the Lock-Up Period (as the same may be extended as described above), make any demand or request for or exercise any right with respect to the registration under the Securities Act of 1933, as amended, of any shares of Common Stock or other Beneficially Owned Shares or any securities convertible into or exercisable or exchangeable for Common Stock or other Beneficially Owned Shares, and (ii) the Company may, with respect to any Common Stock or other Beneficially Owned Shares or any securities convertible into or exercisable or exchangeable for Common Stock or other Beneficially Owned Shares owned or held (of record or beneficially) by the undersigned, cause the transfer agent or other registrar to enter stop transfer instructions and implement stop transfer procedures with respect to such securities during the Lock-Up Period (as the same may be extended as described above).

The undersigned hereby represents and warrants that the undersigned has full power and authority to enter into this Agreement and that this Agreement has been duly authorized (if the undersigned is not a natural person), executed and delivered by the undersigned and is a valid and binding agreement of the undersigned. This Agreement and all authority herein conferred are irrevocable and shall survive the death or incapacity of the undersigned (if a natural person) and shall be binding upon the heirs, personal representatives, successors and assigns of the undersigned.

The undersigned acknowledges and agrees that whether or not any public offering of Common Stock actually occurs depends on a number of factors, including market conditions.

Very truly yours,

(Name of Stockholder - Please Print)

(Signature)

(Name of Signatory if Stockholder is an entity - Please Print)

(Title of Signatory if Stockholder is an entity - Please Print)

Address: _____

EXHIBIT C-1

Form of Company Counsel Opinion

May 31, 2012

Cowen and Company, LLC

Wedbush Securities Inc.

As Representatives of the Several Underwriters

c/o Cowen and Company, LLC

599 Lexington Avenue

New York, NY 10022

Re: Delcath Systems, Inc. – Offering of Common Stock and Warrants

Ladies and Gentlemen:

We have acted as special counsel to Delcath Systems, Inc., a Delaware corporation (the “Company”), in connection with the Underwriting Agreement, dated May 25, 2012 (the “Underwriting Agreement”), between you, as representatives of the several underwriters named therein (the “Underwriters”) and the Company, relating to the sale by the Company to the Underwriters of (i) 13,333,340 shares (the “Firm Shares”) of the Company’s Common Stock, par value \$0.01 per share (the “Common Stock”), and warrants (the “Firm Warrants”) to initially purchase up to an aggregate of 4,000,002 shares (the “Firm Warrant Shares”) of the Company’s Common Stock, and (ii) at the Underwriters’ option to cover over-allotments, 2,000,000 shares (the “Option Shares”) of the Company’s Common Stock and warrants (the “Option Warrants”) to initially purchase up to an aggregate of 600,000 shares (the “Option Warrant Shares”) of the Company’s Common Stock. The Firm Shares and the Option Shares are collectively referred to herein as the “Common Shares,” the Firm Warrants and the Option Warrants are collectively referred to herein as the “Warrants” and the Firm Warrant Shares and the Option Warrant Shares are collectively referred to herein as the “Warrant Shares.” The Common Shares and the Warrants are collectively referred to herein as the “Securities.” The terms of the Warrants are set forth in warrant agreements substantially in the form included as Exhibit A to the Underwriting Agreement (each a “Warrant Agreement” and collectively the “Warrant Agreements”).

This opinion is being furnished to you pursuant to Section 6(d) of the Underwriting Agreement.

In rendering the opinions stated herein, we have examined and relied upon the following:

(a) the registration statement on Form S-3 (File No. 333-178819) of the Company relating to the Securities and other securities of the Company filed with the Securities and Exchange Commission (the "Commission") on December 29, 2011 under the Securities Act of 1933 (the "Securities Act") allowing for delayed offerings pursuant to Rule 415 of the General Rules and Regulations under the Securities Act (the "Rules and Regulations"), and Amendment No. 1 thereto, including information deemed to be a part of the registration statement pursuant to Rule 430B of the Rules and Regulations and the Notice of Effectiveness of the Commission posted on its website declaring such registration statement effective on February 13, 2012 (such registration statement, as so amended, including the Incorporated Documents (as defined below) being hereinafter referred to as the "Registration Statement");

(b) the prospectus, dated February 13, 2012 (the "Base Prospectus"), which forms a part of and is included in the Registration Statement;

(c) the preliminary prospectus supplement, dated May 24, 2012 (the "Preliminary Prospectus Supplement" and, together with the Base Prospectus and the Incorporated Documents (as defined below), the "Preliminary Prospectus"), relating to the offering of the Securities in the form filed by the Company with the Commission pursuant to Rule 424(b) of the Rules and Regulations;

(d) the final prospectus supplement, dated May 25, 2012 (the "Prospectus Supplement" and, together with the Base Prospectus and the Incorporated Documents, the "Prospectus"), relating to the offering of the Securities in the form filed by the Company with the Commission pursuant to Rule 424(b) of the Rules and Regulations;

(e) the documents described on Schedule I hereto filed by the Company with the Commission pursuant to the Securities Exchange Act of 1934 and incorporated by reference into the Preliminary Prospectus or the Prospectus, as the case may be, as of the date of the Preliminary Prospectus Supplement or Prospectus Supplement, respectively (the "Incorporated Documents");

(f) an executed copy of the Underwriting Agreement;

(g) a specimen certificate evidencing the Common Stock;

(h) an executed copy of each Warrant Agreement;

(i) an executed copy of the certificate of Graham G. Miao, Chief Financial Officer of the Company, dated the date hereof, a copy of which is attached as Exhibit A hereto (the "Officer's Certificate");

(j) an executed copy of the certificate of Peter J. Graham, Assistant Secretary of the Company, dated the date hereof (the "Secretary's Certificate");

(k) a copy of the Amended and Restated Certificate of Incorporation of the Company, certified by the Secretary of State of the State of Delaware as of May 24, 2012, and certified pursuant to the Secretary's Certificate;

(l) a copy of the Amended and Restated Bylaws of the Company certified pursuant to the Secretary's Certificate;

(m) a copy of certain resolutions of the Board of Directors of the Company, adopted on May 23, 2012, certified pursuant to the Secretary's Certificate;

(n) a copy of certain resolutions of the Deal Committee of the Board of Directors of the Company, adopted on May 25, 2012, certified pursuant to the Secretary's Certificate;

(o) a copy of a certificate, dated May 24, 2012, and a bringdown verification thereof, dated the date hereof, from the Secretary of State of the State of Delaware, with respect to the Company's existence and good standing in the State of Delaware (the "Delaware Certificate"); and

(p) a copy of a certificate from public officials in the jurisdiction identified on Schedule II hereto with respect to the Company's status and/or qualification to do business as a foreign corporation in such jurisdiction (the "Foreign Qualification Certificate"); and

(q) copies of each of the Scheduled Contracts (as defined below).

We have also examined originals or copies, certified or otherwise identified to our satisfaction, of such records of the Company and such agreements, certificates and receipts of public officials, certificates of officers or other representatives of the Company and others, and such other documents as we have deemed necessary or appropriate as a basis for the opinions stated below.

In our examination, we have assumed the genuineness of all signatures including endorsements, the legal capacity and competency of all natural persons, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as facsimile, electronic, certified or photostatic copies, and the authenticity of the originals of such copies. As to any facts material to the opinions stated herein that we did not independently establish or verify, we have relied upon statements and representations of officers and other representatives of the Company and others and of public officials, including the facts and conclusions set forth in the Officer's Certificate.

We do not express any opinion with respect to the laws of any jurisdiction other than (i) the laws of the State of New York, (ii) the federal laws of the United States of America, and (iii) the General Corporation Law of the State of Delaware (the "DGCL").

As used herein: "Organizational Documents" means those documents listed in paragraphs (k) and (l) above. "Scheduled Contracts" means those agreements or instruments described on Schedule III hereto. "Scheduled Orders" means those orders or decrees described on Schedule IV hereto (no such orders or decrees are so described). The Underwriting Agreement and the Warrant Agreements are referred to herein as the "Transaction Agreements."

Based upon the foregoing and subject to the limitations, qualifications, exceptions and assumptions stated herein, we are of the opinion that:

1. Based solely on our review of the Delaware Certificate, the Company has been duly incorporated and is validly existing in good standing under the DGCL.
2. Based solely on our review of the Foreign Qualification Certificate, the Company has the status identified on Schedule II hereto set forth opposite the jurisdiction identified on such Schedule as of the date identified on such Schedule.
3. The Company has the corporate power and authority to execute and deliver the Transaction Agreements and to consummate the transactions contemplated thereby under the DGCL.

4. The Underwriting Agreement has been duly authorized, executed and delivered by all requisite corporate action on the part of the Company under the DGCL.

5. Neither the execution and delivery by the Company of (a) the Underwriting Agreement or the consummation by the Company of the transactions contemplated thereby, including the issuance and sale of the Securities, nor (b) the Warrant Agreements or the performance of the Company's obligations contemplated thereby: (i) conflicts with the Organizational Documents, (ii) constitutes a violation of, or a default under, any Scheduled Contract or (iii) contravenes any Scheduled Order.

6. Neither the execution and delivery by the Company of (a) the Underwriting Agreement or the consummation by the Company of the transactions contemplated thereby, including the issuance and sale of the Securities, nor (b) the Warrant Agreements or the performance of the Company's obligations contemplated thereby: (i) violates any law, rule, or regulation of the State of New York, the DGCL or the United States of America or (ii) requires the consent, approval, licensing or authorization of, or any filing, recording or registration with, any governmental authority under any law, rule or regulation of the State of New York, the DGCL or the United States of America except for those consent, approvals, licenses and authorizations already obtained and those filing, recordings and registrations already made.

7. The Company is not and, solely after giving effect to the offering and sale of the Securities and the application of the proceeds thereof as described in the Prospectus Supplement, will not be an "investment company" as such term is defined in the Investment Company Act of 1940.

8. The Common Shares have been duly authorized by all requisite corporate action on the part of the Company under the DGCL and, when the stock certificate is delivered to and paid for by the Underwriters in accordance with the terms of the Underwriting Agreement, will be validly issued, fully paid and non-assessable and free and clear of any preemptive rights or any similar rights arising under the DGCL, the Organizational Documents or any Scheduled Contract.

9. Each Warrant Agreement has been duly authorized by all requisite corporate action on the part of the Company under the DGCL and, when each Warrant

Agreement is executed and delivered to the Underwriters in accordance with the terms of the Underwriting Agreement, will constitute the valid and binding obligation of the Company, enforceable against the Company in accordance with its terms under the laws of the State of New York.

10. The 4,600,002 Warrant Shares initially issuable pursuant to the Warrant Agreements have been duly authorized by all requisite corporate action on the part of the Company under the DGCL and, when issued upon exercise of the Warrants in accordance with the terms of the Warrant Agreement, will be validly issued, fully paid and non-assessable and free and clear of any preemptive rights or any similar rights arising under the DGCL, the Organizational Documents or any Scheduled Contract. The resolutions of the Board of Directors of the Company approving the issuance of the Warrants state that they have reserved the Warrant Shares for issuance.

11. The statements in the Prospectus under the captions "Description of the Securities We Are Offering" and "Description of Capital Stock," insofar as such statements purport to summarize provisions of the DGCL and the Organizational Documents, fairly summarize such provisions in all material respects.

The opinions stated herein are subject to the following qualifications:

(a) the opinions stated herein are limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent transfer, preference and other similar laws affecting creditors' rights generally, and by general principles of equity (regardless of whether enforcement is sought in equity or at law);

(b) except to the extent expressly stated in the opinions contained herein, we do not express any opinion with respect to the effect on the opinions stated herein of (i) the compliance or non-compliance of any party to any of the Transaction Agreements with any laws, rules or regulations applicable to such party or (ii) the legal status or legal capacity of any such party to any of the Transaction Agreements;

(c) except to the extent expressly stated in the opinions contained herein, we do not express any opinion with respect to any law, rule or regulation that is applicable to any party to any of the Transaction Agreements or the transactions contemplated thereby solely because such law, rule or regulation is part of a regulatory regime applicable to any such party or any of its affiliates as a result of the specific assets or business operations of such party or such affiliates;

(d) except to the extent expressly stated in paragraph 7 above, we do not express any opinion with respect to any securities, antifraud, derivatives or commodities laws, rules or regulations;

(e) except to the extent expressly stated in the opinions contained herein with respect to the Company, neither the execution and delivery by the Company of the Transaction Agreements nor the consummation by the Company of the transactions contemplated thereby, including the issuance and sale of the Securities: (i) conflicts or will conflict with the Organizational Documents, (ii) constitutes or will constitute a violation of, or a default under, any lease, indenture, instrument or other agreement to which the Company or its property is subject, (iii) contravenes or will contravene any order or decree of any governmental authority to which the Company or its property is subject, (iv) violates or will violate any law, rule or regulation to which the Company or its property is subject or (v) requires the consent, approval, licensing or authorization of, or any filing, recording or registration with, any governmental authority under any law, rule or regulation of any jurisdiction.

(f) to the extent that the opinion in paragraph 9 above relates to the enforceability of the choice of New York law and choice of New York forum provisions contained in the Warrant Agreements, such opinion is rendered solely in reliance upon New York General Obligations Law sections 5-1401 and 5-1402 and Rule 327(b) of New York Civil Practice Law and Rules and is subject to the qualification that such enforceability may be limited by, in each case, the terms of such sections 5-1401 and 5-1402, as well as by principles of public policy, comity or constitutionality;

(g) in rendering the opinion set forth in paragraph 10 above, we have assumed that the Exercise Price (as defined in the Warrant Agreements) will be at least equal to the par value of the Warrant Shares at the time of exercise; and

(h) we do not express any opinion whether the execution or delivery of the Transaction Agreements by the Company, or the performance by the Company of its obligations under the Transaction Agreements will constitute a violation of, or a default under, any covenant, restriction or provision with respect to financial ratios or tests or any aspect of the financial condition or results of operations of the Company or any of its subsidiaries.

This opinion is furnished only to you as representatives of the Underwriters and is solely for the Underwriters' benefit in connection with the offering of the Securities, in each case pursuant to the Underwriting Agreement. Without our prior written consent, this opinion may not be used, circulated, quoted or otherwise referred to for any other

purpose or relied upon by, or assigned to, any other person for any purpose, including any other person that acquires any Securities or that seeks to assert your rights in respect of this opinion (other than an Underwriter's successor in interest by means of merger, consolidation, transfer of a business or other similar transaction).

Very truly yours,

Schedule I

Incorporated Documents

1. Annual Report on Form 10-K of Delcath Systems, Inc. for the fiscal year ended December 31, 2011, filed with the Commission on March 6, 2012.
2. Quarterly Report on Form 10-Q, for the the quarterly period ended March 31, 2012, filed with the Commission on May 9, 2012.
3. Current Reports on Form 8-K of Delcath Systems, Inc., filed with the Commission on January 13, 2012, January 31, 2012, February 2, 2012, March 26, 2012, April 18, 2012, April 24, 2012 and May 30, 2012.
4. Definitive Proxy Statement on Schedule 14A of Delcath Systems, Inc., filed with the Commission on April 27, 2012.

Schedule II

Foreign Qualifications

| Jurisdiction | Entity | Date | Status |
|---------------------|--|--------------|---------------------------|
| New York | Secretary of State of the State of New York | May 24, 2012 | Authorized to do business |

Schedule III

Scheduled Contracts

1. Rights Agreement, dated October 30, 2001, by and between the Company and American Stock Transfer & Trust Company, as Rights Agent
2. Form of Warrant to Purchase Shares of Common Stock dated June 15, 2009 issued pursuant to the Subscription Terms dated as of June 9, 2009 between the Company and Capital Ventures International
3. 2004 Stock Incentive Plan
4. 2009 Stock Incentive Plan
5. Form of Incentive Stock Option Agreement under the Company's 2004 Stock Incentive Plan
6. Form of Nonqualified Stock Option Agreement under the Company's 2004 Stock Incentive Plan
7. Form of Stock Grant Agreement under the Company's 2004 Stock Incentive Plan
8. Settlement Agreement, dated as of October 8, 2006, by and between the Company, Laddcap Value Partners LP, Laddcap Value Advisors LLC, Laddcap Value Associates LLC, any affiliate of the foregoing, and Robert B. Ladd
9. Modification Agreement dated April 9, 2007 between the Company, Laddcap Value Partners, LP, Laddcap Associates, LLC
10. Form of Warrant issued to investors in connection with the Company's September 2007 registered direct offering
11. Cooperative Research and Development Agreement dated as of March 29, 2007 between the Company and the National Cancer Institute
12. Form of Indemnification Agreement dated April 8, 2009 between the Company and members of the Company's Board of Directors
13. Separation and General Release Agreement dated as of July 5, 2009 between the Company and Richard L. Taney

14. Employment Agreement dated as of July 1, 2009 between the Company and Eamonn P. Hobbs
15. Employee Stock Option Grant Letter dated as of July 6, 2009 between the Company and Eamonn P. Hobbs
16. Employee Stock Option Grant Letter dated as of July 6, 2009 between the Company and Eamonn P. Hobbs
17. Lease with Option to Purchase between Fitzgerald Brothers Beverages, Inc., and the Company, dated as of September 1, 2009
18. Employment Agreement dated as of September 13, 2009 between Delcath Systems, Inc. and David A. McDonald
19. Employee Stock Option Grant Letter dated as of September 14, 2009 between the Company and David A. McDonald
20. Restricted Stock Agreement dated as of September 14, 2009 between the Company and David A. McDonald
21. Employment Agreement dated as of September 30, 2009 between the Company and Krishna Kandarpa, M.D., Ph.D.
22. Employee Stock Option Grant Letter dated October 20, 2009 between the Company and Krishna Kandarpa, M.D., Ph.D.
23. Restricted Stock Agreement dated as of October 20, 2009 between the Company and Krishna Kandarpa, M.D., Ph.D.
24. Employment Agreement dated as of November 2, 2009 between the Company and Agustin Gago.
25. Lease between SLG 810 Seventh Lessee LLC and the Company dated as of February 5, 2010
26. Research and Distribution Agreement between CHIFU Trading Co Ltd and the Company dated as of February 9, 2010
27. Amendment No. 1 to Form of Employee Stock Option Grant Letter dated as of March 11, 2010 between the Company and Eamonn P. Hobbs
28. Employee Stock Option Grant Letter dated as of March 11, 2010 between the Company and Eamonn P. Hobbs

29. Employment Agreement dated as of April 16, 2010 between the Company and Peter Graham.
30. Amended and Restated Supply Agreement between B. Braun Medical Inc and the Company dated as of May 4, 2010
31. Employment Agreement dated as of May 5, 2010 between the Company and Barbra Keck
32. Underwriting Agreement between Canaccord Genuity Inc. and the Company, dated as of August 16, 2010
33. Lease Modification, Extension and Additional Space Agreement between SLG 810 Seventh Lessee LLC and the Company dated as of September 27, 2010
34. License, Supply and Contract Manufacturing Agreement between Synerx Pharma, LLC and Bioniche Teoranta and the Company dated as of October 13, 2010.
35. Form of Restricted Stock Agreement under the Company's 2009 Stock Incentive Plan
36. Form of Restricted Stock Agreement (Non-Employee Directors) under the Company's 2009 Stock Incentive Plan.
37. Form of Restricted Stock Agreement (Consultants) under the Company's 2009 Stock Incentive Plan.
38. Form of Non-Statutory Stock Option Grant Letter under the Company's 2009 Stock Incentive Plan
39. Form of Non-Statutory Stock Option Grant Letter (Non-Employee Directors) under the Company's 2009 Stock Incentive Plan
40. Form of Non-Statutory Stock Option Grant Letter (Consultants) under the Company's 2009 Stock Incentive Plan
41. Interim Agreement, dated July 6, 2011, between Delcath Systems, Inc. and Eamonn Hobbs
42. Second Interim Agreement, dated August 8, 2011, between Delcath Systems, Inc. and Eamonn Hobbs

43. Employment Agreement, dated August 10, 2011, between Delcath Systems, Inc. and Eamonn Hobbs
44. Employment Offer Letter, dated August 29, 2011, between Delcath Systems, Inc. and Graham Miao, Ph.D.
45. Form of Employee Confidentiality and Restrictive Covenant Agreement
46. Letter Agreement, dated September 28, 2011, between Delcath Systems, Inc. and David A. McDonald
47. Employment Agreement, dated December 6, 2011, between Delcath Systems, Inc. and Agustin Gago
48. Amendment No. 4 to the Cooperative Research and Development Agreement, dated as of January 28, 2012, between Delcath Systems, Inc. and the National Cancer Institute
49. Employment Offer Letter between Delcath Systems, Inc. and Jennifer Simpson, Ph.D., M.S.N., C.R.N.P., dated March 7, 2012
50. Employment Agreement between Delcath Systems, Inc. and Peter Graham, dated April 13, 2012
51. Loan and Security Agreement, dated as of April 20, 2012, between Delcath Systems, Inc. and Silicon Valley Bank, as lender

Schedule IV

Scheduled Orders

None.

Schedule IV, page 1

EXHIBIT C-2

Form of Company Counsel Negative Assurance Letter

May 31, 2012

Cowen and Company, LLC
Wedbush Securities Inc.

As Representatives of the Several Underwriters

c/o Cowen and Company, LLC
599 Lexington Avenue
New York, NY 10022

Re: Delcath Systems, Inc. – Offering of Common Stock and Warrants

Ladies and Gentlemen:

We have acted as special counsel to Delcath Systems, Inc., a Delaware corporation (the “Company”), in connection with the Underwriting Agreement, dated May 25, 2012 (the “Underwriting Agreement”), between you, as representatives of the several underwriters named therein (the “Underwriters”) and the Company, relating to the sale by the Company to the Underwriters of (i) 13,333,340 shares (the “Firm Shares”) of the Company’s Common Stock, par value \$0.01 per share (the “Common Stock”), and warrants (the “Firm Warrants”) to initially purchase up to an aggregate of 4,000,002 shares of the Company’s Common Stock, and (ii) at the Underwriters’ option to cover over-allotments, 2,000,000 shares (together with the Firm Shares, the “Common Shares”) of the Company’s Common Stock, and warrants (together with the Firm Warrants, the “Warrants”) to initially purchase up to an aggregate of 600,000 shares of the Company’s Common Stock. The Common Shares and the Warrants are collectively referred to herein as the “Securities.”

This letter is being furnished to you pursuant to Section 6(d) of the Underwriting Agreement.

In the above capacity, we have reviewed the registration statement on Form S-3 (File No. 333-178819) of the Company relating to the Securities and other securities of the Company filed on December 29, 2011 with the Securities and Exchange Commission (the “Commission”) under the Securities Act of 1933 (the “Securities Act”) allowing for delayed offerings pursuant to Rule 415 of the General Rules and Regulations under the Securities Act (the “Rules and Regulations”), and Amendment No. 1 thereto, including the Incorporated Documents (as defined below), and the information deemed to

be a part of the registration statement pursuant to Rule 430B of the Rules and Regulations, and the Notice of Effectiveness of the Commission posted on its website declaring such registration statement effective on February 13, 2012 (such registration statement, as so amended, being hereinafter referred to as the "Registration Statement"), and (i) the prospectus, dated February 13, 2012 (the "Base Prospectus"), which forms a part of and is included in the Registration Statement, (ii) the preliminary prospectus supplement, dated May 24, 2012 (the "Preliminary Prospectus Supplement" and, together with the Base Prospectus and the Incorporated Documents, the "Preliminary Prospectus"), relating to the offering of the Securities in the form filed by the Company with the Commission pursuant to Rule 424(b) of the Rules and Regulations, and (iii) the prospectus supplement, dated May 25, 2012 (the "Prospectus Supplement" and, together with the Base Prospectus and the Incorporated Documents, the "Prospectus"), relating to the offering of the Securities in the form filed with the Commission pursuant to Rule 424(b) of the Rules and Regulations. We also have reviewed the documents identified on Schedule A hereto filed by the Company with the Commission pursuant to the Securities Exchange Act of 1934 and incorporated by reference into the Preliminary Prospectus, as of the Applicable Time (as defined below), or the Prospectus, as of its date and as of the date hereof, as applicable (collectively, the "Incorporated Documents"), and such other documents as we deemed appropriate. The Registration Statement was declared effective under the Securities Act at 3:30 p.m., on February 13, 2012 and we have been orally advised by the Commission that no stop order suspending the effectiveness of the Registration Statement has been issued and, to our knowledge, no proceedings for that purpose have been instituted or are pending or threatened by the Commission.

In addition, we have participated in conferences with officers and other representatives of the Company, Greenburg Traurig, LLP, the Company's intellectual property counsel, representatives of the independent registered public accountants of the Company and representatives of the Underwriters and counsel for the Underwriters, LeClairRyan, A Professional Corporation, at which the contents of the Registration Statement and the Prospectus, the Disclosure Package (as defined below) and related matters were discussed. We did not participate in the preparation of the Incorporated Documents but have, however, reviewed such documents and discussed the business and affairs of the Company with officers and other representatives of the Company. We do not pass upon, or assume any responsibility for, the accuracy, completeness or fairness of the statements contained or incorporated by reference in the Registration Statement, the Prospectus or the Disclosure Package and have made no independent check or verification thereof.

On the basis of the foregoing, (i) the Registration Statement, at the Effective Time (as defined below), and the Prospectus, as of the date of the Prospectus

Supplement, appeared on their face to be appropriately responsive in all material respects to the requirements of the Securities Act and the Rules and Regulations (except that in each case we do not express any view as to the financial statements, schedules and other financial information included or incorporated by reference therein or excluded therefrom) and (ii) no facts have come to our attention that have caused us to believe that the Registration Statement, at the Effective Time, contained an untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein not misleading, or that the Prospectus, as of the date of the Prospectus Supplement and as of the date hereof, contained or contains an untrue statement of a material fact or omitted or omits 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 (except that in each case we do not express any view as to the financial statements, schedules and other financial information included or incorporated by reference therein or excluded therefrom, the report of management's assessment of the effectiveness of internal controls over financial reporting or the auditors' reports regarding the Company's financial statements and the Company's internal controls over financial reporting, or the statements contained in the exhibits to the Registration Statement). In addition, on the basis of the foregoing, no facts have come to our attention that have caused us to believe that the Disclosure Package, as of the Applicable Time, contained an untrue statement of a material fact or omitted 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 (except that we do not express any view as to the financial statements, schedules and other financial information included or incorporated by reference therein or excluded therefrom, the report of management's assessment of the effectiveness of internal controls over financial reporting or the auditors' reports regarding the Company's financial statements and the Company's internal controls over financial reporting, or the statements contained in the exhibits to the Registration Statement).

As used herein, (i) "Effective Time" means the time of effectiveness of the Registration Statement for purposes of Section 11 of the Securities Act, as such section applies to the Underwriters, (ii) "Applicable Time" means 8:30 a.m. (New York time) on May 25, 2012, which you advised us is the time of the first contract of sale of the Securities, and (iii) "Disclosure Package" means the Preliminary Prospectus Supplement, supplemented by the information set forth on Schedule II hereto.

In addition, based on the foregoing, we confirm to you that the Preliminary Prospectus Supplement and Prospectus Supplement have been filed with the Commission within the time period required by Rule 424 of the Rules and Regulations.

This letter is furnished only to you as representatives of the Underwriters and is solely for the Underwriters' benefit in connection with the closing occurring today and the offering of the Securities pursuant to the Underwriting Agreement. Without our prior written consent, this letter may not be used, circulated, quoted or otherwise referred to for any other purpose or relied upon by, or assigned to, any other person for any purpose, including any other person that acquires any Securities or that seeks to assert your rights in respect of this letter (other than an Underwriter's successor in interest by means of merger, consolidation, transfer of a business or other similar transaction).

Very truly yours,

Schedule I

Incorporated Documents

1. Annual Report on Form 10-K of Delcath Systems, Inc. for the fiscal year ended December 31, 2011, filed with the Commission on March 6, 2012.
2. Quarterly Report on Form 10-Q, for the the quarterly period ended March 31, 2012, filed with the Commission on May 9, 2012.
3. Current Reports on Form 8-K of Delcath Systems, Inc., filed with the Commission on January 13, 2012, January 31, 2012, February 2, 2012, March 26, 2012, April 18, 2012, April 24, 2012 and May 30, 2012.
4. Definitive Proxy Statement on Schedule 14A of Delcath Systems, Inc., filed with the Commission on April 27, 2012.

Schedule II

Pricing Information

Firm Stock to be sold: 13,333,340

Firm Warrants to be sold: 13,333,340

Firm Warrant Shares underlying the Firm Warrants: 4,000,002

Public Offering Price Per Unit: \$1.50

Underwriting Discounts and Commissions per Unit: \$0.09

Estimated Net Proceeds to the Company, before expenses: \$18,800,000

Exercise Price of the Warrants: \$1.65 per share

Warrant Term: 3 years

Dilution Per Share to New Investors: \$0.94

EXHIBIT D

Form of Intellectual Property Counsel Opinion

Scott J. Bornstein
Chair, NY IP & Technology Practice
Co-Chair, Patent Litigation Group
Tel (212) 801-2172
Fax (212) 801-6400
bornsteins@gtlaw.com

May 31, 2012

Cowen and Company, LLC
Wedbush Securities Inc.
as Representatives of the Several Underwriters
c/o Cowen and Company, LLC
599 Lexington Avenue
New York, NY 10022

Re: Delcath Systems, Inc. (the "Company")
Intellectual Property Counsel Opinion

Dear Sirs:

We have acted as special counsel to the Company. We have examined information incorporated by reference in the Company's February 13, 2012 Registration Statement on Form S-3 (File No. 333-178819) (the "Registration Statement") and the Annual Report on Form 10-K for the period ended December 31, 2011 (the "10-K") under the captions "Business—Intellectual Property and Other Rights," and "Risk Factors—Our success depends in part on our ability to obtain patents, maintain trade secret protection, operate without infringing on the proprietary rights of third parties and commercialize the Delcath chemosaturation system prior to the expiration of our patent protection" (collectively, the "Designated Intellectual Property Provisions").

1. All patents and trademarks and pending patent and trademark applications ("Patents and Trademarks") that are owned by the Company are listed on IP Schedule A, attached hereto. Information concerning the application number, filing data and status of the Patents and Trademarks also is set forth in IP Schedule A, based upon our knowledge.

2. To our knowledge, the Company has trade secret protection relating to its media activation process. We have been advised that the Company employs the following procedures to ensure that the information relating to the Company's proprietary media activation process remains a protectable trade secret.

- All employees must sign confidentiality agreements
- All consultants must sign confidentiality agreements or include confidentiality provisions in their respective consulting contracts

ALBANY
AMSTERDAM
ATLANTA
AUSTIN
BOSTON
CHICAGO
DALLAS
DELAWARE
DENVER
FORT LAUDERDALE
HOUSTON
LAS VEGAS
LONDON*
LOS ANGELES
MIAMI
MILAN**
NEW JERSEY
NEW YORK
ORANGE COUNTY
ORLANDO
PALM BEACH
COUNTY
PHILADELPHIA
PHOENIX
ROME**
SACRAMENTO
SAN FRANCISCO
SHANGHAI
SILICON VALLEY
TALLAHASSEE
TAMPA
TYSONS CORNER
WASHINGTON, D.C.
WHITE PLAINS
* OPERATES
AS
GREENBERG
TRAURIG
MAHER LLP
** STRATEGIC
ALLIANCE

- The trade secret media activation process is maintained at a separate facility with a security system and video surveillance to control entry. A gate at the street entrance is locked during non-working hours
- Only 6 employees have access to the facility – access is restricted by lock and “need to know” basis
- Outside vendors are not permitted in the facility except under the direct supervision of the Project Engineer
- Only 3 employees were/are involved in the implementation and use of the manufacturing of the trade secret process and each such employee is advised of the Company’s intent to maintain the trade secret status of the media activation process and of the secret, valuable and confidential nature of the trade secret process
- Only 3 employees have access to the specifications and know-how related to the trade secret manufacturing process
- The trade secret process equipment is assembled in a tool room with separate security access. Only 3 employees have access to the tool room. Equipment only leaves the tool room when fully assembled. The Production Operator is not given access to the tool room, and does not have knowledge of the equipments’ internal design or assembly
- The trade secret process is maintained on a computer hard drive housed at the separate facility with password protection. Hard copies are maintained in a locked file cabinet and only 3 employees have keys
- The trade secret process is marked or otherwise identified as “confidential”
- Raw material purchases are done separately from each vendor and do not indicate the specific purpose of the use of the materials.

3. Except as set forth below, to our knowledge, the statements in the above identified Designated Intellectual Property Provisions, insofar as such statements pertain to Intellectual Property matters or purport to describe or summarize applicable provisions of Intellectual Property laws, accurately and fairly represent the information referred to therein.

4. To our knowledge, (A) there are no rights of parties other than the Company to any of the Patents and Trademarks listed on IP Schedule A, (B) there are no pending or threatened actions, suits, proceedings or claims by others challenging the Company’s rights to or in any such Patents and Trademarks and (C) there are no pending or threatened actions, suits, proceedings or claims by others that the Company is infringing or otherwise violating any patent, trademark, or trade secret rights of others.

GREENBERG TRAURIG, LLP

5. To our knowledge, the Company has complied with the examination requirements of the United States Patent and Trademark Office (“USPTO”) duty of candor and disclosure for each of the United States Patents and Trademarks listed in IP Schedule A. No fact has come to our attention that causes us to question the enforceability of any of the Patents and Trademarks listed on IP Schedule A, or to question the validity of any of the Patents and Trademarks listed on IP Schedule A.

6. To our knowledge, there are no legal or governmental proceedings relating to the Company’s patent and trademark rights, other than normal *ex parte* USPTO examination proceedings and similar proceedings (including, without limitation, opposition proceedings, in other jurisdictions). To our knowledge, all issued patents and trademarks listed on IP Schedule A have been lawfully issued.

7. To our knowledge, and except as described in documents filed with the Securities and Exchange Commission, there are no agreements with third parties relating to the acquisition, licensing and/or transfer of Intellectual Property rights which have or are anticipated to have a material impact on the Company’s existing or future business, including license agreements, joint venture agreements, marketing and/or distribution agreements or other collaboration agreements that are not currently in effect or that will be expiring soon, nor to our knowledge has there been any notice of termination on or other act indicating a desire to terminate any of the aforesaid agreements.

8. To our knowledge, there are no facts that prevent the Company from using its Intellectual Property and know-how to conduct its business or from enforcing its rights to its Patents and Trademarks.

Nothing has come to our attention which causes us to believe that the Designated Intellectual Property Provisions, at the time the Registration Statement became effective and at all times subsequent thereto up to and on the date hereof, contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

Very truly yours,

Scott J. Bornstein

GREENBERG TRAUIG, LLP

DELCATH SYSTEMS, INC.
INTELLECTUAL PROPERTY OPINION LETTER - EXHIBIT A

PATENT PROPERTIES
I. U.S. PATENT NO. 5,817,046 (020400)

Filing Date: July 14, 1997

Patent Issuance Date: October 6, 1998

Projected Expiration Date (not including any applicable patent term adjustments / extensions): July 14, 2017

Title: APPARATUS AND METHOD FOR ISOLATED PELVIC PERFUSION

Ownership Status: Delcath Systems, Inc. listed as assignee.

Litigation Status: None.

...

Foreign Counterparts:

| Country | Patent/Application Number | Status |
|---------------------------------|----------------------------------|--|
| Canada (020402) | CA 2297080 | Issued - in force |
| European Patent Office (020403) | EP 1027094 | Issued as EPO patent 1027094. Nationalized in Austria, Belgium, United Kingdom, Switzerland, Spain, France, Germany, Ireland, Italy, the Netherlands, Portugal, Sweden |

DELCATH SYSTEMS, INC.
INTELLECTUAL PROPERTY OPINION LETTER - EXHIBIT A

II. U.S. PATENT NO. 5,893,841 (020200)

Filing Date: August 30, 1996

Patent Issuance Date: April 13, 1999

Projected Expiration Date (not including any applicable patent term adjustments / extensions: August 30, 2016

Title: BALLOON CATHETER WITH OCCLUDED SEGMENT BYPASS

Ownership Status: Delcath Systems, Inc. listed as assignee.

Litigation Status: None.

Foreign Counterparts:

| Country | Patent/Application Number | Status |
|----------------|----------------------------------|---------------------------|
| Japan | JP 4039698 | Issued - in force. |
| Japan | JP 2007-200716 | Pending |
| Canada | CA 2264559 | Pending - Allowed |
| Belgium | EP 0936933 | Issued - patent in force. |
| France | EP 0936933 | Issued - patent in force. |
| Germany | DE 69735487 | Issued - patent in force. |
| Italy | EP 0936933 | Issued - patent in force. |
| Sweden | EP 0936933 | Issued - patent in force. |
| United Kingdom | EP 0936933 | Issued - patent in force. |

DELCATH SYSTEMS, INC.
INTELLECTUAL PROPERTY OPINION LETTER - EXHIBIT A

III. U.S. PATENT NO. 5,897,533 (020600)

Filing Date: September 2, 1997

Patent Issuance Date: April 27, 1999

Projected Expiration Date (not including any applicable patent term adjustments / extensions): September 2, 2017

Title: CATHETER FLOW AND LATERAL MOVEMENT CONTROLLER

Ownership Status: Delcath Systems, Inc. listed as assignee.

Litigation Status: None.

Foreign Counterparts: None active

DELCATH SYSTEMS, INC.
INTELLECTUAL PROPERTY OPINION LETTER - EXHIBIT A

IV. U.S. PATENT NO. 5,919,163

Filing Date: July 14, 1997

Patent Issuance Date: July 6, 1999

Projected Expiration Date (not including any applicable patent term adjustments / extensions): July 14, 2017

Title: CATHETER WITH SLIDABLE BALLOON

Ownership Status: Delcath Systems, Inc. listed as assignee.

Litigation Status: None.

Foreign Counterparts: None Active

DELCATH SYSTEMS, INC.
INTELLECTUAL PROPERTY OPINION LETTER - EXHIBIT A

V. U.S. PATENT NO. 6,186,146 (020301)

Filing Date: January 13, 1997 (claiming priority as CIP of 08/706,186 filed August 30, 1996)

Patent Issuance Date: February 13, 2001

Projected Expiration Date (not including any applicable patent term adjustments / extensions): August 30, 2016

Title: CANCER TREATMENT METHOD

Ownership Status: Delcath Systems, Inc. listed as assignee.

Litigation Status: None.

Foreign Counterparts: None Found

DELCATH SYSTEMS, INC.
INTELLECTUAL PROPERTY OPINION LETTER - EXHIBIT A

VI. U.S. PATENT NO. 7,022,097

Filing Date: May 9, 2003

Patent Issuance Date: April 4, 2006

Projected Expiration Date (not including any applicable patent term adjustments / extensions) : May 9, 2023

Title: METHOD FOR TREATING GLANDULAR DISEASES AND MALIGNANCIES

Ownership Status: Delcath Systems, Inc. listed as assignee.

Litigation Status: None.

Foreign Counterparts:

| Country | Patent/Application Number | Status |
|------------------------|----------------------------------|----------------|
| Canada | CA 2524858 | Pending |
| European Patent Office | EP 10170460.9 (divisional) | Pending |

**DELCATH SYSTEMS, INC.
INTELLECTUAL PROPERTY OPINION LETTER - EXHIBIT A**

VII. PCT PATENT APPLICATION (US as receiving office) NO. PCT/US09/63744

Filing Date: November 9, 2009.

Patent Issuance Date: N/A

Title: SYSTEMS AND METHODS FOR HOMEOSTATICALLY TREATING ORGAN DISEASE USING LOCAL DELIVERY OF THERAPEUTIC AGENTS

Projected Expiration Date (not including any applicable patent term adjustments / extensions): 2020 (Chinese utility model)

Ownership Status: Delcath Systems, Inc. as assignee.

Litigation Status: None

U.S. and Foreign Counterparts:

| Country | Patent/Application Number | Status |
|-----------------------------------|--|--|
| China (utility model) | “CATHETER AND APPARATUS COMPRISING SUCH A CATHETER” (filed January 11, 2010, claiming priority from PCT) | Issued as Chinese Model Utility Patent No. ZL 2010 2000 2009.3 |
| U.S. | 13/508,729 | New application filed. |
| Canada | Forthcoming | New application filed. |
| China (application for invention) | Forthcoming | New application filed. |
| Australia | Forthcoming | New application filed. |
| Japan | Forthcoming | New application filed. |
| Europe | 09851169.4. | New application filed. |

**DELCATH SYSTEMS, INC.
INTELLECTUAL PROPERTY OPINION LETTER - EXHIBIT A**

VIII. U.S. DESIGN PATENT APPLN. NO. 29/409,867

Filing Date: December 29, 2011 (filed by Delcath)
Patent Issuance Date: N/A
Title: DUAL FILTER
Projected Expiration Date: N/A
Ownership Status: Delcath Systems, Inc.
Litigation Status: None

DELCATH SYSTEMS, INC.
INTELLECTUAL PROPERTY OPINION LETTER - EXHIBIT A

IX. U.S. PROVISIONAL PATENT APPLN. NO. 61/581,496

Filing Date: December 29, 2011 (filed by Delcath)

Patent Issuance Date: N/A

Title: DUAL FILTER CARTRIDGE & FRAME APPARATUS & METHOD OF USE

Projected Expiration Date: N/A

Ownership Status: Delcath Systems, Inc.

Litigation Status: None

DELCATH SYSTEMS, INC.
INTELLECTUAL PROPERTY OPINION LETTER - EXHIBIT A

X. U.S. PROVISIONAL PATENT APPLN. NO. 61/581,433

Filing Date: December 29, 2011 (filed by Delcath)
Patent Issuance Date: N/A
Title: ADJUSTABLE FILTER APPARATUS
Projected Expiration Date: N/A
Ownership Status: Delcath Systems, Inc.
Litigation Status: None

DELCATH SYSTEMS, INC.
INTELLECTUAL PROPERTY OPINION LETTER - EXHIBIT A

XI. U.S. PROVISIONAL PATENT APPLN. NO. 61/556,819

Filing Date: November 7, 2011 (filed by Delcath)

Patent Issuance Date: N/A

Title: APPARATUS FOR REMOVING CHEMOTHERAPY COMPOUNDS

Projected Expiration Date: N/A

Ownership Status: Delcath Systems, Inc.

Litigation Status: None

**DELCATH SYSTEMS, INC.
INTELLECTUAL PROPERTY OPINION LETTER - EXHIBIT A**

TRADEMARK PROPERTIES

| <u>TRADEMARK</u> | <u>COUNTRY</u> | <u>GOODS / SERVICES</u> | <u>CLASS(ES)</u> | <u>STATUS</u> | <u>APP. NO.</u> | <u>REG. NO.</u> |
|------------------|----------------|-------------------------|------------------|---------------|-----------------|-----------------|
| CHEMOFUSE | European Union | Drug delivery systems | 10 | Registered | 9544297 | 9544297 |
| CHEMOFUSE | U.S.A. | Drug delivery systems | 10 | Pending | 85/172,818 | |
| CHEMOSAT | Argentina | Drug delivery systems | 10 | Pending | 3006313 | |
| CHEMOSAT | Australia | Drug delivery systems | 10 | Registered | 1354961 | 1033246 |
| CHEMOSAT | Brazil | Drug delivery systems | 10 | Pending | 831297557 | |
| CHEMOSAT | China | Drug delivery systems | 10 | Registered | A0018997 | 1033246 |
| CHEMOSAT | Colombia | Drug delivery systems | 10 | Registered | 1077052 | 415377 |
| CHEMOSAT | European Union | Drug delivery systems | 10 | Registered | A0018997 | 1033246 |
| CHEMOSAT | Hong Kong | Drug delivery systems | 10 | Pending | 302134449 | |
| CHEMOSAT | India | Drug delivery systems | 10 | Registered | 1935212 | 1017505 |
| CHEMOSAT | Israel | Drug delivery systems | 10 | Pending | A0018997 | 1033246 |
| CHEMOSAT | Japan | Drug delivery systems | 10 | Pending | A0018997 | 1033246 |
| CHEMOSAT | Korea (South) | Drug delivery systems | 10 | Registered | A0018997 | 1033246 |
| CHEMOSAT | Mexico | Drug delivery catheters | 10 | Registered | 1072333 | 1187556 |
| CHEMOSAT | New Zealand | Drug delivery systems | 10 | Pending | 854899 | |
| CHEMOSAT | Russia | Drug delivery systems | 10 | Pending | A0018997 | 1033246 |

DELCATH SYSTEMS, INC.
INTELLECTUAL PROPERTY OPINION LETTER - EXHIBIT A

| <u>TRADEMARK</u> | <u>COUNTRY</u> | <u>GOODS / SERVICES</u> | <u>CLASS(ES)</u> | <u>STATUS</u> | <u>APP. NO.</u> | <u>REG. NO.</u> |
|------------------|----------------|--|------------------|---------------|-----------------|-----------------|
| CHEMOSAT | Taiwan | Medical apparatus, medical instruments for drug delivery systems | 10 | Registered | 99009554 | 1459056 |
| CHEMOSAT | U.S.A. | Drug delivery systems | 10 | Pending | 77/944,997 | |
| CHEMOSATURATION | Argentina | Drug delivery systems | 10 | Pending | 3006314 | |
| CHEMOSATURATION | Australia | Drug delivery systems | 10 | Registered | A0018998 | 1033711 |
| CHEMOSATURATION | Brazil | Drug delivery systems | 10 | Pending | 830632321 | |
| CHEMOSATURATION | China | Drug delivery systems | 10 | Registered | A0018998 | 1033711 |
| CHEMOSATURATION | Colombia | Drug delivery systems | 10 | Registered | 10077050 | 415376 |
| CHEMOSATURATION | India | Drug delivery systems | 10 | Pending | 1935211 | |
| CHEMOSATURATION | Japan | Drug delivery systems | 10 | Registered | A0018998 | 1033711 |
| CHEMOSATURATION | Korea (South) | Drug delivery systems | 10 | Registered | A0018998 | 1033711 |
| CHEMOSATURATION | Mexico | Drug delivery catheters | 10 | Registered | 1072332 | 1187555 |
| CHEMOSATURATION | Taiwan | Medical Apparatus, medical instruments for drug delivery systems | 10 | Registered | 99009555 | 1459057 |
| CHEMOSATURATION | U.S.A. | Drug delivery systems | 10 | Pending | 77/945,002 | |
| DELCATH | Argentina | Drug delivery systems | 10 | Pending | 3139665 | |
| DELCATH | Australia | Drug delivery systems | 10 | Pending | 1468745 | |
| DELCATH | Brazil | Drug delivery systems | 10 | Pending | 831297565 | |
| DELCATH | China | Drug delivery systems | 10 | Pending | A0024132 | 1075265 |

DELCATH SYSTEMS, INC.
INTELLECTUAL PROPERTY OPINION LETTER - EXHIBIT A

| <u>TRADEMARK</u> | <u>COUNTRY</u> | <u>GOODS / SERVICES</u> | <u>CLASS(ES)</u> | <u>STATUS</u> | <u>APP. NO.</u> | <u>REG. NO.</u> |
|------------------|----------------|---|------------------|---------------|-----------------|-----------------|
| DELCATH | European Union | Drug delivery systems | 10 | Registered | A0024132 | 1075265 |
| DELCATH | Hong Kong | Drug delivery systems | 10 | Pending | 302134485 | |
| DELCATH | India | Drug delivery systems | 10 | Pending | 2264126 | |
| DELCATH | Israel | Drug delivery systems | 10 | Pending | A0024132 | 1075265 |
| DELCATH | Japan | Drug delivery systems | 10 | Pending | A0024132 | 1075265 |
| DELCATH | Korea (South) | Drug delivery systems | 10 | Pending | A0024132 | 1075265 |
| DELCATH | Mexico | Drug delivery catheters | 10 | Pending | 1240455 | |
| DELCATH | New Zealand | Drug delivery systems | 10 | Pending | 854898 | |
| DELCATH | Russia | Drug delivery systems | 10 | Pending | A0024132 | 1075265 |
| DELCATH | Taiwan | Drug delivery systems | 10 | Pending | 101001404 | |
| DELCATH | U.S.A. | Class 10: Double balloon catheter system comprised primarily of catheters Class 42: Medical services, namely, cancer treatment | 10, 42 | Registered | 76/266,056 | 2609452 |
| DELCATH | U.S.A. | Pharmaceutical products for the prevention and treatment of cancer | 5 | Pending | 85/288,586 | |
| DELCATH | U.S.A. | Drug delivery systems | 10 | Registered | 85/288,673 | 4049055 |
| DELCATH | Argentina | Pharmaceutical preparations for use in chemotherapy | 5 | Pending | 3011124 | |

DELCATH SYSTEMS, INC.
INTELLECTUAL PROPERTY OPINION LETTER - EXHIBIT A

| <u>TRADEMARK</u> | <u>COUNTRY</u> | <u>GOODS / SERVICES</u> | <u>CLASS(ES)</u> | <u>STATUS</u> | <u>APP. NO.</u> | <u>REG. NO.</u> |
|------------------|----------------|--|------------------|---------------|-----------------|-----------------|
| DELKERAN | Australia | Pharmaceutical preparations for use in chemotherapy | 5 | Registered | A0018996 | 1354960 |
| DELKERAN | Brazil | Pharmaceutical preparations for use in chemotherapy | 5 | Pending | 830678670 | |
| DELKERAN | China | Pharmaceutical preparations for use in chemotherapy | 5 | Registered | A0018996 | 1033245 |
| DELKERAN | Colombia | Pharmaceutical preparations for use in chemotherapy | 5 | Registered | 10025071 | 412426 |
| DELKERAN | India | 10- Pharmaceutical preparations for use in chemotherapy | 10 | Registered | 1935213 | 1000910 |
| DELKERAN | Japan | Pharmaceutical preparations for use in chemotherapy | 5 | Registered | A0018996 | 1033245 |
| DELKERAN | Korea (South) | Pharmaceutical preparations for use in chemotherapy | 5 | Registered | A0018996 | 1033245 |
| DELKERAN | Mexico | Pharmaceutical preparations for use in chemotherapy | 5 | Pending | 1075546 | |
| DELKERAN | Taiwan | Pharmaceutical preparations for use in chemotherapy | 5 | Registered | 99011209 | 1431946 |
| DELKERAN | U.S.A. | Pharmaceutical preparations for use in chemotherapy | 5 | Pending | 77/947,336 | |
| INTENZIF | European Union | Class 5: Pharmaceutical products for the treatment of cancer Class 42: Medical research services in the field of cancer | 5, 42 | Registered | 9544487 | 9544487 |

DELCATH SYSTEMS, INC.
INTELLECTUAL PROPERTY OPINION LETTER - EXHIBIT A

| <u>TRADEMARK</u> | <u>COUNTRY</u> | <u>GOODS / SERVICES</u> | <u>CLASS(ES)</u> | <u>STATUS</u> | <u>APP. NO.</u> | <u>REG. NO.</u> |
|------------------|----------------|--|------------------|---------------|-----------------|-----------------|
| INTENZIF | U.S.A. | Class 5: Pharmaceutical products for the treatment of cancer Class 42: Medical research services in the field of cancer | 5, 42 | Pending | 85/181,602 | |
| ITENZIF | European Union | Class 5: Pharmaceutical products for the treatment of cancer Class 42: Medical research services in the field of cancer | 5, 42 | Registered | 10014165 | 10014165 |
| ITENZIF | U.S.A. | Class 5: Pharmaceutical products for the treatment of cancer Class 42: Medical research services in the field of cancer | 5, 42 | Pending | 85/320,279 | |
| ISO-FUSE | Australia | Drug delivery systems | 10 | Registered | A0018891 | 1033135 |
| ISO-FUSE | Brazil | Drug delivery systems | 10 | Pending | 830540040 | |
| ISO-FUSE | China | Drug delivery systems | 10 | Registered | A0018891 | 1033135 |
| ISO-FUSE | Colombia | Drug delivery systems | 10 | Pending | 10024515 | |
| ISO-FUSE | European Union | Drug delivery systems | 10 | Registered | A0018891 | 1033135 |
| ISO-FUSE | India | Drug delivery systems | 10 | Registered | 1929176 | 993908 |
| ISO-FUSE | Mexico | Drug delivery systems | 10 | Registered | 1071313 | 1187552 |

DELCATH SYSTEMS, INC.
INTELLECTUAL PROPERTY OPINION LETTER - EXHIBIT A

| <u>TRADEMARK</u> | <u>COUNTRY</u> | <u>GOODS / SERVICES</u> | <u>CLASS(ES)</u> | <u>STATUS</u> | <u>APP. NO.</u> | <u>REG. NO.</u> |
|------------------------|----------------|--|------------------|---------------|-----------------|-----------------|
| ISO-FUSE | Taiwan | Medical apparatus, medical instruments for drug delivery systems | 10 | Registered | 99009131 | 1426959 |
| ISO-FUSE | U.S.A. | Drug delivery systems | 10 | Pending | 77/818,131 | |
| MELMISAT | European Union | Class 5: Pharmaceutical products for the treatment of cancer Class 42: Medical research services in the field of cancer | 5, 42 | Registered | 9544552 | 9544552 |
| MELMISAT | U.S.A. | Class 5: Pharmaceutical products for the treatment of cancer Class 42: Medical research services in the field of cancer | 5, 42 | Pending | 85/181,614 | |
| PHP | U.S.A. | Drug delivery systems | 10 | Registered | 77/529,005 | 3880422 |
| THE DELCATH PHP SYSTEM | U.S.A. | Drug delivery systems | 10 | Registered | 77/529,348 | 3926021 |

DEL CATH SYSTEMS, INC.

FORM OF WARRANT

Warrant No.

Original Issue Date: May 31, 2012 ("**Original Issue Date**")

DEL CATH SYSTEMS, INC., a Delaware corporation (the "**Company**"), hereby certifies that, for value received, or its permitted registered assigns (the "**Holder**"), is entitled to purchase from the Company up to a total of shares of common stock, \$0.01 par value (the "**Common Stock**"), of the Company (each such share, a "**Warrant Share**" and all such shares, the "**Warrant Shares**") at an exercise price equal to \$1.65 per share (as adjusted from time to time as provided herein, the "**Exercise Price**"), at any time and from time to time on or after the Original Issue Date and through and including 5:00 P.M., New York City time, on May 31, 2015 (the "**Expiration Date**"), and subject to the following terms and conditions:

All such warrants are referred to herein, collectively, as the "**Warrants**." The original issuance of the Warrants and the Warrant Shares by the Company has been registered pursuant to a Registration Statement on Form S-3 (File No. 333-178819) (together with any registration statement filed by the Company pursuant to Rule 462(b) under the Securities Act, the "**Registration Statement**").

1. Definitions.

"**Affiliate**" of a person means a person that, directly or indirectly through one or more intermediaries, controls, is controlled by, or is under common control with, the person specified.

"**Convertible Securities**" means any stock or securities (other than Options) directly or indirectly convertible into or exercisable or exchangeable for shares of Common Stock.

"**Options**" means any rights, warrants or options to subscribe for or purchase shares of Common Stock or Convertible Securities.

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

"**Trading Day**" means any day on which trading of the Common Stock occurs on the applicable Trading Market.

"**Trading Market**" means the NASDAQ Capital Market or, if the Company's Common Stock is not then listed on the NASDAQ Capital Market, then such exchange or quotation system on which the Common Stock then primarily trades.

"**VWAP**" means, for any security as of any date, the dollar volume-weighted average price for such security on the applicable Trading Market during the period beginning at 9:30:01 a.m., New York City time, and ending at 4:00:00 p.m., New York City time, as reported by Bloomberg through its "Volume at Price" function or, if the foregoing does not apply, the dollar volume-weighted average price of such security in the over-the-counter market on the electronic bulletin board for such security during the period beginning at 9:30:01 a.m., New York City time, and ending at 4:00:00 p.m., New York City time, as reported by Bloomberg, or, if no dollar volume-weighted average price is reported for such security by Bloomberg for such hours, the average of the highest closing bid price and the lowest closing ask price of any of the market

makers for such security as reported in the “pink sheets” by Pink Sheets LLC (formerly the National Quotation Bureau, Inc.). If the VWAP cannot be calculated for such security on such date on any of the foregoing bases, the VWAP of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 15(b) hereof. All such determinations shall be appropriately adjusted for any share dividend, share split or other similar transaction during such period.

2. List of Warrant Holders. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the “**Warrant Register**”), in the name of the record Holder (which shall include the initial Holder or, as the case may be, any registered assignee to which this Warrant is permissibly assigned hereunder from time to time). The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

3. List of Transfers.

(a) This Warrant and the Warrant Shares are transferable.

(b) The Company shall register any such transfer of all or any portion of this Warrant in the Warrant Register, upon surrender of this Warrant, with the Form of Assignment attached hereto duly completed and signed, to the Company at its address specified herein. Upon any such registration or transfer, a new Warrant to purchase Common Stock, in substantially the form of this Warrant (any such new Warrant, a “**New Warrant**”), evidencing the portion of this Warrant so transferred shall be issued to the transferee and a New Warrant evidencing the remaining portion of this Warrant not so transferred, if any, shall be issued to the transferring Holder. The acceptance of the New Warrant by the transferee thereof shall be deemed the acceptance by such transferee of all of the rights and obligations in respect of the New Warrant that the Holder has in respect of this Warrant.

4. Exercise and Duration of Warrants.

(a) All or any part of this Warrant shall be exercisable by the registered Holder in any manner permitted by Section 10 hereof at any time and from time to time on or after the Original Issue Date and through and including the Expiration Date. Subject to Section 11 hereof, at 5:00 p.m., New York City time, on the Expiration Date, the portion of this Warrant not exercised prior thereto shall be and become void and of no value and this Warrant shall be terminated and no longer outstanding. In addition, if cashless exercise would be permitted under Section 10(b) hereof, then all or part of this Warrant may be exercised by the registered Holder utilizing such cashless exercise provisions at any time, or from time to time, on or after the Original Issue Date and through and including the Expiration Date.

(b) The Holder may exercise this Warrant by delivering to the Company (i) an exercise notice, in the form attached hereto (the “**Exercise Notice**”), completed and duly signed, and (ii) if such Holder is not utilizing the cashless exercise provisions set forth in this Warrant, payment of the Exercise Price for the number of Warrant Shares as to which this Warrant is being exercised. The date such items are delivered to the Company (as determined in accordance with the notice provisions hereof) is an “**Exercise Date**.” For the avoidance of doubt, the Exercise Notice does not need to be notarized or contain a medallion guarantee or any other guarantee of any nature. The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder. Execution and delivery of the Exercise Notice shall have the same effect as cancellation of the original Warrant and issuance of a New Warrant evidencing the right to

purchase the remaining number of Warrant Shares. On or before the first (1st) business day following the date on which the Company has received the Exercise Notice, the Company shall transmit to a facsimile number set forth in the Exercise Notice a confirmation of receipt of the Exercise Notice to the Holder and also will notify the Company's transfer agent.

5. Delivery of Warrant Shares.

(a) Upon exercise of this Warrant, the Company shall promptly (but in no event later than three Trading Days after the Exercise Date) issue or cause to be issued and cause to be delivered to or upon the written order of the Holder and in such name or names as the Holder may designate (provided that, if the Registration Statement is not then effective and the Holder directs the Company to deliver a certificate for the Warrant Shares in a name other than that of the Holder or an Affiliate of the Holder, it shall deliver to the Company on the Exercise Date an opinion of counsel reasonably satisfactory to the Company to the effect that the issuance of such Warrant Shares in such other name may be made pursuant to an available exemption from the registration requirements of the Securities Act of 1933, as amended (the "**Securities Act**") and all applicable state securities or blue sky laws), a certificate for the Warrant Shares issuable upon such exercise, free of restrictive legends unless the Registration Statement is not then effective or the Warrant Shares are not freely transferable without volume restrictions pursuant to Rule 144 under the Securities Act. The Holder, or any Person permissibly so designated by the Holder to receive Warrant Shares, shall be deemed to have become the holder of record of such Warrant Shares as of the Exercise Date. If the Warrant Shares can be issued without restrictive legends, the Company shall, upon the written request of the Holder, use its best efforts to deliver, or cause to be delivered, Warrant Shares hereunder electronically through the Depository Trust and Clearing Corporation ("**DTC**") or another established clearing corporation performing similar functions, if available; provided, that, the Company may, but will not be required to, change its transfer agent if its current transfer agent cannot deliver Warrant Shares electronically through DTC.

(b) If by the close of the third Trading Day after delivery of an Exercise Notice, duly completed and executed by the Holder, the Company fails to deliver to the Holder a certificate representing the required number of Warrant Shares in the manner required pursuant to Section 5(a) hereof, and if after such third Trading Day and prior to the receipt of such Warrant Shares, the Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "**Buy-In**"), then the Company shall, within three Trading Days after the Holder's request, and in the Holder's sole discretion, either (i) pay in cash to the Holder an amount equal to the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased (the "**Buy-In Price**"), at which point the Company's obligation to deliver such certificate (and to issue such Warrant Shares) shall terminate or (ii) promptly honor its obligation to deliver to the Holder a certificate or certificates representing such Warrant Shares and pay cash to the Holder in an amount equal to the excess (if any) of the Buy-In Price over the product of (A) such number of Warrant Shares, times (B) the closing bid price on the date of the event giving rise to the Company's obligation to deliver such certificate.

(c) To the extent permitted by law, the Company's obligations to issue and deliver Warrant Shares in accordance with the terms hereof are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by the Holder or any other Person of any obligation to the Company or any

violation or alleged violation of law by the Holder or any other Person, and irrespective of any other circumstance that might otherwise limit such obligation of the Company to the Holder in connection with the issuance of Warrant Shares. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver certificates representing shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

6. Charges, Taxes and Expenses. Issuance and delivery of certificates for shares of Common Stock upon exercise of this Warrant shall be made without charge to the Holder for any issue or transfer tax, withholding tax, transfer agent fee or other incidental tax or expense in respect of the issuance of such certificates, all of which taxes and expenses shall be paid by the Company; *provided, however*, that the Company shall not be required to pay any tax that may be payable in respect of any transfer involved in the registration of any certificates for Warrant Shares or Warrants in a name other than that of the Holder. The Holder shall be responsible for all other tax liability that may arise as a result of holding or transferring this Warrant or receiving Warrant Shares upon exercise hereof.

7. Replacement of Warrant. If this Warrant is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation hereof, or in lieu of and substitution for this Warrant, a New Warrant, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft or destruction and customary and reasonable indemnity (which shall not include a surety bond), if requested. Applicants for a New Warrant under such circumstances shall also comply with such other reasonable regulations and procedures and pay such other reasonable third-party costs as the Company may prescribe. If a New Warrant is requested as a result of a mutilation of this Warrant, then the Holder shall deliver such mutilated Warrant to the Company as a condition precedent to the Company's obligation to issue the New Warrant.

8. Reservation of Warrant Shares; Listing. The Company covenants that it will at all times reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved Common Stock, solely for the purpose of enabling it to issue Warrant Shares upon exercise of this Warrant as herein provided, the number of Warrant Shares that are then issuable and deliverable upon the exercise of this entire Warrant, free from preemptive rights or any other contingent purchase rights of persons other than the Holder (taking into account the adjustments and restrictions of Section 9 hereof). The Company covenants that all Warrant Shares so issuable and deliverable shall, upon issuance and the payment of the applicable Exercise Price in accordance with the terms hereof, be duly and validly authorized, issued and fully paid and nonassessable. The Company shall use its best efforts to cause the Warrant Shares to be listed for quotation on the NASDAQ Capital Market and to maintain such listing.

9. Certain Adjustments. The Exercise Price and number of Warrant Shares issuable upon exercise of this Warrant are subject to adjustment from time to time as set forth in this Section 9.

(a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding, (i) pays a stock dividend on its Common Stock or otherwise makes a distribution on any class of capital stock that is payable in shares of Common Stock, (ii) subdivides outstanding shares of Common Stock into a larger number of shares, or (iii) combines outstanding shares of Common Stock into a smaller number of shares, then in each such case the Exercise Price shall be adjusted by multiplying the Exercise Price by a fraction of which the numerator shall be the number of shares of Common Stock outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to clause (i) of this paragraph shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution, and any adjustment pursuant to clause (ii) or (iii) of this paragraph shall become effective immediately after the effective date of such subdivision or combination.

(b) **Pro Rata Distributions.** If the Company, at any time while this Warrant is outstanding, distributes to all holders of Common Stock for no consideration (i) evidences of its indebtedness, (ii) any security (other than a distribution of Common Stock covered by the preceding paragraph), (iii) rights or warrants to subscribe for or purchase any security, or (iv) any other asset (including cash) (in each case, “**Distributed Property**”), then the Holder shall receive with respect to all Warrant Shares the Distributed Property that such Holder would have been entitled to receive in respect of such number of Warrant Shares had the Holder been the record holder of such Warrant Shares immediately prior to the record date for such Distributed Property.

(c) **Fundamental Transactions.** If, at any time while this Warrant is outstanding (i) the Company effects any merger or consolidation of the Company with or into another Person, (ii) the Company effects any sale of all or substantially all of its assets in one or a series of related transactions, (iii) any tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of a majority of the outstanding shares of Common Stock tender or exchange their shares for other securities, cash or property, or (iv) the Company effects any reclassification of its outstanding Common Stock or any compulsory share exchange pursuant to which outstanding Common Stock is effectively converted into or exchanged for other securities, cash or property (each, a “**Fundamental Transaction**”), then the Holder shall have the right thereafter to receive, upon any subsequent exercise of this Warrant, the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of the number of Warrant Shares then issuable upon exercise in full of this Warrant (the “**Alternate Consideration**”). The Company shall not effect any such Fundamental Transaction unless prior to or simultaneously with the consummation thereof, any successor to the Company, surviving entity or the corporation purchasing or otherwise acquiring such assets or other appropriate corporation or entity shall assume the obligation to deliver to the Holder, such Alternate Consideration as, in accordance with the foregoing provisions, the Holder may be entitled to purchase, and the other obligations under this Warrant. Notwithstanding anything to the contrary, in the event of a Fundamental Transaction, the Company or any successor entity shall pay in exchange for this Warrant at the Holder’s option, exercisable at any time concurrently with or within 30 days after the consummation of the Fundamental Transaction, an amount of cash equal to the value of this Warrant as determined in accordance with the Black Scholes Option Pricing Model obtained from the “OV” function on Bloomberg L.P. using (i) a price per share of Common Stock equal to the VWAP of the Common Stock for the Trading Day immediately preceding the date of consummation of the applicable Fundamental Transaction, (ii) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the remaining term of this Warrant as of the date of consummation of the applicable Fundamental Transaction and (iii) an expected volatility equal to the greater of 100% and the 60 day volatility obtained from the “HVT” function on Bloomberg L.P. determined as of the Trading Day immediately following the public announcement of the applicable Fundamental Transaction. The provisions of this paragraph (c) shall similarly apply to subsequent Fundamental Transactions.

(d) **Number of Warrant Shares.** Simultaneously with any adjustment to the Exercise Price pursuant to paragraph (a) of this Section 9, the number of Warrant Shares that may be purchased upon exercise of this Warrant shall be increased or decreased proportionately, so that after such adjustment the aggregate Exercise Price payable hereunder for the adjusted number of Warrant Shares shall be the same as the aggregate Exercise Price in effect immediately prior to such adjustment.

(e) Subsequent Equity Sales.

(i) If the Company shall at any time issue shares of Common Stock, Options or Convertible Securities entitling any Person to acquire shares of Common Stock, at a price per share less than the Exercise Price in effect immediately prior to the time of such issuance (if the holder of the Common Stock, Options or Convertible Securities so issued shall at any time, whether by operation of purchase price adjustments, reset provisions, floating conversion, exercise or exchange prices or otherwise, or due to warrants, options or rights issued in connection with such issuance, be entitled to receive shares of Common Stock at a price less than the Exercise Price, such issuance shall be deemed to have occurred for less than the Exercise Price), then, the Exercise Price shall be reduced to equal such lower price, but the number of Warrant Shares which the Holder may acquire under this Warrant will not be affected thereby. Such adjustment shall be made whenever such Common Stock, Options or Convertible Securities are issued. The Company shall notify the Holder in writing, no later than the Trading Day following the issuance of any Common Stock, Options or Convertible Securities subject to this Section, indicating therein the applicable issuance price, or the applicable reset price, exchange price, conversion price and other pricing terms.

(ii) For purposes of this subsection 9(e), the following subsections (e)(ii)(1) to (e)(ii)(7) shall also be applicable:

(1) Issuance of Rights or Options. In case at any time the Company shall in any manner grant (directly and not by assumption in a merger or otherwise) any warrants or other rights to subscribe for or to purchase, or any options for the purchase of, Common Stock or any stock or security convertible into or exchangeable for Common Stock (such warrants, rights or options being called "**Options**" and such convertible or exchangeable stock or securities being called "**Convertible Securities**"), whether or not such Options or the right to convert or exchange any such Convertible Securities are immediately exercisable, and the price per share for which Common Stock is issuable upon the exercise of such Options or upon the conversion or exchange of such Convertible Securities (determined by dividing (i) the sum (which sum shall constitute the applicable consideration) of (x) the total amount, if any, received or receivable by the Company as consideration for the granting of such Options, plus (y) the aggregate amount of additional consideration payable to the Company upon the exercise of all such Options, plus (z), in the case of such Options that relate to Convertible Securities, the aggregate amount of additional consideration, if any, payable upon the issue or sale of such Convertible Securities and upon the conversion or exchange thereof, by (ii) the total maximum number of shares of Common Stock issuable upon the exercise of such Options or upon the conversion or exchange of all such Convertible Securities issuable upon the exercise of such Options) shall be less than the Exercise Price in effect immediately prior to the time of the granting of such Options, then the total number of shares of Common Stock issuable upon the exercise of such Options or upon conversion or exchange of the total amount of such Convertible Securities issuable upon the exercise of such Options shall be deemed to have been issued for such price per share as of the date of granting of such Options or the issuance of such Convertible Securities and thereafter shall be deemed to be outstanding for purposes of adjusting the Exercise Price. Except as otherwise provided in subsections 9(e)(i) and 9(e)(ii)(3), no adjustment of the Exercise Price shall be made upon the actual issue of such Common Stock or of such Convertible Securities upon exercise of such Options or upon the actual issue of such Common Stock upon conversion or exchange of such Convertible Securities.

(2) Issuance of Convertible Securities. In case the Company shall in any manner issue (directly and not by assumption in a merger or otherwise) or sell any Convertible Securities, whether or not the rights to exchange or convert any such Convertible

Securities are immediately exercisable, and the price per share for which Common Stock is issuable upon such conversion or exchange (determined by dividing (i) the sum (which sum shall constitute the applicable consideration) of (x) the total amount received or receivable by the Company as consideration for the issue or sale of such Convertible Securities, plus (y) the aggregate amount of additional consideration, if any, payable to the Company upon the conversion or exchange thereof, by (ii) the total number of shares of Common Stock issuable upon the conversion or exchange of all such Convertible Securities) shall be less than the Exercise Price in effect immediately prior to the time of such issue or sale, then the total maximum number of shares of Common Stock issuable upon conversion or exchange of all such Convertible Securities shall be deemed to have been issued for such price per share as of the date of the issue or sale of such Convertible Securities and thereafter shall be deemed to be outstanding for purposes of adjusting the Exercise Price, provided that (a) except as otherwise provided in subsection 9(e)(ii)(3), no adjustment of the Exercise Price shall be made upon the actual issuance of such Common Stock upon conversion or exchange of such Convertible Securities and (b) no further adjustment of the Exercise Price shall be made by reason of the issue or sale of Convertible Securities upon exercise of any Options to purchase any such Convertible Securities for which adjustments of the Exercise Price have been made pursuant to the other provisions of subsection 9(e). No adjustment pursuant to this Section 9 shall be made if such adjustment would result in an increase of the Exercise Price then in effect.

(3) Change in Option Price or Conversion Rate. Upon the happening of any of the following events, namely, if the purchase price provided for in any Option referred to in subsection 9(e)(ii)(1) hereof, the additional consideration, if any, payable upon the conversion or exchange of any Convertible Securities referred to in subsections 9(e)(ii)(1) or 9(e)(ii)(2), or the rate at which Convertible Securities referred to in subsections 9(e)(ii)(1) or 9(e)(ii)(2) are convertible into or exchangeable for Common Stock shall change at any time (including, but not limited to, changes under or by reason of provisions designed to protect against dilution), the Exercise Price in effect at the time of such event shall forthwith be readjusted to the Exercise Price that would have been in effect at such time had such Options or Convertible Securities still outstanding provided for such changed purchase price, additional consideration or conversion rate, as the case may be, at the time initially granted, issued or sold.

(4) Stock Dividends. Subject to the provisions of this Section 9(e), in case the Company shall declare a dividend or make any other distribution upon any stock of the Company (other than the Common Stock) payable in Common Stock, Options or Convertible Securities, then any Common Stock, Options or Convertible Securities, as the case may be, issuable in payment of such dividend or distribution shall be deemed to have been issued or sold without consideration.

(5) Consideration for Stock. In case any shares of Common Stock, Options or Convertible Securities shall be issued or sold for cash, the consideration received therefor shall be deemed to be the gross amount received by the Company therefor. In case any shares of Common Stock, Options or Convertible Securities shall be issued or sold for a consideration other than cash, the amount of the consideration other than cash received by the Company shall be deemed to be the fair value of such consideration as determined in good faith by the board of directors of the Company (the "Board of Directors"). In case any Options shall be issued in connection with the issue and sale of other securities of the Company, together comprising one integral transaction in which no specific consideration is allocated to such Options by the parties thereto, such Options shall be deemed to have been issued for such consideration as determined in good faith by the Board of Directors. If Common Stock, Options or Convertible Securities shall be issued or sold by the Company and, in connection therewith, other Options or Convertible Securities (the "**Additional Rights**") are issued, then the

consideration received or deemed to be received by the Company shall be reduced by the fair market value of the Additional Rights (as determined using the Black-Scholes option pricing model or another method mutually agreed to by the Company and the Holder). The Board of Directors shall respond promptly, in writing, to an inquiry by the Holder as to the fair market value of the Additional Rights and provide the basis for such valuation. In the event that the Board of Directors and the Holder are unable to agree upon the fair market value of the Additional Rights, the Company and the Holder shall jointly select an appraiser who is experienced in such matters. The decision of such appraiser shall be final and conclusive, and the cost of such appraiser shall be borne evenly by the Company and the Holder.

(6) Record Date. In case the Company shall take a record of the holders of its Common Stock for the purpose of entitling them (i) to receive a dividend or other distribution payable in Common Stock, Options or Convertible Securities or (ii) to subscribe for or purchase Common Stock, Options or Convertible Securities, then such record date shall be deemed to be the date of the issue or sale of the shares of Common Stock deemed to have been issued or sold upon the declaration of such dividend or the making of such other distribution or the date of the granting of such right of subscription or purchase, as the case may be.

(7) Treasury Shares. The number of shares of Common Stock outstanding at any given time shall not include shares owned or held by or for the account of the Company or any of its wholly-owned subsidiaries, and the disposition of any such shares (other than the cancellation or retirement thereof) shall be considered an issue or sale of Common Stock for the purpose of this subsection (e).

(iii) Notwithstanding the foregoing, no adjustment will be made under this paragraph (e) in respect of: (i) the issuance of securities upon the exercise or conversion of any Common Stock or Convertible Securities issued by the Company prior to the date hereof; provided that neither the conversion price, exercise price nor number of shares issuable under such Convertible Securities (excluding any Convertible Securities covered by clause (ii) below) is amended, modified or changed after the date hereof, (ii) the grant of options, warrants, Common Stock or other Convertible Securities (but not including any amendments to such instruments) under any duly authorized Company stock option, restricted stock plan or stock purchase plan whether now existing or hereafter approved by the Company and its stockholders in the future, and the issuance of Common Stock in respect thereof, (iii) the issuance of securities in connection with a Strategic Transaction, or (iv) the issuance of securities in a transaction described in Section 9(a) or 9(b) (collectively, "**Excluded Issuances**"). For purposes of this paragraph, a "**Strategic Transaction**" means a transaction or relationship in which (1) the Company issues shares of Common Stock to a Person that the Board of Directors determined in good faith is, itself or through its subsidiaries, an operating company in a business synergistic with the business of the Company (or a shareholder thereof) and (2) the Company expects to receive benefits in addition to the investment of funds.

(f) Calculations. All calculations under this Section 9 shall be made to the nearest cent or the nearest 1/100th of a share, as applicable. The number of shares of Common Stock outstanding at any given time shall not include shares owned or held by or for the account of the Company, and the disposition of any such shares shall be considered an issue or sale of Common Stock.

(g) De Minimis Adjustments. No adjustment in the Exercise Price shall be required unless such adjustment would require an increase or decrease of at least \$0.01 in such price; provided, however, that any adjustment which by reason of this Section 9(g) is not required to be made shall be carried forward and taken into account in any subsequent adjustments under this

Section 9. All calculations under this Section 9 shall be made by the Company in good faith and shall be made to the nearest cent or to the nearest one hundredth of a share, as applicable. No adjustment need be made for a change in the par value or no par value of the Company's Common Stock.

(h) Notice of Adjustments. Upon the occurrence of each adjustment pursuant to this Section 9, the Company at its expense will, promptly notify the Holder in writing of the occurrence of such adjustment and, at the written request of the Holder, promptly compute such adjustment in accordance with the terms of this Warrant and prepare a certificate setting forth such adjustment, including a statement of the adjusted Exercise Price and adjusted number or type of Warrant Shares or other securities issuable upon exercise of this Warrant (as applicable), describing the transactions giving rise to such adjustments and showing in detail the facts upon which such adjustment is based. Upon written request, the Company will promptly deliver a copy of each such certificate to the Holder and to the American Stock Transfer & Trust Company, the transfer agent of the Company.

(i) Notice of Corporate Events. If, while this Warrant is outstanding, the Company (i) declares a dividend or any other distribution of cash, securities or other property in respect of its Common Stock, including without limitation any granting of rights or warrants to subscribe for or purchase any capital stock of the Company or any Subsidiary, (ii) authorizes or approves, enters into any definitive agreement for or solicits stockholder approval for any Fundamental Transaction or (iii) authorizes the voluntary dissolution, liquidation or winding up of the affairs of the Company, then, except if such notice and the contents thereof shall be deemed to constitute material non-public information, the Company shall deliver to the Holder a notice describing the material terms and conditions of such transaction at least 10 Trading Days prior to the applicable record or effective date on which a Person would need to hold Common Stock in order to participate in or vote with respect to such transaction, and the Company will take all reasonable steps to give Holder the practical opportunity to exercise this Warrant prior to such time; *provided, however*, that the failure to deliver such notice or any defect therein shall not affect the validity of the corporate action required to be described in such notice.

10. Payment of Exercise Price. The Holder may pay the Exercise Price in one of the following manners:

(a) Cash Exercise. The Holder may deliver immediately available funds; or

(b) Cashless Exercise. If an Exercise Notice is delivered at a time when the Registration Statement is not then effective, then the Holder may notify the Company in an Exercise Notice of its election to utilize cashless exercise, in which event the Company shall issue to the Holder the number of Warrant Shares determined as follows:

$$X = Y [(A-B)/A]$$

Where

X = the number of Warrant Shares to be issued to the Holder

Y = the number of Warrant Shares with respect to which this Warrant is being exercised

A = the VWAP for the five Trading Days immediately prior to (but not including) the Exercise Date

B = the Exercise Price

For purposes of Rule 144 promulgated under the Securities Act, it is intended, understood and acknowledged that the Warrant Shares issued in a cashless exercise transaction shall be deemed to have been acquired by the Holder, and the holding period for the Warrant Shares shall be deemed to have commenced, on the date this Warrant was originally issued.

After the Original Issue Date, the Company shall use commercially reasonable efforts to maintain an effective Registration Statement registering the Warrant Shares.

(c) **Company-Elected Conversion.** (i) The Company shall provide to the Holder prompt written notice of any time that the Company is unable to issue the Warrant Shares via DTC transfer (or otherwise without restrictive legend), because (A) the Securities and Exchange Commission (the "**Commission**") has issued a stop order with respect to the Registration Statement, (B) the Commission otherwise has suspended or withdrawn the effectiveness of the Registration Statement, either temporarily or permanently, (C) the Company has suspended or withdrawn the effectiveness of the Registration Statement, either temporarily or permanently, or (D) otherwise (each a "**Restrictive Legend Event**"). To the extent that a Restrictive Legend Event occurs after the Holder has exercised this Warrant in accordance with Section 4(b) but prior to the delivery of the Warrant Shares, the Company shall (i) if the VWAP (as calculated above) of the Warrant Shares is greater than the Exercise Price, provide written notice to the Holder that the Company will deliver that number of Warrant Shares to the Holder as should be delivered in a cashless exercise transaction in accordance with Section 10(b), and return to the Holder all consideration paid to the Company in connection with the Holder's attempted exercise of this Warrant pursuant to Section 4(b) (a "**Company-Elected Conversion**"), or (ii) at the election of the Holder to be given within five (5) days of receipt of notice of a Company-Elected Conversion, the Holder shall be entitled to rescind the previously submitted Exercise Notice and the Company shall return all consideration paid by Holder for such shares upon such rescission. The Company shall provide to the Holder prompt written notice of the termination of the Restrictive Legend Event. If a Restrictive Legend Event is occurring as of the Expiration Date, the term of this Warrant shall be extended until the fifth (5th) business day after the termination of such Restrictive Legend Event.

11. **Limitations on Exercise.** Notwithstanding anything to the contrary contained herein, the number of Warrant Shares that may be acquired by the Holder upon any exercise of this Warrant (or otherwise in respect hereof) shall be limited to the extent necessary to ensure that, following such exercise (or other issuance), the total number of shares of Common Stock then beneficially owned by the Holder and its affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**"), does not exceed 9.99% of the total number of issued and outstanding shares of Common Stock (including for such purpose the shares of Common Stock issuable upon such exercise). For such purposes, beneficial ownership shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. Each delivery of an Exercise Notice by the Holder will constitute a representation by the Holder that it has evaluated the limitation set forth in this Section and determined that issuance of the full number of Warrant Shares requested in such Exercise Notice is permitted under this Section. The Company's obligation to issue shares of Common Stock in excess of the limitation referred to in this Section shall be suspended (and, except as provided below, shall not terminate or expire notwithstanding any contrary provisions hereof) until such time, if any, as such shares of Common Stock may be issued in compliance with such limitation; provided, that, if, as of 5:30 p.m., New York City time, on the Expiration Date, the Company has not received written notice that the shares of Common Stock may be issued in compliance with such limitation, the Company's obligation to issue such shares shall terminate. This provision shall not restrict the number of

shares of Common Stock which a Holder may receive or beneficially own in order to determine the amount of securities or other consideration that such Holder may receive in the event of a Fundamental Transaction as contemplated in Section 9 of this Warrant. By written notice to the Company, which will not be effective until the 61st day after such notice is delivered to the Company, the Holder may waive the provisions of this Section to change the beneficial ownership limitation to 4.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant, and the provisions of this Section 11 shall continue to apply. Upon such a change by a Holder of the beneficial ownership limitation from such 9.99% limitation to such 4.99% limitation, the beneficial ownership limitation may not be further waived by such Holder.

12. No Fractional Shares. No fractional Warrant Shares will be issued in connection with any exercise of this Warrant. In lieu of any fractional shares that would otherwise be issuable, the Company shall pay cash equal to the product of such fraction multiplied by the closing price of one Warrant Share as reported by the applicable Trading Market on the Exercise Date.

13. Notices. Any and all notices or other communications or deliveries hereunder (including, without limitation, any Exercise Notice) shall be in writing and shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via facsimile or email at the facsimile number or email address, respectively, specified in this Section 13 at or prior to 5:00 p.m. (New York City time) on a Trading Day, (ii) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number specified in this Section 13 on a day that is not a Trading Day or later than 5:00 p.m. (New York City time) on any Trading Day, (iii) the Trading Day following the date of mailing, if sent by nationally recognized overnight courier service, or (iv) upon actual receipt by the party to whom such notice is required to be given. The addresses for such notices or communications shall be: (a) if to the Company, to Delcath Systems, Inc., 810 Seventh Avenue, Suite 3505, New York, New York 10019, Attention: VP Controller, Facsimile No.: (212) 489-2102, email: warrants@delcath.com (or such other address as the Company shall indicate in writing in accordance with this Section 13) or (b) if to the Holder, to the address or facsimile number appearing on the Warrant Register (or such other address as the Company shall indicate in writing in accordance with this Section 13).

14. Warrant Agent. The Company shall serve as warrant agent under this Warrant. Upon 30 days' notice to the Holder, the Company may appoint a new warrant agent provided; however, that the Company shall not appoint Computershare as its warrant agent. Any corporation into which the Company or any new warrant agent may be merged or any corporation resulting from any consolidation to which the Company or any new warrant agent shall be a party or any corporation to which the Company or any new warrant agent transfers substantially all of its corporate trust or shareholders services business shall be a successor warrant agent under this Warrant without any further act. Any such successor warrant agent shall promptly cause notice of its succession as warrant agent to be mailed (by first class mail, postage prepaid) to the Holder at the Holder's last address as shown on the Warrant Register.

15. Miscellaneous.

(a) This Warrant shall be binding on and inure to the benefit of the parties hereto and their respective successors and assigns. Subject to the preceding sentence, nothing in this Warrant shall be construed to give to any Person other than the Company and the Holder any legal or equitable right, remedy or cause of action under this Warrant. This Warrant may be amended only in writing signed by the Company and the Holder, or their successors and assigns.

(b) All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of

law thereof. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of this Warrant and the transactions herein contemplated ("**Proceedings**") (whether brought against a party hereto or its respective Affiliates, employees or agents) shall be commenced exclusively in the courts of the State of New York located in the City and County of New York or in the United States District Court for the Southern District of New York (the "**New York Courts**"). Each party hereto hereby irrevocably submits to the exclusive jurisdiction of the New York Courts for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any Proceeding, any claim that it is not personally subject to the jurisdiction of any New York Court, or that such Proceeding has been commenced in an improper or inconvenient forum. Each party hereto hereby irrevocably waives personal service of process and consents to process being served in any such Proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Warrant and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. Each party hereto hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Warrant or the transactions contemplated hereby. If either party shall commence a Proceeding to enforce any provisions of this Warrant, then the prevailing party in such Proceeding shall be reimbursed by the other party for its attorney's fees and other costs and expenses incurred with the investigation, preparation and prosecution of such Proceeding.

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

(d) In case any one or more of the provisions of this Warrant shall be invalid or unenforceable in any respect, the validity and enforceability of the remaining terms and provisions of this Warrant shall not in any way be affected or impaired thereby and the parties will attempt in good faith to agree upon a valid and enforceable provision which shall be a commercially reasonable substitute therefore, and upon so agreeing, shall incorporate such substitute provision in this Warrant.

(e) Prior to exercise of this Warrant, the Holder hereof shall not, by reason of by being a Holder, be entitled to any rights of a stockholder with respect to the Warrant Shares

IN WITNESS WHEREOF, the Company has caused this Warrant to be duly executed by its authorized officer as of the date first indicated above.

DELCATH SYSTEMS, INC.

By: _____
Name: _____
Title: _____

EXERCISE NOTICE

DELCATH SYSTEMS, INC.

WARRANT NO. DATED May , 2012

Ladies and Gentlemen:

(1) The undersigned hereby elects to exercise the above-referenced Warrant with respect to _____ shares of Common Stock. Capitalized terms used herein and not otherwise defined herein have the respective meanings set forth in the Warrant.

(2) The Holder intends that payment of the Exercise Price shall be made as (check one):

- Cash Exercise under Section 10(a)
- Cashless Exercise under Section 10(b)

(3) If the Holder has elected a Cash Exercise, the holder shall pay the sum of \$ _____ to the Company in accordance with the terms of the Warrant.

(4) Pursuant to this Exercise Notice, the Company shall deliver to the Holder the number of Warrant Shares determined in accordance with the terms of the Warrant.

(5) By its delivery of this Exercise Notice, the undersigned represents and warrants to the Company that in giving effect to the exercise evidenced hereby the Holder will not beneficially own in excess of the number of shares of Common Stock (as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934) permitted to be owned under Section 11 of this Warrant to which this notice relates.

(6) The DWAC information for the transfer of the shares of Common Stock is set out below.

HOLDER:

(Print Name)

By: _____

Name: _____

Title: _____

DWAC Information

Name of Holder's broker:

Broker's DTC No.:

Name on Holder's brokerage account:

Holder's brokerage account number:

WARRANT ORIGINALLY ISSUED MAY , 2012
WARRANT NO.

FORM OF ASSIGNMENT

To be completed and signed only upon transfer of Warrant

FOR VALUE RECEIVED, the undersigned hereby sells, assigns and transfers unto _____ shares of Common Stock to which the within Warrant relates and appoints full power of substitution in the premises.

_____ the right represented by the within Warrant to purchase attorney to transfer said right on the books of the Company with

Dated:

TRANSFEROR:

(Print Name)

By: _____

Name: _____

Title: _____

TRANSFeree:

(Print Name)

(Address of Transferee)

In the presence of:

Skadden, Arps, Slate, Meagher & Flom LLP
Four Times Square
New York, New York 10036
(212) 735-3000

May 31, 2012

Delcath Systems, Inc.
810 Seventh Avenue
Suite 3505
New York, New York 10019

Re: Delcath Systems, Inc. – Offering of Common Stock and Warrants

Ladies and Gentlemen:

We have acted as special counsel to Delcath Systems, Inc., a Delaware corporation (the “Company”), in connection with the Company’s sale of 15,333,340 shares of the Company’s Common Stock, par value \$0.01 per share (the “Common Stock”), and warrants (the “Warrants”) to initially purchase up to an aggregate of 4,600,002 shares (the “Warrant Shares”) of the Company’s Common Stock, pursuant to the Underwriting Agreement, dated May 25, 2012, by and among Cowen and Company, LLC and Wedbush Securities Inc., as representatives of the underwriters, and the Company. The Common Stock and the Warrant Shares are referred to herein as the “Equity Securities” and the Warrants and the Equity Securities are referred to herein as the “Securities.” The Securities were registered by the Company with the Securities and Exchange Commission (the “Commission”) on the shelf registration statement on Form S-3 (No. 333-178819) filed on December 29, 2011 by the Company with the Commission pursuant to the Securities Act of 1933, as amended (the “Securities Act”) and declared effective on February 13, 2012 (the “Registration Statement”), including the base prospectus, dated February 13, 2012, as supplemented by a prospectus supplement, dated May 25, 2012, filed by the Company with the Commission pursuant to Rule 424(b) of the General Rules and Regulations under the Securities Act (the “Rules and Regulations”). The Registration Statement relates to, among other things, the issuance and sale by the Company, from time to time pursuant to Rule 415 of the Rules and Regulations, of \$100,000,000 of various securities of the Company, including Common Stock and Warrants.

This opinion is being furnished in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act.

In rendering the opinions stated herein, we have examined and relied upon the following:

- (i) the Registration Statement;

(ii) the Amended and Restated Certificate of Incorporation of the Company, as certified by the Secretary of the State of Delaware and as certified by the Secretary of the Company (the "Certificate of Incorporation");

(iii) the Amended and Restated By-laws of the Company, as currently in effect and as certified by the Secretary of the Company;

(iv) a copy of certain resolutions of the board of directors of the Company (the "Board of Directors"), adopted on May 23, 2012, relating to the registration and sale of the Securities, as certified by the Secretary of the Company (the "Board Resolutions");

(v) a copy of certain resolutions of the Deal Committee of the Board of Directors (the "Deal Committee"), adopted on May 25, 2012, relating to the registration and sale of the Securities, as certified by the Secretary of the Company (the "Deal Committee Resolutions"); and

(vi) the form of Warrant.

We have also examined originals or copies, certified or otherwise identified to our satisfaction, of such records of the Company and such agreements, certificates and receipts of public officials, certificates of officers or other representatives of the Company and others, and such other documents as we have deemed necessary or appropriate as a basis for the opinions stated below.

In our examination, we have assumed the genuineness of all signatures, including endorsements, the legal capacity and competency of all natural persons, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as facsimile, electronic, certified, conformed or photostatic copies and the authenticity of the originals of such copies. In making our examination of executed documents or documents to be executed, we have assumed that the parties thereto, other than the Company, will have been duly organized and be validly existing in good standing, had or will have the power, corporate or otherwise, to enter into and perform all obligations thereunder and have also assumed the due authorization by all requisite action, corporate or other, and the execution and delivery by such parties of such documents, and, as to parties other than the Company, the validity and binding effect thereof on such parties. In addition, we have assumed that the issuance and sale of the Securities do not, violate, conflict with or constitute a default under (i) any agreement or instrument to which the Company is subject (other than the Underwriting Agreement or the Warrants), (ii) any law, rule or regulation to which the Company is subject (other than Opined on Law, as defined below), (iii) any judicial or regulatory order or decree of any governmental authority (other than those under Opined on Law) or (iv) any consent, approval, license, authorization or validation of, or filing, recording or registration with, any governmental authority (other than those under Opined on Law). As to any facts relevant to the opinions stated herein that we did not independently establish or verify, we have relied upon oral

or written statements and representations of officers and other representatives of the Company and others and of public officials. We have also assumed that, upon issuance of any Equity Securities subsequent to the date hereof, the total number of shares of Common Stock of the Company issued and outstanding will not, after giving effect to the issuance of such Equity Securities, exceed the total number of shares of Common Stock that the Company is authorized to issue under its Certificate of Incorporation in effect at such time.

We do not express any opinion with respect to the laws of any jurisdiction other than (i) the General Corporations Law of the State of Delaware (the "DGCL") and (ii) the laws of the State of New York, and to the extent that judicial or regulatory orders or decrees or consents, approvals, licenses, authorizations, validations, filings, recordings or registrations with governmental authorities are relevant, to those required under such laws (all of the foregoing being referred to as "Opined on Law"). We do not express any opinion with respect to the laws of any jurisdiction other than Opined on Law or as to the effect of any non-Opined on Law on the opinions stated herein.

Our opinions stated herein are limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent transfer, preference and other similar laws affecting creditors' rights generally, and by general principles of equity (regardless of whether enforcement is sought in equity or at law).

Based upon the foregoing and subject to the limitations, qualifications, exceptions and assumptions stated herein, we are of the opinion that:

1. The shares of Common Stock have been duly authorized and, when issued and sold upon payment therefor in the manner contemplated by the Registration Statement and the Prospectus, will be validly issued, fully paid and non-assessable.
2. The Warrants have been duly authorized and, when executed, registered and delivered and paid for in the manner contemplated by the Registration Statement and the Prospectus, will constitute valid and legally binding obligations of the Company, enforceable against the Company in accordance with their terms.
3. The Warrant Shares have been duly authorized and, upon issuance, delivery and payment therefore upon valid exercise of the Warrants in accordance with the terms of the Warrants, will be validly issued, fully paid and non-assessable.

We hereby consent to the filing of this opinion with the Commission. In giving this consent, we do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the Rules and Regulations. This opinion is expressed as of the date hereof unless otherwise expressly stated, and we disclaim any undertaking to advise you of any subsequent changes in the facts stated or assumed herein or of any subsequent changes in applicable laws.

Very truly yours,

/s/ Skadden, Arps, Slate, Meagher & Flom LLP



**Delcath Announces Exercise of Underwriters' Over-Allotment option and Closing of \$23 million
Public Offering of Common Stock and Warrants**

New York, May 31, 2012 – Delcath Systems, Inc. (NASDAQ: DCTH) today announced that it has closed the previously announced underwritten public offering of 15,333,340 shares of its common stock and warrants to purchase up to 4,600,002 shares of common stock at a combined price to the public of \$1.50 per share and related warrant for gross proceeds of \$23 million. The shares include 2,000,000 shares of common stock and 600,000 warrants to purchase common stock sold pursuant to the over-allotment option granted by the Company to the underwriters, which option was exercised in full. The net proceeds from the sale of the shares, after deducting the underwriters' discounts and other estimated offering expenses payable by Delcath, will be approximately \$21.2 million.

Cowen and Company, LLC and Wedbush PacGrow Life Sciences acted as joint book-runners for the offering. Roth Capital Partners acted as co-manager for the offering.

A shelf registration statement (File No. 333-178819) relating to these securities was filed with the Securities and Exchange Commission on February 6, 2012, and was declared effective on February 13, 2012. A prospectus supplement describing the terms of the offering was filed with the Securities and Exchange Commission on May 25, 2011 and forms a part of the effective registration statement. Copies of the prospectus supplement and accompanying prospectus relating to the offering may be obtained, when available, from Cowen and Company, LLC (c/o Broadridge Financial Services, 1155 Long Island Avenue, Edgewood, NY, 11717, Attn: Prospectus Department, Phone: 631-274-2806, Fax: 631-254-7140) and from Wedbush Securities Inc. (One Bush Street, 17th floor, San Francisco, CA 94104, Attn: SF Prospectus Department, Phone: 415-274-6819, Fax: 415-274-6887). An electronic copy of the prospectus supplement and accompanying prospectus relating to the offering is available on the website of the Securities and Exchange Commission at www.sec.gov

This press release does not constitute an offer to sell or the solicitation of offers to buy any securities of Delcath, and shall not constitute an offer, solicitation or sale of any security in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction.

About Delcath Systems

Delcath Systems, Inc. is a specialty pharmaceutical and medical device company focused on oncology. Delcath's proprietary system for chemosaturation is designed to administer high dose chemotherapy and other therapeutic agents to diseased organs or regions of the body, while controlling the systemic exposure of those agents. The Company's initial focus is on the treatment of primary and metastatic liver cancers. In 2010, Delcath announced that its randomized Phase III clinical trial for patients with metastatic melanoma in the liver had successfully achieved the study's primary endpoint of extended

hepatic progression-free survival. The Company also completed a multi-arm Phase II trial to treat other liver cancers. The Company obtained authorization to affix a CE Mark for the Delcath Hepatic CHEMOSAT® delivery system in April 2011 and for the second generation hemofiltration cartridge for CHEMOSAT in April 2012. The right to affix the CE mark allows the Company to market and sell the CHEMOSAT system in Europe. The Company has not yet received FDA approval for commercial sale of its system in the United States. The Company continues with the preparation of its NDA submission and intends to seek FDA approval for commercial sale of its chemosaturating system with melphalan. For more information, please visit the Company's website at www.delcath.com.

Private Securities Litigation Reform Act of 1995 provides a safe harbor for forward-looking statements made by the Company or on its behalf. This news release contains forward-looking statements, which are subject to certain risks and uncertainties that can cause actual results to differ materially from those described. Factors that may cause such differences include, but are not limited to, uncertainties relating to: the benefits of the Generation 2 CHEMOSAT system and market acceptance of the same, patient outcomes using the Generation 2 system, the timing of the supply and distribution of the CHEMOSAT system to early launch centers in Europe, the time required to build inventory and establish commercial operations in Europe, adoption, use and resulting sales, if any, for the Hepatic CHEMOSAT delivery system in the EEA, our ability to successfully commercialize the chemosaturating system and the potential of the chemosaturating system as a treatment for patients with terminal metastatic disease in the liver, acceptability of the Phase III clinical trial data by the FDA, our ability to address the issues raised in the Refusal to File letter received from the FDA and the timing of our re-submission of our NDA, re-submission and acceptance of the Company's NDA by the FDA, approval of the Company's NDA for the treatment of metastatic melanoma to the liver, adoption, use and resulting sales, if any, in the United States, approval of the current or future chemosaturating system for other indications, actions by the FDA or other foreign regulatory agencies, our ability to obtain reimbursement for the CHEMOSAT system, our ability to successfully enter into distribution and strategic partnership agreements in foreign markets and the corresponding revenue associated with such foreign markets, uncertainties relating to the results of research and development projects and future clinical trials, acceptance of our IND amendment, the timing and use, if any, of the line of credit from SVB, and our ability to access this facility, and uncertainties regarding our ability to obtain financial and other resources for any research, development and commercialization activities. These factors, and others, are discussed from time to time in our filings with the Securities and Exchange Commission. You should not place undue reliance on these forward-looking statements, which speak only as of the date they are made. We undertake no obligation to publicly update or revise these forward-looking statements to reflect events or circumstances after the date they are made.

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